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Muslim/Non-Muslim Differentials in Fertility and Family Planning in India

Vinod Mishra

Vinod Mishra is a Fellow in Population and Health Studies at the East-West Center in Honolulu.

Address correspondence to: Dr. Vinod Mishra, Population and Health Studies, East-West Center, 1601 East-West Road, Honolulu, HI 96848-1601, USA; Tel: (1-808) 944-7452; Fax: (1-808) 944-7490; Email: MishraV@EastWestCenter.org.

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Abstract: Reasons for lower contraceptive use and higher fertility among Muslims than among non-Muslims in India are highly debated. This paper examines differentials in fertility and contraceptive use by religion using data from India's 1992–93 and 1998–99 National Family Health Surveys. The analysis shows that socioeconomic factors do not explain lower use of family planning and higher fertility among Muslims. A reason may be heavy reliance of India's family planning program on sterilization and Muslims' preference for temporary methods over sterilization. Another reason may be heavy reliance of the program on public-sector sources of supply of family planning and Muslims' preference for private-sector services due to greater privacy needs. A third reason may be greater opposition to family planning among Muslims, which is indicated in surveys as their main reason for not currently using and not intending to use family planning in the future. The findings suggest that greater availability of modern temporary methods and expansion of private-sector family planning services may increase contraceptive use and lower fertility among Muslims in India. Education and motivation programs aimed at reducing opposition to family planning may also help achieve these objectives.

Key words: Islam, religion, contraception, family planning, fertility, India.

Religion has immense social, economic, and political significance in most societies, and it plays an important role in sanctioning or promoting acceptance of or creating resistance to family planning (Pearce 2001; Mistry 1999; Adioetomo 1995; Mullatti 1995; Davis et al. 1993; Srikantan 1993; Islam et al. 1991; Caldwell and Caldwell 1988, 1987; Chamie 1981; Kirk 1968). In India, lower contraceptive use rates and higher fertility rates among Muslims than among Hindus and people of "other" religions[1] are well documented (IIPS and ORC Macro 2000; Ramesh et al. 1996; Gulati 1996; IIPS 1995; Bhatia 1990; ORG 1990). However, the reasons for lower contraceptive use and higher fertility among Muslims are highly debated in both academic and political circles (Pai Panandiker and Umashankar 1994).

Previous research in India has focused primarily on socioeconomic explanations of higher fertility and lower contraceptive use among Muslims but has found conflicting evidence. Some argue that lower contraceptive use and higher fertility among Muslims is mainly due to their lower socioeconomic status (Iyer 2002; Mistry 1999; Shariff 1995; Sharma 1994; Johnson 1993; Ghosh and Das 1990; Singh 1988; Ranganekar et al. 1987; Krishnan 1984; Chaudhary 1982; Khan 1979), while others argue that it is due to pronatalist ideology and greater opposition to family planning among Muslims (Alagarajan and Kulkarni 1998; Gandotra et al. 1998; Ramesh et al. 1996; Bhende et al. 1991; Das and Padhiyar 1991; Rajan and Rao 1991; Srivastava and Saksena 1989; Caldwell and Caldwell 1988; Das and Pandey 1985). Among neighboring South Asian countries, Pearce (2001) in Nepal, Mahmood and Ringheim (1996) in Pakistan, Miah (1992) in Bangladesh, and Abeykoon (1987) in Sri Lanka observe that religion is an

important predictor of contraceptive use and fertility behavior, independent of socioeconomic factors.

Among other explanations, some argue that lower contraceptive use and higher fertility among Muslims in India is due to their differential marriage patterns (e.g., early age at marriage and greater remarriage rates) (Bhagat and Unisa 1991; Krishnan and Yeung 1984; Davis 1951) and gender roles (e.g., seclusion and low status of women) (Mistry 1999; Krishnan and Yeung 1984). Others argue that it is due to economic and political interests and positions of different religious communities in India (Jeffery and Jeffery 1997). Still others argue that it is due to political and psychological reasons associated with the minority status of Muslims (Singh 1988; Krishnan and Yeung 1984). Much of this debate, however, is driven by ideological bias and lacks strong supporting empirical evidence, cited evidence is often based on small, non-representative case studies.

This study examines the underlying reasons for lower contraceptive use and higher fertility among Muslims, and, in particular, the degree to which lower contraceptive use and higher fertility among Muslims are due to their socioeconomic characteristics. The study examines Muslim/non-Muslim differentials in contraceptive use rates and fertility rates after accounting for differentials in selected demographic and socioeconomic factors. It examines the extent to which Muslims are more likely to use temporary methods of family planning and more likely to obtain family planning services from private-sector sources. It also examines the extent to which religious beliefs about opposition to contraception are responsible for Muslim/non-Muslim differential in family

planning use. The analysis is based on data from two large, nationally representative

sample surveys in India—the National Family Health Surveys, conducted in 1992–93

(NFHS-1) and 1998–99 (NFHS-2).

