Religiousness and Reproduction in Muslim Countries
Charles F. Westoff and John R. Weeks
PAA 2010

Introduction

The popular impression of Muslims in the developing world is that of a highly religious people in societies where women are greatly disadvantaged and where rates of reproduction are very high. There are certainly countries that fit this description, but an important problem with this image is that Muslim populations vary enormously, ranging from some of the economically and socially least developed countries in the world to highly modern societies. Similarly, the fertility of Muslim populations ranges from very high rates before the fertility transition to populations with extremely low fertility at levels common to many European countries. Fertility rates have declined dramatically in some but not all Muslim populations over the last 20 years, even while remaining high in others. Rapid rates of development have also influenced the status of women reflected in significant international variations in attitudes toward gender equality.

Background

Dramatic demographic changes have been occurring in many developing countries in the Muslim world (Abassi-Shavazi and Jones 2005; Karim 1997). Although rates of population growth are typically much higher in Muslim-majority nations than elsewhere with resulting youthful age structures and implications for economic and social development, there is a rapidly increasing number of countries in which fertility rates have dropped substantially compared with several decades ago, including Bangladesh, Egypt, Indonesia, Morocco, and Iran (Erfani and McQuillan 2008). At the opposite extreme, rates remain very high in Afghanistan, Yemen and Nigeria, and in between the extremes are countries with rates that are still high, but are declining, including Syria, Saudi Arabia and Pakistan. It is abundantly clear that profound social changes are occurring in much of the Islamic world that affect the importance of religious values for behavior (Hegland 1999) and in the status of women and gender roles influenced by such factors as mass media exposure, the rise in female literacy, the women's movement and other social changes (Abu-Lughod 1998; Kandiyoti 1991; Kazemi 2000), all of which have a bearing on marriage, the family, and rates of reproduction. There is evidence that a large part of the reduction in Arab fertility is due to changes in nuptiality (Rashad 2000; Weeks et al. 2004). Certainly, patriarchal values and their embodiment in legal codes remain, but they seem to be changing significantly, albeit slowly, in many Muslim countries (Hegland 1999; Hijab 1998). Nonetheless, the Middle East and North Africa (aka MENA) still have "the largest gender gap of any region of the world" and the "women are consistently under represented in schools and labor force, they die relatively younger than their sisters in other parts of the world, and they give birth to a large number of closely-spaced children" (Shafik 2001:299). But these differences are not necessarily confined geographically to the MENA region. Based on their analysis of the World Values Survey, Inglehart and Norris (2003) concluded that "there is a persistent gap in support for gender equality and sexual liberalization between the West (which is most liberal), Islamic societies (which are most traditional), and all other societies (which fall between these extremes): (p. 68).

Inglehart and Norris (2003) also looked at the variation within Islamic nations and concluded that Muslims living in poorer, agrarian nations are by far the most traditional group in their attitudes toward gender equality. And, they note that their research indicates that "traditional religious values and religious laws have played an important role in reinforcing social norms of a separate and subordinate role for women as homemakers and mothers, and a role for men as patriarchs within the family and primary breadwinners in the paid workforce: (p.68). These authors conclude in a related analysis (Norris and Inglehart 2004) that "the most basic cultural fault line between the West and Islam does not concern democracy – it involves issues of gender equality and sexual liberalization" (p.155). Put another way, they suggest that "an Islamic heritage is one of the most powerful barriers to the rising tide of gender equality" (Inglehart and Norris 2003:49).

At the same time, however, Islamic societies, or Muslims living within other nations, do not present a set of completely homogeneous religious or demographic patterns. There are distinct regional differences – culture matters – and these differences include the pace of change. A recent study of Muslim fertility in West Africa, using data from various Demographic and Health Surveys in the region, found that when covariates such as urban-rural status and education were taken into account, Muslims had lower fertility than non-Muslims when Muslims were in the majority, but had essentially the same levels as non-Muslim co-nationals when they were in the minority (Johnson-Hanks 2006). This analysis used religious identification, but did not examine religiousness nor the status of women, and so the results might well be different when those factors are taken into account.

Current Research

The research reported here is focused on the connections between religiousness, the status of women as reflected in attitudes toward gender equality, and levels of reproduction among Muslim populations in the developing world. The main sources of data are micro-level surveys that include such measures for samples of Muslim women and men. The primary source is the World Values Surveys that have been conducted over recent years in over 100 countries. An earlier study (Westoff and Frejka) using these data focused exclusively on Muslim populations in Europe while the current research is based on data from 24 developing countries (including Albania).

The analysis presented here is based on women ages 18 – 49 for developing countries only. In previous work on the earlier rounds of the WVS (surveys before 2004) there were more questions included on both religiousness and gender attitudes. In order to include the latest developing countries, a reduced set of four items for each measure is used here.

Religiousness

The four items in the religiousness scale include the importance of God in one's life, whether the respondent perceives herself as a religious person, how important religion is, and the frequency of attendance at religious services. The distributions of responses were dichotomized and added and then converted to a scale of 0 – 100. In Figure 1, the average scores on this scale are shown for the major religions. Muslims are high on the scale, exceeded only by "Other Christian"

denominations comprised mainly of Evangelicals. As might be expected, women who reported no denomination are at the lowest end of the scale.