BACKGROUND

Muslims constitute about 12 percent of India's population. Eighty-one percent of India's

population is Hindu, 2 percent Christian, 2 percent Sikh, and 3 percent belong to

Buddhist, Jain, Parsi, or other religions. Muslims in India tend to be concentrated in

urban areas, have lower education levels, and have lower levels of exposure to electronic

mass media than Hindus and those belonging to other religions (IIPS and ORC Macro

2000). The politicization of religion in India, the history of violence between Muslims

and Hindus, and rivalry with neighboring Pakistan make the study of religious

differentials in fertility and family planning a sensitive issue. Concerns have been raised,

often politically motivated, about the rapid growth of the Muslim population and the

changing religious composition of India's national population (Pai Panandiker and

Umashankar 1994; Rai 1994; Bhatia 1990).

Family planning program in India

India's family planning program—one of oldest in the world—has long aimed at

providing a cafeteria of family planning methods, but in practice it has remained

primarily a sterilization program. At the time of NFHS-2, 43 percent of currently married

women age 15–49 were using a modern family planning method, but more than four-

fifths of them were using sterilization (IIPS and ORC Macro 2000). Family planning

services, especially for sterilization, are provided mainly through the public sector. In the past two to three decades, both program targets and program performance evaluations have been based mainly on numbers of sterilizations performed, primarily through government health centers and clinics, with little incentive for program managers and field workers to promote temporary methods of contraception, such as the pill and condom. Because of the emphasis on sterilization, most Indian couples perceive family planning as a means of stopping childbearing rather than a means of spacing births, despite the well-established fact that birth spacing not only reduces fertility but also benefits the health of both mothers and children (Rajaretnam and Deshpande 1994, Jejeebhoy 1989). This situation has changed somewhat in recent years. The top-down targets for family planning have been officially abandoned, and the government has been making greater efforts to promote temporary methods (Narayana 1998). Under the new approach, community needs and participation are given high priority (MOHFW 1998), and efforts are being made to increase the supply of temporary methods through a variety of sources, including the private-sector and non-governmental organizations (NGOs) (MOHFW 2001).

Islam and family planning

The Quran (or Koran) is the primary source of religious authority in Islam. *Hadiths* (the recorded sayings of the Holy Prophet), *Taqreer* (verbal or silent approval of the Prophet), and *Sunnah* (acts of the Prophet) are other sources of religious teachings for Muslims (Khan 1979; Akbar 1974). In practice, most Muslims rely on interpretations of the Quran and other religious writings by local *ulama* (Islamic scholars), resulting in wide variation

in the understanding of Islam across cultures and schools of religious thought (Boonstra 2001).[2]

Islam encourages marriage and procreation within marriage, but there is considerable uncertainty about whether Islam favors or prohibits the use of contraception (Boonstra 2001; Khan 1979; Akbar 1974). According to some, Islam is open to various interpretations regarding acceptability of contraception (Obermeyer 1994), and it neither supports nor hinders fertility decline (Karim 1997). The Quran mentions children as the "decoration of life" and forbids infanticide, which is interpreted by some to imply that Islam does not permit contraception. On the other hand, some argue that several Quranic verses imply that the "well-being of children overrides concerns for a large family," thereby suggesting that contraception is acceptable in Islam (Boonstra 2001; Underwood 2000). Moreover, there is evidence from some *Hadiths* that the withdrawal or coitus interruptus method (*al'azl*) was practiced by the Prophet's followers with his knowledge, and that he did not forbid it and may even have encouraged it (Boonstra 2001; Underwood 2000; Kamal n.d.; Akbar 1974). Most *ulama* agree that *al'azl* is permissible in Islam, but it should not be practiced without the woman's consent. By analogy, modern temporary methods of contraception, such as the condom and diaphragm, which have the same aim as the withdrawal method—to prevent the sperm from fertilizing the egg—are also generally considered permissible (Boonstra 2001; Underwood 2000; Akbar 1974). However, some *ulama* question the acceptability of oral contraceptives and implants (Boonstra 2001). Most *ulama* agree that surgical methods to permanently end fertility, such as sterilization, are forbidden in Islam (Khan 1979; Akbar 1974).

Some Islamic countries have issued *fatwa* (direct injunctions) that allow temporary family planning methods for medical and/or economic reasons but forbid abortion and all permanent family planning methods (Boonstra 2001; Khan 1979). There is evidence to suggest that Muslims in India prefer temporary methods of family planning over sterilization (Mistry 1999; Population Research Centre, Dharwad 1991; Caldwell and Caldwell 1988; Ranganekar et al. 1987). According to Caldwell and Caldwell (1988), the local Muslim establishment in rural south India believes that both abortion and sterilization are forbidden in Islam. Ranganekar et al. (1987) observe that Muslims in central India prefer temporary methods of contraception, while Hindus and Christians prefer permanent methods. A study conducted by the Population Research Centre, Dharwad (1991) concludes that Muslim women are more likely than Hindu women to accept IUD but not sterilization. There is evidence of Muslims' preference for non-terminal methods from other Asian countries as well (e.g., Lerman et al. 1989; Chamratrithirong et al. 1986).

Religious opposition is a frequently cited barrier to adoption of family planning among Muslims in India (Caldwell and Caldwell 1988). Several studies have noted greater opposition to family planning as a reason for lower use or lower desire for future use of contraception among Muslims than among non-Muslims (Mishra et al. 1999; Bhende et al. 1991). In other Asian countries also, Islam is believed to be a barrier to widespread acceptance of family planning, but there are exceptions. For example, in Bangladesh, Miah (1992) observes that agrarian social structure and religious beliefs are the two

major forces behind high fertility in the country. Roudi (1988) also notes widespread religious objection to contraception in Bangladesh, but Bernhart and Uddin (1990) find little support for the view that there is widespread religion-based resistance to family planning among Muslims in Bangladesh. In Indonesia, the Islamic religious establishment was initially opposed to family planning, but more recently it appears to have played a critical role in making the small family norm socially acceptable (Adioetomo 1995).

Conceptual framework

Following Axelrod (1988) and Chamie (1981), this study conceptualizes the effects of religion on contraceptive use and fertility behavior in a transitional framework. The hypothesis is that modernization results in higher use of contraception and lower fertility in all religious groups, but that each group adapts differently in accordance with its cultural and religious distinctions (Axelrod 1988). The effects of religion are most pronounced during the transition of a society from a rural, traditional, illiterate, high-mortality, and industrially backward status to an urban, modern, highly educated, low-mortality, and industrially advanced status (Chamie 1981). At the beginning of the transition, use of contraception is very low across all religious groups irrespective of their values and orientation toward family planning and childbearing. At the end of the transition, the differences in family planning and fertility eventually converge, with family planning acceptance high and fertility low across religious groups. During the transition, a religious group that opposes family planning and has a pronatalist ideology tends to lag behind in family planning acceptance and fertility behavior. A religious

group that feels marginalized, socially or politically insecure, or lacks upward mobility may also lag behind other religious groups that are not so threatened (Goldscheider 1971; Goldscheider and Uhlenberg 1968). In addition, a religious group may lag behind in family planning acceptance and fertility transition if the family planning program has been insensitive to its needs.

In India, there is clear evidence of such a lag in the southern state of Kerala, where contraceptive use has increased and fertility has declined considerably in recent decades in all three major religious groups (Hindu, Muslim, and Christian), but significant religious differentials remain (Alagarajan and Kulkarni 1998; Gandotra et al. 1998; Ramesh et al. 1996). Abeykoon (1987) observes a similar tendency in Sri Lanka, where, despite overall convergence in fertility levels and contraceptive prevalence, significant religious differentials in fertility and family planning remained even after controlling for socioeconomic factors. In the United States, Catholics had higher fertility and lower contraceptive use than Protestants and others from the 1940s through the 1960s (Westoff and Bumpass 1973; Ryder and Westoff 1971). Although the Catholic-Protestant difference in fertility had converged by the 1970s, significant differences in contraceptive-use styles remained until much later, independent of differences in demographic, social, or economic factors (Rao and Zhao 1994; Goldscheider and Mosher 1988).

In the literature, three main hypotheses are used to explain religious differentials in contraceptive use and fertility—the *characteristics hypothesis*, the *particular theologies*

hypothesis, and the *minority status hypothesis* (Pearce 2001; Chamie 1981; Berelson 1978; Goldscheider 1971; Goldscheider and Uhlenberg 1968). The *characteristics hypothesis* argues that religious differentials in fertility and contraceptive use result from religious differentials in demographic and socioeconomic characteristics. In other words, religious differences in fertility and contraceptive use are artifacts of socioeconomic differences, so that when socioeconomic characteristics are accounted for, the religious differences should disappear. The *particular theologies hypothesis* (or the *religion hypothesis*) argues that religious doctrine and ideologies influence contraceptive use and fertility behavior. Religious doctrine and ideologies about marriage, family size, sex roles, and birth control provide a system of norms and attitudes that influence childbearing preferences and contraceptive choice. The *minority status hypothesis* states that marginality, insecurity, and lack of upward mobility associated with minority group status influence contraceptive use and fertility behavior. A minority group is less likely to use contraception if it wants to preserve itself, increase its power, or if it has poor chances of upward social mobility. On the other hand, a minority group is more likely to use contraception if it is upwardly mobile, suffers no insecurity or marginality in status, or has no pronatalist ideology. It has also been argued that contraceptive acceptance tends to be low in population groups with greater social exclusion of women (Mason 1984; Dyson and Moore 1983), but the evidence is not conclusive (Morgan et al. 2002).[3]