FIGURE 1 ABOUT HERE

Average scale scores on religiousness are shown for Muslim women in each of the developing countries in the analysis (Figure 2). Those women in the more advanced of these developing countries show the lowest scores on religiousness while the less developed countries tend to cluster at the high end of the scale with little variation.

FIGURE 2 ABOUT HERE

Gender Equality Attitudes

The four items that can be included for all countries are: parenthood is acceptable for single women, a university education is more important for boys than girls, men make better political leaders than women and when jobs are scarce men should be given the greater opportunity. Adjusted for direction and constructed in the same way as the religiousness scale, a high score on the scale indicates a favorable attitude toward gender equality.

Muslim women are near the bottom of this scale (Figure 3). Unlike the distribution of Muslim populations by religiousness, there is more variability in the scores on gender equality attitudes (Figure 4) and somewhat less association with degree of development. Although Albania and Cyprus are at the top of both the gender equality measure and the least religious in Figure 2, Muslim women from Rwanda and Tanzania are at the high end of gender equality attitudes but toward the more religious end of the other scale.

FIGURE 3 ABOUT HERE

Reproductive Behavior

The measure of fertility available from the WVS is simply the number of children reported, shown in Table 1 for ever-married Muslim women in each country. In some of these surveys, the number of Muslim women is small, e.g. in Ghana, India and Rwanda. Most of these countries have also conducted larger national surveys as part of the DHS that include much more detail on fertility but aside from religion, include no information on religiousness. The DHS provides far better estimates on fertility and related reproductive behavior than the WVS. A rough comparison of the data from the two surveys indicates that the WVS underestimates the number of children by about 20 percent for women 18 – 34 and perhaps by as much as 33 percent for women 35 – 49. The estimates in Table 1 for Muslim women 18 – 49 range from a low of 2.1 in several countries (Azerbaijan, Indonesia and Turkey) to a high of 4.2 in Pakistan.

TABLE 1 ABOUT HERE

In some of these countries Islam is by far the dominant religion. In those countries with an adequate number of non-Muslims, Muslim and non-Muslim fertility tends to be fairly similar,

based on DHS data. In Bangladesh and India, Muslim fertility is 10 and 18 percent higher respectively than non-Muslim fertility but in Indonesia and Tanzania the reverse is evident with higher non-Muslim fertility (see Table 2). The main rationale for the current study is the opportunity to connect fertility with religiousness and gender equality, not the estimation of fertility rates. It is far from clear how the underestimation of fertility might affect this association.

TABLE 2 ABOUT HERE

Associations with Fertility

For Muslim women, the correlation of religiousness and gender equality attitudes with the number of children is shown in Table 3 for each of the 24 countries. In 8 of these countries, there is a significant positive correlation between religiousness and fertility. It is clear from a comparison of the two panels of Table 3 that the gender equality measure shows more of an association with fertility than the religiousness measures with 13 rather than 8 countries indicating a significant correlation. The next question is how these two measures relate to fertility when considered simultaneously with other covariates.

TABLE 3 ABOUT HERE

Multivariate Analysis Conducted Separately by Country

In Table 4 the association with fertility of religiousness and gender equality attitudes are considered simultaneously along with age, with whether the women has worked outside of the home, and with the highest number of years of education. Religiousness remains significant in only 5 countries and gender equality in 6 countries. Both employment and education are by far more important for fertility, showing significant effects in 10 and 12 countries respectively. The association with age is included in all equations and accounts for an important amount of the variance in Table 4.

TABLE 4 ABOUT HERE

Pooled Data at the Regional Level

It IS clear from the data in Table 3 that the relationship of gender equality and religiousness to fertility is not the same for every country. Indeed, we anticipate that different cultural regions of the world will give rise to some of this variability. Since Islam and Christianity, in particular, are proselytizing religions, they have been layered over existing religions, which can create local or regional variations that must be taken into account, because different ethnic groups may practice the religion somewhat differently (Johnson-Hanks 2006). The geographic setting in which women live is also an important factor, especially in Islam, where local practices may be more variable than within other major religions (McQuillan 2004; Falah and Nagel 2005; Zalanga 2007). Ezzat (2001) notes that while Islamic law provides the parameters for behavior regarding things such as marriage, divorce, and inheritance, the actual rules as practiced derive from local

conditions as well as from social class, "which are often different from urban to rural, from clan to tribal settings and from one region to another" (p.232). Within the past few decades these regional variations have been further altered by popular messages about appropriate behavior among Muslims that have been spread especially by Saudi Arabia and Iran (Bayes and Tohidi 2001). In general, cultural attributes tend to be regionally specific, reflected in the nearly universal geographic typologies in which demographic and other data are summarized.

This is well illustrated in the study by Morgan et al (2002), in which Muslim and non-Muslim wives were compared in 14 "matched" villages in four Asian countries. Although the authors found only very weak evidence for a link between religion and women's autonomy, they did find that Muslim wives consistently had higher fertility, were more likely to want additional children, and were less likely to be using contraception. Thus, there was a demonstrable "religion" effect. But their data also showed a substantial "region" effect, although they did not discuss this fact in the paper. Fertility levels among Muslims and non-Muslims alike were significantly higher in the Philippines and northern India than in Thailand, with Malaysia and southern India falling in-between. Among their 14 villages, the fertility rates of Muslim and non-Muslim women closely track each other ($r = .77$) even though Muslim fertility is consistently higher than non-Muslim fertility. This pattern cannot be explained by religion, although it could be due to regional patterns of religiousness (regardless of religion) and patterns of family values and women's status that transcend religion, but are instead region-specific.