In this study, we test the *characteristics hypothesis*, the *particular theologies hypothesis*, and two program-related hypotheses. We hypothesize that lower use of contraception and higher fertility among Muslims than among non-Muslims are due to (1) differential

socioeconomic status of Muslims (*characteristics hypothesis*); (2) greater opposition to family planning among Muslims (*particular theologies hypothesis*); (3) heavy reliance of India's family planning program on sterilization and Muslims' preference for non-terminal methods (*program hypothesis A*); and (4) heavy reliance of the program on public-sector sources and Muslims' preference for private-sector sources due to their concerns about privacy (*program hypothesis B*). As mentioned earlier, there is evidence that Muslims in India prefer temporary methods of family planning over sterilization. Moreover, we hypothesize that due to greater seclusion and greater needs for privacy, Muslim women may prefer private sources for obtaining family planning services, where they can chose the sex of the service provider and timing of visit. The fact that India's family planning program has relied heavily on sterilization and on the public sector may have affected Muslims' acceptance of family planning. The *minority status hypothesis* is not examined due to lack of data on political and psychological factors associated with minority status of Muslims.

DATA AND METHODS

Data for this study are from India's first and second National Family Health Surveys (NFHS-1 and NFHS-2), conducted in 1992–93 and 1998–99, respectively. NFHS-1 collected data from a nationally representative sample (except Sikkim, the Kashmir region of Jammu and Kashmir state, and the small Union Territories, which were not included) of 89,777 ever-married women age 13–49, residing in 88,562 households. NFHS-2 collected data from a nationally representative sample (except the small Union Territories) of 90,303 ever-married women age 15–49, residing in 92,486 households.

After incorporation of state-level or national-level sample weights, as appropriate, data from both surveys are representative at both the state and national levels.[4] Details of sample design are provided in the basic national survey reports for the two surveys (IIPS and ORC Macro 2000; IIPS 1995).

Each survey collected data on a number of demographic, socioeconomic, and health indicators for selected households and for all ever-married women (age 13–49 in NFHS-1 and age 15–49 in NFHS-2) in those households. These include information on religious affiliation of the household head, indicators of economic status and living standard, education levels, complete birth histories, and a range of questions relating to contraceptive use.

This analysis uses both descriptive and multivariate methods, and it is based on ever-married women age 15–49 included in each survey. The descriptive analysis focuses on sample distributions of women included in each survey by selected characteristics, and describes differentials in parity progression ratios,[5] total fertility rate, and contraceptive use rate by religion. The multivariate analysis is divided into five sections. The first two sections test the *characteristics hypothesis*, by examining the role of socioeconomic factors in explaining religious differentials in fertility and family planning; the third section tests *program hypothesis A*, by examining the extent to which Muslims are more likely than non-Muslims to use temporary methods of family planning; the forth section tests *program hypothesis B*, by examining the extent to which Muslims are more likely than non-Muslims to obtain family planning services from the private sector; and the fifth

section tests the *particular theologies hypothesis*, by examining religious differentials in opposition to family planning as main reason for both current nonuse and intended future nonuse of family planning.

There are six response variables—parity progression ratio, contraceptive use rate, proportion using a modern temporary method, proportion using a private-sector source for family planning, proportion reporting opposition to family planning as main reason for current nonuse, and proportion reporting opposition to family planning as main reason for intended future nonuse. The effects of religion and selected demographic and socioeconomic factors on each of these response variables are estimated using multivariate regression methods. More details about the response variables and methodological approach are provided when discussing the results of multivariate analysis.

The demographic and socioeconomic variables included as statistical controls in the six sets of multivariate models are: age; age squared; education (illiterate, literate but less than middle school complete, middle school complete);[6] current work status (working, not working); exposure to mass media (regularly exposed, not regularly exposed);[7] caste/tribe (scheduled caste, scheduled tribe, other);[8] household standard of living index (SLI) (low, medium, high);[9] residence (urban, rural); and geographic region (north, central, east or northeast, west, south).[10] As described later, the analysis of parity progression ratio is carried out separately for selected parity transitions and the analysis of contraceptive use rate is carried out separately for selected parity women, which also

effectively control for number of living children at the time of the survey. The analysis of private-sector sources of supply of family planning additionally controls for family planning method. This is necessary because the source of supply may depend on the method used.