Frejka and Westoff (2008) also found a region effect in the relationship between religiousness and fertility in Europe compared to the United States: "Women in Northern and Western Europe who are the least religious have equivalent or even higher fertility than women in the US, and notably higher fertility than those in Southern Europe. This suggests that forces other than religion and religiousness are also important in their impact on childbearing" (5).

To test this spatial component of fertility among Muslim women, we grouped all countries with which we are working in this paper into four regions: (1) Middle East and North Africa (MENA); (2) Sub-Saharan Africa (SSA); (3) Eastern Europe/Central Asia; and (4) South Asia. There is almost certainly regional variability within these broad groupings, but given the relatively small number of countries under consideration, it was not feasible to define regions at a finer spatial scale. Table 6 compares the average number of children ever born to Muslim and non-Muslim women in each of these four regions. Several conclusions arise from Table 6. First, it is clear that Muslim fertility is as high or higher than non-Muslim fertility in each of the four regions among ever-married, but in only two regions—MENA and SSA do Muslim women of reproductive age have more children on average than non-Muslims. Furthermore, there is obvious variability in both Muslim and non-Muslim fertility from one region to the next, with highest fertility in Sub-Saharan Africa, followed by the Middle East and North Africa, then South Asia, and finally Eastern Europe/ Central Asia. Finally, we can note that the different patterns for all women compared to ever-married women is a signal that Muslim women are following different marital patterns, largely in terms of delaying marriage, than are non-Muslim women. These findings suggest that an analysis of Muslim fertility should take region into account if we are to fully understand the underlying relationships.

TABLE 6 ABOUT HERE

We replicated the country-level regression analysis discussed above, but at the regional level, rather than the country-level, in order to evaluate the importance of region on our interpretation of the findings. We noted above that the more recent WVS questionnaires included fewer questions on religiousness than the earlier versions, so we added an additional measure that indexes the relative importance of religion compared to five other aspects of life (family, friends, leisure, politics, and work), in order to provide an additional nuanced measure of religiousness. Table 7 shows that in the entire pooled data set, the number of children ever born among ever-married Muslim women of reproductive age is statistically significantly influenced by religiousness, gender equality, the relative importance of religion compared to other things, employment, and educational level. The latter two factors, which might be thought of as global and behavioral aspects of gender equality (rather than the more local and attitudinal aspects captured by the gender equality index) are the statistically more important of the predictors.

TABLE 7 ABOUT HERE

When we look at individual regions, we can see that religiousness is statistically significant in every region except Sub-Saharan Africa, and the relative importance of religion is a factor only in MENA and SSA. Gender equality is significant in every region except MENA, and employment is significant in every region except SSA. Only education emerges as a factor in every region, but the size of its coefficient varies considerably, from a high in South Asia to a low in Sub-Saharan Africa. The slope intercepts are different for each region, as is the proportion of explained variance. These results show that predictors of fertility among Muslim women are spatially heterogeneous—varying from one region to the next.

Table 8 illustrates this point in a slightly different way. Here we have conducted a logistic regression analysis with the dependent variable represented by whether or not an ever-married Muslim woman has four or more children. The religiousness score is not a significant predictor, although having a higher relative importance score for religion does increase the odds of having four or more children by 10 percent. The gender equality index reduces the odds of having a large family by a very small amount. However, being employed cuts those odds in half, and education reduces the odds by 15 percentage points. Finally, Table 8 shows that relative to the MENA region, being in SSA increases the odds of a large family by 19 percentage points, whereas being in the other two regions substantially reduces those odds.

TABLE 8 ABOUT HERE

Discussion and Conclusion

This paper focuses on the question of whether Muslim fertility in less developed countries is associated with religiousness and with gender equality attitudes. Based on data for 24 countries collected in the World Values Survey project, the short answer seems to be that the expected relationship appear in only a minority of these countries and that the gender equality measure is a stronger predictor. At the same time, there is a noticeable regional component to these relationships. This implies the existence of spatial heterogeneity, since the coefficients of the

predictors of fertility among Muslim women vary from one region to the next. This will require additional detailed investigation.

One of the other next steps in this research is to experiment with imputing the data on religiousness from the WVS for defined categories of women onto the DHS in an effort to exploit the comparative advantages of both surveys. The concept itself is not unlike the "hot-deck" imputations used for a long time by the U.S. Census Bureau (and other survey organizations) to fill in information for respondents when data are missing (Rubin 1987; Bishop, Formby, and Thistle 2003). The difference is that we are not filling in missing data for some respondents; rather, we are filling in missing categories of data for all respondents. In this case, we are going to impute religiousness to respondents in the DHS, based on the matching of characteristics between women in the WVS and those in the DHS.