These control variables were chosen for inclusion in the analysis because they are known to have substantial effects on contraceptive use and fertility in India and may potentially confound the effects of religion. Woman's age is included because contraceptive use and method choice are known to depend on woman's age. For example, at younger ages a woman is more likely to use a temporary method. A woman's reasons for current nonuse or intended future nonuse of contraception are similarly likely to depend on her age. Education is included because it is likely to be related to knowledge about various methods, knowledge about side effects, prejudice about family planning, method choice, effectiveness of use, and a host of other factors that may influence fertility decisions and contraceptive use. Work status similarly tends to be related to knowledge, exposure, access to family planning services, and attitudes about childbearing. Household living standard reflects economic status of the household, which may also be correlated with knowledge of and access to family planning services. Exposure to electronic mass media is included because it affects family size preferences and knowledge about family planning methods and sources. Urban/rural residence is included because urban women usually have better access to information about and access to contraception, as well as access to health providers in case there is a problem in using contraception, so that residence can affect both method choice and source of supply. Moreover, Muslims in

India tend to be concentrated in urban areas. Region controls for geographic differences in fertility preferences and access to family planning services.

In presenting results from various sets of multivariate models, the underlying parameter estimates (i.e., the coefficients of predictor variables) are not presented. Instead, multiple classification analysis (MCA) is used to transform results from regression models into simple cross-tabulations of the response variables by the characteristics of interest (Retherford and Choe 1993). Tables show unadjusted and adjusted predicted values of the response variables for categories of religion and each of the socioeconomic controls discussed above. In the case of unadjusted values, the regressions include only one predictor variable, i.e., religion. In the case of adjusted values, the regressions include not only the religion variable, but also the selected demographic and socioeconomic control variables. When calculating adjusted values, the control variables are held constant by setting them to their mean values in the group of women for which the regression is run. Constant terms in the regressions are reset so that predicted percentages agree with observed percentages when predictor variables in the regressions are set to their mean values. The estimation of significance levels takes into account design effects due to clustering at the level of the primary sampling unit (rural village or urban block).

RESULTS

The presentation of results first discusses characteristics of women from NFHS-1 and NFHS-2, followed by differentials in parity progression ratios, total fertility rate (TFR), and contraceptive use rate by religion. State differentials in TFR and contraceptive use

rate from each survey are also presented, and, finally, unadjusted and adjusted

proportions of women in the three religion groups—Hindu, Muslim, other—are discussed

for each of the six response variables in the five sections mentioned above.

Table 1 shows the sample distribution of women by religion and other variables included

in the analysis for each survey. Eighty-two percent of women are Hindu, 12 percent are

Muslim, and the remaining 6 percent belong to one of the 'other' religions. These

proportions are similar to the proportions of Hindu, Muslim, and other religions in the

total population (RGI 2001). The proportion of Muslim women is slightly higher in

NFHS-2 (12.5 percent) than in NFHS-1 (11.9 percent), which is consistent with higher

Muslim fertility and a slowly rising proportion of Muslims in the country. Women in the

NFHS-2 sample are more educated, more likely to work, and more exposed to mass

media than are women in the NFHS-1 sample. These are consistent with the generally

rising education levels of women, increasing female labor force participation, and

growing availability of mass media in the country. The proportion of scheduled-caste

women is considerably greater in NFHS-2 than in NFHS-1, but that is mainly due to

differences in how information on caste and tribe was gathered in the two surveys.[11]

Sample distributions by age, urban/rural residence, and region are quite similar in both

surveys.

<center><Table 1 about here></center>

Differentials in fertility by religion

Period parity progression ratios (PPPRs)

Table 2 shows PPPRs by religion for the three-year period immediately preceding each survey. PPPRs are estimated for the transitions M→1 (marriage to first birth), 1→2 (first to second birth), 2→3, ..., 6→7, and 7+→8+ (seventh or higher order birth to the next birth). In India, it is well established that marriage is nearly universal for women, with about 96 percent of women ever marrying (Gandotra et al. 1998). In NFHS-2, among those who marry, the likelihood of progressing to first birth is 96 percent. Among those who have a first birth, the likelihood of progressing to second birth is 92 percent. Among those who have a second birth, the likelihood of progressing to third birth drops off substantially to 69 percent, indicating that many women stop at two children. The progression ratios beyond third birth drop off further. The all-India PPPRs in NFHS-1 also show a consistent decline as parity increases. As expected, PPPRs in NFHS-2 are lower than in NFHS-1 at each parity transition, especially beyond parity two.

<Table 2 about here>

By religion, there is little variation in progression ratios at parity transitions M→1 and 1→2. Among women who marry, nearly all have a first and second child irrespective of their religious affiliation. For example in NFHS-2, the likelihood of progression from marriage to second birth is 87 percent for Hindu women, 91 percent for Muslim women, and 86 percent for women belonging to other religions. For each parity transition beyond parity two, however, progression ratios for Muslim women are considerably higher than those for non-Muslim women. For example in NFHS-2, 79 percent of Muslim women who have a second birth go on to have a third birth, compared with 68 percent of Hindu

women and 62 percent of women belonging to other religions. A similar pattern of higher PPPRs for Muslims is observed in NFHS-1 at each parity transition beyond parity two. It is noteworthy that PPPRs beyond parity two declined considerably between the two surveys for all three religious groups.