We have written a matching program in Python that brings the two files together and matches women in each survey on the basis of the variables that are common to the two surveys. The matching begins with a randomization of the WVS and DHS files, in order to avoid any initial bias in the matching process. Then, the first woman on the WVS list is compared sequentially with each woman in the DHS. Our first attempt at this, which we are reporting here, uses data from the Ghana WVS in 2007 and the Ghana DHS in 2008. We required that a woman in the WVS match with a woman in the DHS on religion, age group, marital status, and region of the country. For this preliminary match, we did not require a match on the number of children ever born since for Ghana, as elsewhere, the WVS question on children ever born seems to under-report the actual number. This initial (and very preliminary) process matched 352 of the 639 women aged 15-49 in the WVS with 1,730 different women in the DHS, out of 4,916. The WVS sample was not distributed by region in exactly the same way as the DHS, so for all pooled analyses of the matched data, we applied a weight to each woman, representing the ratio of the DHS proportion in a region to the WVS proportion, to correct for this difference in sampling schemes.

Although the preliminary matching has captured data from neither the entire WVS dataset nor the entire DHS dataset, the results of the matched file for most variables are consistently similar to the source file. For example, in the 2008 Ghana DHS, 32 percent of sexually active fecund women indicated that they were not using a method of fertility limitation because they desired a birth within the next two years. This percentage was identical in the matched WVS and DHS file, which allowed us then to ask whether religiousness might play a role in this relationship. A binary logistic regression model (not shown here) revealed that only two variables emerged as statistically predictors of a woman being in the category of wanting a baby now (and thus not using a family limitation method): (1) being Muslim; and (2) her religiousness score. This kind of finding hints at the potential analytical utility of combining data from the two files.

References

Abassi-Shavazi, M.J. , and G.W. Jones. 2005. Islamic Teachings on Reproductive Health. In *Islam, the State and Population,* eds. G.W. Jones and M.S. Karim. London: Hurst & Company.

Abu-Lughod. L. ed. 1998. *Remaking Women: Feminism and Modernity in the Middle East.* Princeton, NJ: Princeton University Press.

Bayes, J. H., and N. Tohidi eds. 2001. *Globalization, Gender and Religion: The Politics of Women's Rights in Catholic and Muslim Contexts*. New York: Palgrave.

Bishop, J. A., J. P. Formby, and P. D. Thistle. 2003. Can Earnings Equations Estimates Improve CPS Hot-Deck Imputations. *Journal of Labor Research* 24 (1):153-159.

DeJong, J., B. Shepard, F. Roudi-Fahimi, and L. Ashford. 2007. Young people's sexual and reproductive health in the Middle East and North Africa. In *MENA Policy Briefs*. Washington, DC: Population Reference Bureau.

Erfani, A., andK. McQuillan. 2008. Rapid fertility decline in Iran: Analysis of intermediate variables. *Journal of Biosocial Science* 40(3):459-478.

Ezzat, H. R. 2001. The Silent Ayesha: An Egyptian Narrative. In *Globalization, Gender and Religion: The Politics of Women's Rights in Catholic and Muslim Countries,* eds. J. H. Bayes and N. Tohidi. New York: Palgrave.

Falah, G.-W., and C. Nagel eds. 2005. *Geographies of Muslim Women: Gender, Religion, and Space*. New York: Guilford Press.

Hegland, M.E. 1999. Gender and religion in the Middle East and South Asia: Women's voices rising. In *Social History of Women and Gender in the Modern Middle East*. eds. M.L. Meriwether and J.E. Tucker. Boulder, CO: Westview Press.

Hijab, N. 1998. Islam, social change, and the reality of Arab women's lives. In *Islam, Gender, and Social Changes*, eds. Y.Y. Haddad and J.L. Esposito. New York: Oxford University Press.

Inglehart,R., and P. Norris. 2003. *Rising Tide: Gender Equality and Cultural Change Around the World*. New York: Cambridge University Press.

Jones, G.W. 2006. A Demographic Perspective on the Muslim World. *Journal of Population Research* 23(2): 243-265.

Jones, G.W., and M.S. Karim. 2005. Introduction . In *Islam, the State and Population*. Eds. G. W. Jones and M. S. Karim. London: Hurst & Company.

Johnson-Hanks, J. 2006. On the politics and practice of Muslim fertility. *Medical Anthropology Quarterly* 20 (1):12-30.

Kandiyoti, D. ed. 1991. *Women, Islam, and the State*. Philadelphia: Temple University Press.

Karim, M.S. 1997. Reproductive Behavior in Muslim Countries. Calverton, MD and New York: Macro International Inc., and United Nations Population Fund.

Kazemi, F. 2000. Gender, Islam, and Politics. *Social Research* 67(2):453-474.

McQuillan, K. 2004. When Does Religion Influence Fertility? *Population and Development Review* 30 (1):25-56.

Norris. P., and R. Inglehart. 2004. *Sacred and Secular: Religion and Politics Worldwide*. New York: Cambridge University Press.

Rashad, H. 2000. Demographic Transition in Arab Countries: A New Perspective. *Journal of Population Research (Australia)* 17(1): 55-70.

Robinson, W.C., and F.H. El-Zanaty. 2006. *The Demographic Revolution in Modern Egypt*. London: Lexington Books.

Rubin, D. B. 1987. *Multiple Imputation for Nonresponse in Surveys*. New York: John Wiley & Sons.

Shafik, N. 2001. Closing the Gender Gap in the Middle East and North Africa. In *the Economics of Women and Work in the Middle East and North Africa. Research in Middle East Economics, Volume 4,* ed. E.M. Cinar. Amsterdam and London: Elsevier.

Weeks, J.R. 1988. The Demography of Islamic Nations. *Population Bulletin* 43(4): 1-53.

Weeks, J.R. A. Getis, A.G. Hill, M.S. Gadalla, and T. Rashed. 2004. The Fertility Transition in Egypt: Intra-Urban Patterns in Cairo. *Annals of the Association of American Geographers* 94(1): 74-93.

Westoff, C.F., and T. Frejka. 2007. Religiousness and Fertility among European Muslims. *Population and Development Review* 33(4):785-809.

Zalanga, S. 2007. Islam and National Development: A Corss-Cultural Comparison of the Role of Religion in the Process of Economic Development and Cultural Change. In *Geographies of Muslim Identities: Diaspora, Gender and Belonging,* eds. C. Aitchison, P. Hopkins and M.-P. Kwan. Aldershot, UK: Ashgate Publishing Limited.

Table 1. Mean number of children ever born to ever-married Muslim women 18 - 49

Country	Year of latest Survey	Number of Ever-Married Muslim Women 18 - 49	Mean Number of Children		
			18 - 49	18 - 34	35 - 49
Albania	2002	154	2.3	1.7	2.7
Algeria	2002	253	2.8	1.7	3.7
Azerbaijan	1997	511	2.1	1.8	2.5
Bangladesh	2002	502	2.7	2.3	3.7
Burkina Faso	2007	236	3.1	2.7	3.9
Cyprus	2006	102	1.8	1.2	2.1
Egypt	2008	1,220	2.9	2.2	3.7
Ghana	2007	64	3.0	2.4	3.8
India	2006	52	2.9	2.1	3.7
Indonesia	2006	427	2.1	1.5	2.8
Iran	2000	526	2.3	1.6	3.3
Iraq	2004	765	3.6	2.7	4.6
Jordan	2007	378	3.8	2.8	4.8
Kyrgyzstan	2003	240	2.6	2.0	3.4
Malaysia	2006	171	2.9	2.2	3.6
Mali	2007	408	3.4	2.9	4.1
Morocco	2007	244	2.2	1.7	2.5
Nigeria	2000	210	3.3	2.7	4.3
Pakistan	1997	602	4.2	2.9	4.8
Rwanda	2007	61	3.1	2.1	4.3
Saudi Arabia	2003	447	3.6	2.5	4.0
Singapore	2002	139	2.2	1.9	2.5
Tanzania	2001	109	2.9	2.0	3.6
Turkey	2007	410	2.1	1.6	2.6

Table 2. Mean number of children ever born to ever-married Muslim and non-Muslim women 18 - 49*

		Mean Number of Children	
	Percent Muslim	Muslim	non-Muslim
Bangladesh	90	2.9	2.6
Burkina Faso	56	4.1	4.2
Egypt	95	2.9	2.7
Ghana	15	3.5	3.4
India	14	3.4	2.8
Indonesia	88	2.4	2.8
Mali	91	4.3	4.5
Nigeria	51	4.4	4.1
Tanzania	30	3.4	3.9

*Based on DHS data.

Table 3. Correlations [1] of number of children with religiousness and with gender equality attitudes for ever-married women, by age and country

	Religiousness			Gender Equality		
Country	18 - 49	18 - 34	35 - 49	18 - 49	18 - 34	35 - 49
Albania	.27	.23	.30	-.16		
Algeria	.19	.25	.18	-.25		
Azerbaijan			.16			
Bangladesh				-.11		-.10
Burkina Faso				-.21	-.16	-.11
Cyprus				-.19		-.17
Egypt				-.06		
Ghana	.20					
India					—	—
Indonesia				-.15	-.25	-.15
Iran	.14		.20	-.12		-.15
Iraq	.09		.12			
Jordan						
Kyrgyzstan						-.19
Malaysia	.15	.20				
Mali				-.14	-.17	
Morocco	.17		.17	-.21	-.19	-.23
Nigeria						
Pakistan						-.27
Rwanda						
Saudi Arabia						
Singapore	NA	NA	NA	-.26		-.32
Tanzania		.33		-.16		
Turkey	.19	.25	.15	-.20	-.15	-.24

[1] Values shown only for correlations significant at least at the .05 level.
NA - Information not available

Table 4. Multiple regression on number of children for ever-married Muslim women 18 - 49*

Country	Religiousness	Gender Equality	Employment	Education	R^2
Albania	.19			-.11	.37
Algeria	.11				.52
Azerbaijan	.09		-.25	-.11	.2
Bangladesh		-.10	-.13	-.23	.39
Burkina Faso				-.62	.25
Cyprus			.-18		.34
Egypt			-.07	-.35	.30
Ghana					.33
India				-.21	.21
Indonesia		-.09	-.08		.41
Iran	.12			-.26	.39
Iraq	.08		-.09	-.16	.32
Jordan					.34
Kyrgyzstan					.34
Malaysia					.29
Mali		-.10			.14
Morocco		-.13	-.12		.24
Nigeria		-.13			.25
Pakistan			-.10	-.12	.08
Rwanda					.40
Saudi Arabia			-.19	-1.2	.30
Singapore	NA	-.22		-.20	.25
Tanzania				-.22	.40
Turkey			-.14	-.80	.32

* Standardized partial regression coefficients. Empty cells indicate coefficients not significant at the .05 level. Age and age squared are included in each equation.