Total fertility rate

For India as a whole, TFR declined from 3.4 children per woman in NFHS-1 to 2.9 in NFHS-2 (Table 3). TFR declined for Muslims from 4.4 to 3.6, for Hindus from 3.3 to 2.8, and for other religions from 2.7 to 2.3. Thus, consistent with the differentials in PPPRs by religion, Muslim TFR remains the highest, followed by that of Hindus and other religions. It is important to recognize that the absolute levels of TFR estimated from retrospective surveys such as NFHS-1 and NFHS-2 tend to be underestimates due to omission and displacement of births to earlier years in birth histories (Retherford and Mishra 2001). However, there is no reason to expect the extent of such underestimation to vary much by religion.

<Table 3 about here>

Table 3 also shows state variations in TFR by religion. Overall, in NFHS-2, the fertility level varies considerably by state, from a high of 4.0 children per woman in the state of Uttar Pradesh to 1.8 in Goa. The fertility is also particularly high in Rajasthan, Madhya Pradesh, and Bihar, but in Kerala, Karnataka, Tamil Nadu, Himachal Pradesh, and Punjab it is near or below replacement level. Muslim women have higher fertility than Hindu women in all states. Muslim fertility is also higher than that of women belonging to other religions in all states except Jammu and Kashmir and Tamil Nadu. With few exceptions,

a similar pattern was observed in NFHS-1, but at somewhat higher levels of fertility. Fertility differentials by religion do not show a systematic pattern of variation from high-fertility states to low-fertility states. For instance, among the high-fertility states the Hindu-Muslim differential is quite small in Madhya Pradesh but substantial in Uttar Pradesh. Also, there is little evidence of convergence in fertility differentials by religion at low levels of fertility. For example, in Kerala and Karnataka with fertility level at or below replacement level, Muslim fertility is considerably higher than non-Muslim fertility. The fertility of women belonging to other religions also varies considerably from state to state, but that may in part be because the religious composition of the other religion category varies considerably among states.

Differentials in contraceptive use rate by religion

Table 4 shows contraceptive use rates at the time of NFHS-1 and NFHS-2 for all India and by religion. Consistent with higher fertility among Muslims, the contraceptive prevalence rate is much lower among Muslims than among non-Muslims in each survey. At the time of NFHS-2, 37 percent of Muslim women (or their husbands) used a modern contraceptive method compared with 49 percent of Hindu women, and 58 percent of women belonging to other religions. Between the two surveys, contraceptive prevalence increased for all religious groups—for Hindus from 42 to 49 percent, for Muslims from 28 to 37 percent, and for other religions from 52 to 58 percent. Overall for India as a whole, contraceptive prevalence increased from 41 percent in NFHS-1 to 48 percent in NFHS-2.

<Table 4 about here>

In NFHS-2, contraceptive prevalence ranges from less than 30 percent in Bihar (25 percent) and Uttar Pradesh (28 percent)—two high-fertility states—to more than 60 percent in Delhi, Haryana, Himachal Pradesh, Punjab, West Bengal, Maharashtra, and Kerala. There is close association but no one-to-one correspondence between contraceptive use rates and fertility across states. For instance, Goa has the lowest TFR (1.8), but only 48 percent of women use a modern contraceptive method. In Haryana, by contrast, TFR is much higher at 2.9, but contraceptive use rate is also high (62 percent). Contraceptive use is higher among Hindu women than among Muslim women in all states except Madhya Pradesh, where it is 44 percent for Hindus and 45 percent for Muslims. Women belonging to other religions also have higher contraceptive use rates than Muslim women in all states except Goa. The pattern of religious differentials in contraceptive use is similar in NFHS-1.

Multivariate Analysis

Effects of religion on parity progression ratios

This section examines fertility differentials by religion separately for NFHS-1 and NFHS-2. We use parity progression ratios as the measure of fertility. Inasmuch as progression from one parity to the next involves time elapsed since a starting event (which in this case is the birth corresponding to the starting parity), an appropriate multivariate method is proportional hazard regression. This analysis focuses on starting parities 2, 3, 4, and 5+. Parity transitions from marriage to first birth and from first birth to second birth are not included because, as discussed above, the parity progression ratios corresponding to these parity transitions are close to one and do not vary much by

religion. Because the effects of religion and other socioeconomic factors on the likelihood of having a birth depend on the starting parity, separate hazard regression models are estimated for parity progression ratios 2→3, 3→4, 4→5, and 5+→6+ for each survey. The analysis of effects of religion on parity progression ratios is restricted to currently married women age 15–49 still in their first marriage who reached the starting parity in the 12 years preceding each survey.[12] Table 5 presents the unadjusted and adjusted effects of religion and other factors from these hazard models, separately for NFHS-1 and NFHS-2. The adjusted PPRs are estimated by setting all control variables included in the analysis at the mean values for women included in each model.