Table 5. Multiple regression* on ideal number of children for Muslim women 18 - 49

Country	Year of latest Survey	Religiousness	Gender Equality	Employment	Education	R^2
Albania	1998, 2002	.14				.09
Algeria	1999, 2004		-.25	-.11	-.14	
Azerbaijan	1997	.14				.05
Bangladesh	1996, 2002					.03
Egypt	2000		-.12			.02
India	1995, 2001		-.34			.17
Indonesia	2001	.15	-.29			.12
Iran	2000					.04
Iraq	2004	.06	-.09		-.12	.05
Jordan	2001	.12	-.11		-.09	.04
Kyrgyzstan	2003		-.11			.06
Morocco	2001	.11				.06
Nigeria	2007		-.18	-.16	-.25	.16
Pakistan	2003		-.08			.02
Saudi Arabia	2006		-.14	-.09		.08
Singapore	2007	NA	-.26			.08
Tanzania	2007		-.16	.28	-.36	.28
Turkey	2000	.06	-.15	-.06	-.15	.11

* Standardized partial regression coefficients. Empty cells indicate coefficients not significant at the .05 level. Age and age squared are included in each equation.
NA Information not available

Table 6. Mean number of children ever born to Muslim and non-Muslim women 18-49, by region*

	Mean Number of Children			
	Ever-married		All women	
	Muslim	non-Muslim	Muslim	non-Muslim
Middle East/North Africa	3.0	2.7	2.3	1.5
Sub-Saharan Africa	3.2	3.2	2.6	2.2
Eastern Europe/Central Asia	2.4	2.3	1.8	1.8
South Asia	2.7	2.5	2.0	2.2
All areas	2.8	2.7	2.2	2.1

*Based on WVS data

Table 7. Multiple regression on number of children for ever-married Muslim women 18-49 (all surveys combined)

	Standardized partial regression coefficient				
	All Countries	Middle East and North Africa	Sub-Saharan Africa	Eastern Europe/Central Asia	South Asia
Constant	-0.62	-1.23	0.32	0.10	0.98
Religiousness	0.04	0.03		0.08	-0.11
Relative importance of religion	0.05	0.02	0.06		
Gender Equality	-0.05		-0.06	-0.10	-0.06
Employment	-0.10	-0.14		-0.08	-0.04
Education	-0.17	-0.13	-0.09	-0.20	-0.25
R^2	0.26	0.30	0.17	0.28	0.26

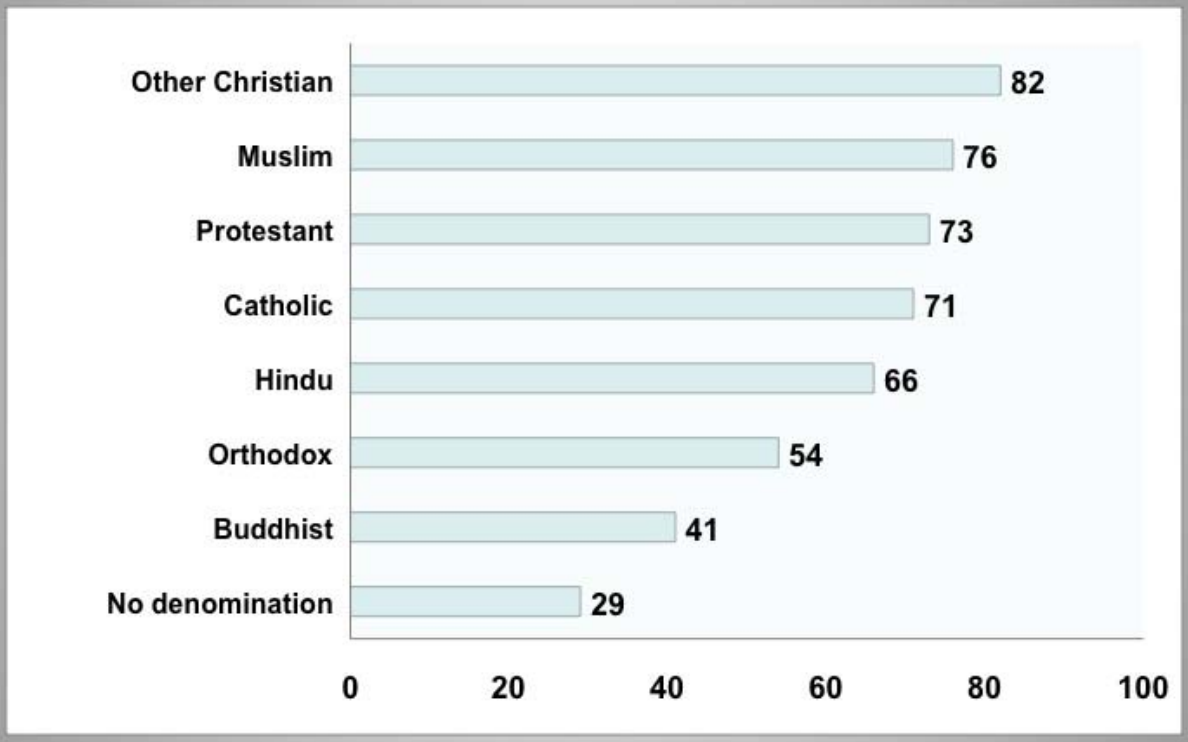
Age and age squared are included in each equation.

Table 8. Logistic regression on Muslim ever-married women ages 18-49 having four or more children (all surveys combined)

Variable	Exp(B)	Significance
Religiousness	1.00	0.14
Relative Importance of religion	1.10	0.00
Gender equality	0.99	0.00
Not employed (reference)		
Employed	0.49	0.00
Highest education attained	0.85	0.00
MENA region (reference)		
Sub-Saharan Africa	1.19	0.02
E Europe/Central Asia	0.37	0.00
South Asia	0.61	0.00
-2 log likelihood	13952.81	
Cox & Snell R Square	0.20	
Nagelkerke R Square	0.28	

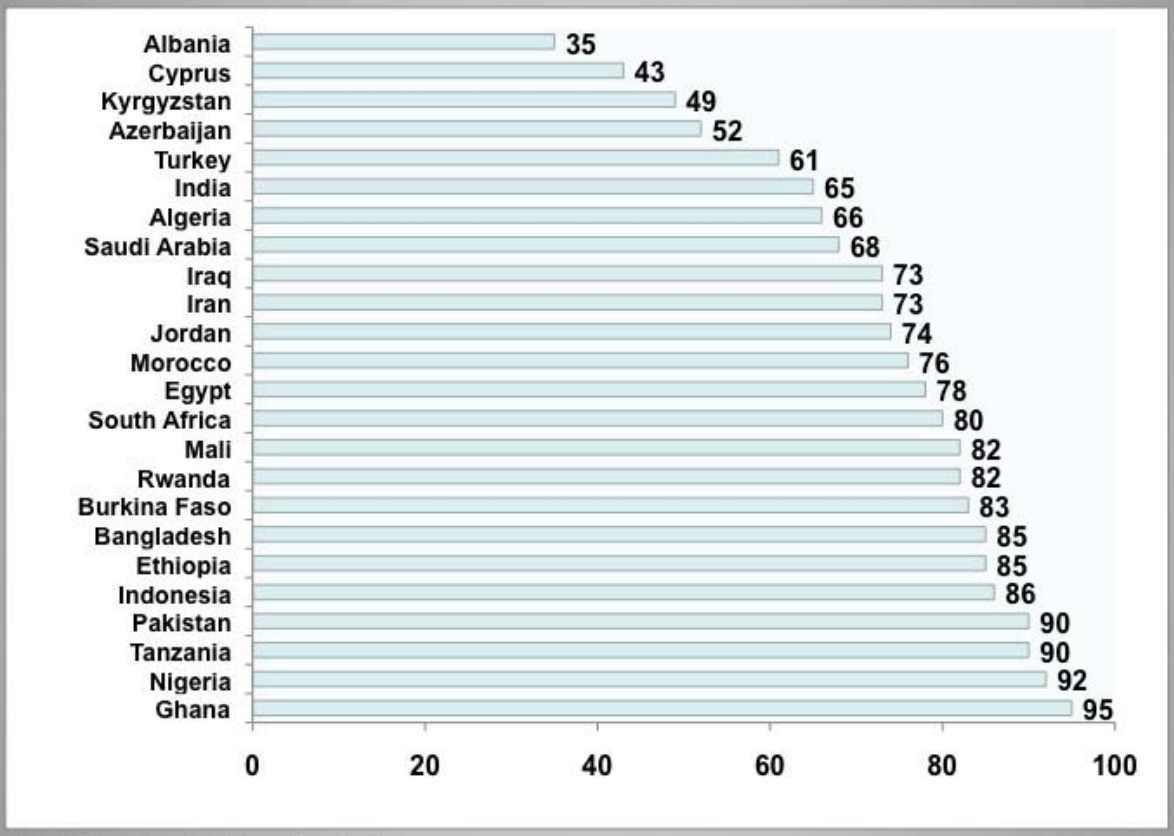
Age and age squared are included in the equation

Figure 1. Mean score on scale of religiousness[1], by religion for women 18 – 49.