<Table 5 about here>

The unadjusted effects of religion in both NFHS-1 and NFHS-2 show that at each parity Muslim women have significantly higher probability of progression to the next parity than Hindu women and women belonging to other religions. Also, in each survey, Hindu women have significantly higher PPRs than women belonging to other religions. When the effects of the socioeconomic variables are controlled, the adjusted PPRs for Muslims remain significantly higher than those for Hindus and women of other religions. It is noteworthy that controlling for socioeconomic factors explains away most of the difference in PPRs between Hindus and women of other religions, but the difference between Hindus and Muslims remains largely unchanged at each parity and in each survey. Both the unadjusted and adjusted PPRs in NFHS-2 are lower than the corresponding PPRs in NFHS-1, indicating declining fertility rates for each religious category, but the difference between Muslim and non-Muslim fertility remains large and statistically significant at each parity.

Among the control variables, woman's education and media exposure have the strongest adjusted effects on PPRs in each case. As expected, more educated women and women regularly exposed to electronic mass media have significantly lower adjusted PPRs than less educated women and women not regularly exposed to mass media, respectively. Also, in all but one case, the adjusted PPRs are significantly lower for women from high-standard-of-living households than for women from low-standard-of-living households. Scheduled-caste and scheduled-tribe women have significantly higher PPRs in most cases. The unadjusted PPRs are significantly lower for urban women than for rural women, but the urban/rural differentials in PPRs become much smaller and statistically nonsignificant in most cases when other factors in the table are controlled. Adjusted effects of work status on PPRs are also generally small. By geographic region, PPRs are generally lowest in the south and highest in the central region.

Effects of religion on family planning use

This section examines the extent to which lower use of family planning among Muslims is due to the effect of religion or the socioeconomic status of Muslims. To this end, the effects of religion on current contraceptive use are estimated after statistically controlling for the selected socioeconomic factors. The analysis is limited to currently married, non-pregnant women of parity two or higher in each survey. The analysis is restricted to women of parity two or higher because contraceptive use rates for parity zero and parity one women do not vary much by religion. The analysis is carried out separately for women with two, three, four, and five or more living children.[13] The response variable is

whether a currently married, non-pregnant woman age 15–49 with a specified number of living children at the time of each survey was using a modern family planning method (including women whose husbands were using a modern method). Because the response variable is dichotomous, an appropriate multivariate method is logistic regression. The unadjusted and adjusted effects of religion and other factors on current contraceptive use are presented in Table 6 separately for NFHS-1 and NFHS-2.

<Table 6 about here>

Consistent with the findings on PPRs discussed above, Muslim women have significantly lower contraceptive use rates than Hindu women and women belonging to other religions at each parity and in each survey. Also, much like in the case of PPRs, when the socioeconomic factors are controlled in the adjusted models, the difference in contraceptive use rates between Hindus and other religions becomes small and statistically nonsignificant. Controlling for the socioeconomic factors, however, has little effect on the difference in contraceptive use rates between Hindus and Muslims. At each parity and in each survey, Muslim women are significantly less likely to use family planning than non-Muslim women independent of their socioeconomic status. At each parity, both the unadjusted and adjusted contraceptive use rates for each religion were higher at the time of NFHS-2 than the corresponding rates at the time of NFHS-1, indicating increasing contraceptive use for each religious category. The difference between Muslim and non-Muslim contraceptive use rates remains large and statistically significant, however.

With other factors controlled, women's education has a strong positive effect on contraceptive use rates, as expected. Working women and women regularly exposed to mass media also have significantly higher contraceptive use rates in most cases. Scheduled-caste and scheduled-tribe women tend to have lower contraceptive use rates than women belonging to non-SC/ST groups, but the effects tend to be small. Women in higher-standard-of-living households have significantly higher contraceptive use rates, but the adjusted effects of household living standard on contraceptive use rates are much smaller than the unadjusted effects and not statistically significant in many cases. The significant unadjusted urban/rural differentials in contraceptive use rates are also substantially reduced when effects of other factors are statistically controlled. Consistent with the regional patterns for PPRs, contraceptive use rates are highest in the south and lowest in the central region.

Effects of religion on use of modern temporary methods

This section examines the effects of religion on the use of modern temporary methods (condom, pill, or IUD) versus the use of sterilization separately for NFHS-1 and NFHS-2. This analysis is limited to currently married women age 15–49 who were using a modern family planning method at the time of the survey (including women whose husbands were using a modern method). Again, because the response variable is dichotomous, an appropriate multivariate method is logistic regression. Table 7 presents the unadjusted and adjusted effects of religion and other selected socioeconomic factors on use of modern temporary methods separately for NFHS-1 and NFHS-2.