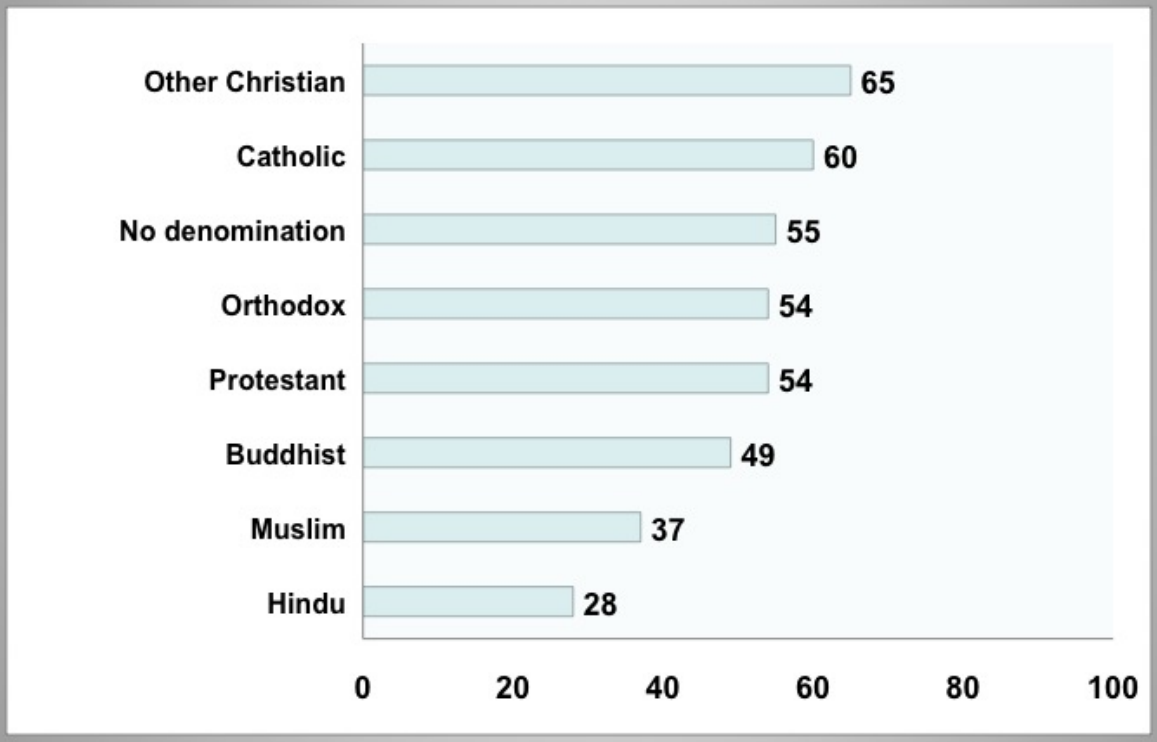
[1] Scale based on four items (see text).

Figure 2. Mean score on the scale of religiousness[1] for Muslim women 18 – 49.



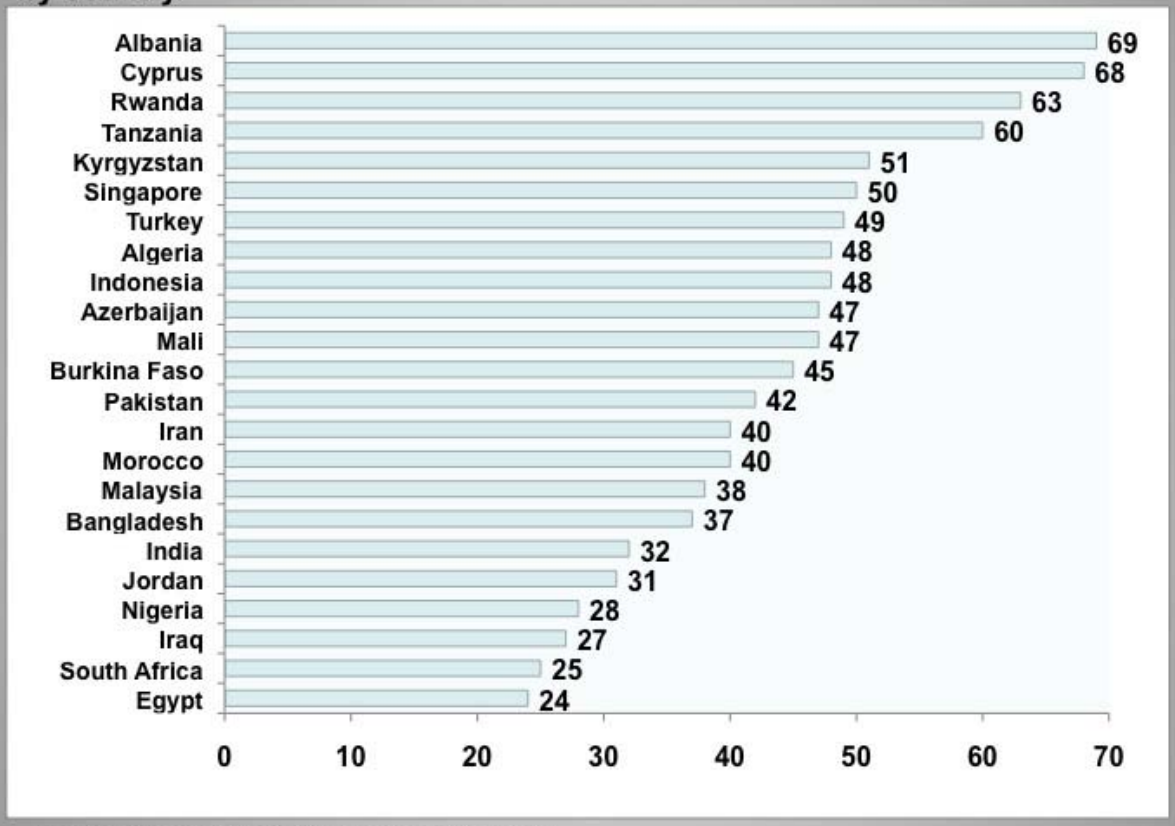
[1] Scale based on four items (see text).

Figure 3. Mean score on scale of attitudes toward gender equality[1], by religion, for women 18 – 49.



[1] Scale based on four attitudinal measures (see text).

Figure 4. Mean score on the gender equality scale[1] for Muslim women 18 – 49, by country.



[1] Scale based on four attitudinal measures (see text).