<center><Table 7 about here></center>

The table shows that, among current family planning users, Muslims are significantly more likely to use temporary contraceptive methods than Hindus or women of other religions. In both surveys, controlling for the socioeconomic variables does not alter Muslims' preference for non-terminal methods rather than sterilization. If anything, the differences between Muslims and non-Muslims in the adjusted percentage of women using modern temporary methods are somewhat greater than the unadjusted differences. It is also noteworthy that the proportion of Muslim women using temporary methods among all users increased between the two surveys, whereas the proportions of non-Muslim women using temporary methods remained largely unchanged.

Among the control variables, temporary method use is strongly negatively associated with woman's age, as expected. More educated women, women from higher-standard-of-living households, and women living in urban areas are significantly more likely than other women to use modern temporary methods. The adjusted effects of current work status, media exposure, and caste/tribe are much smaller than the corresponding unadjusted effects, and not significant statistically in many cases. It is noteworthy that the use of modern temporary methods is lowest in the south, where overall contraceptive prevalence is highest, suggesting that high prevalence of modern temporary methods is not a precondition for achieving low fertility.

Effects of religion on use of private-sector sources for family planning services
This section examines the hypothesis that Muslim women are more likely to obtain family planning services from a private-sector source than Hindu women or women

belonging to other religions. The effects of religion on use of the private sector as the most recent source of family planning method are estimated after controlling for socioeconomic factors that may also affect the preference for private-sector sources of supply. Because Muslim women are more likely to use temporary methods, which are more commonly available from the private sector, the analysis additionally controls for the type of family planning method used. In each survey, currently married women who were using a modern family planning method at the time of the survey (including women whose husbands were using a modern method) were asked where they had most recently obtained their contraceptive method. Various sources are grouped into private-sector sources, public-sector sources, and other sources.[14] This analysis defines the response variable as a dichotomous variable (private-sector source, public-sector or other source). The analysis is limited to currently married women age 15–49 who were using a modern family planning method at the time of the survey. The unadjusted and adjusted effects of religion and other factors are presented in Table 8 separately for NFHS-1 and NFHS-2.

<Table 8 about here>

Table 8 shows that Muslim women are much more likely to use a private-sector source to obtain contraception than Hindu women in each survey. Women belonging to other religions are also significantly more likely than Hindu women to obtain their family planning method from a private source. Even when the effects of the method type and other socioeconomic factors are controlled in the adjusted models, Muslim women are significantly more likely than Hindu women to use private-sector sources. Controlling for the socioeconomic factors eliminates the difference in the use of private-sector sources for family planning between Hindus and women of other religions. Both unadjusted and

adjusted proportions of women using private-sector sources for family planning services increased between the two surveys.

In both the unadjusted and adjusted models in each survey, women using temporary methods are much more likely to obtain them from the private sector than women using sterilization. This is to be expected because temporary methods, especially the pill and condom, are more commonly available from private-sector sources. The proportion of women obtaining sterilization from private-sector sources did not change much between the two surveys, but the proportion of women obtaining temporary methods from private-sector sources increased considerably.

Younger women are more likely to use private-sector sources, but when other factors are controlled, age has no effect on the use of private-sector family planning services. Urban women, more educated women, and women in higher-standard-of-living households are significantly more likely than other women to use private-sector sources in both surveys, even after other factors are controlled. Women regularly exposed to mass media are also more likely to use private-sector sources, but the effect of media exposure is diminished when other factors are controlled. Scheduled-cast and scheduled-tribe women are less likely to use private-sector sources than non-SC/ST women. Contrary to expectations, working women are significantly less likely than women who are not working to obtain family planning services from private-sector sources. Use of private-sector sources for family planning services is considerably greater in the west and south than in the north and central regions.

Effects of religion on opposition to family planning

The analysis in this section examines the extent to which religious beliefs about contraception are directly responsible for Muslim/non-Muslim differences in family planning use. The effects of religion on the likelihood of reporting opposition to family planning as the main reason for current nonuse and intended future nonuse are estimated after controlling for selected socioeconomic factors.

Reasons for current nonuse

In NFHS-2 but not in NFHS-1, women who were not using a method of family planning at the time of the survey were asked their main reason for not currently using family planning. Reasons for current nonuse of family planning were grouped into six major categories—husband away, fertility-related reason, opposition to use, lack of knowledge, method-related reason, and other. Because this analysis focuses on the proportion reporting opposition to family planning as the main reason for not using family planning, it uses a simple dichotomous response variable representing the main reason for nonuse (opposed to family planning, other reason). The analysis is limited to currently married, non-pregnant women age 15–49 who were not using family planning at the time of NFHS-2 (including women whose husbands were also not using). The multivariate method of choice is logistic regression.

Columns 4 and 5 of Table 9 show the unadjusted and adjusted proportions of women reporting opposition to family planning as the main reason for not using contraception by

religion and by selected socioeconomic characteristics. Forty-six percent of Muslim women who were not using contraception report opposition to family planning as their main reason for nonuse, compared with 11 percent of Hindu women and 10 percent of women belonging to other religions. Controlling for socioeconomic factors makes little difference in the substantially greater likelihood of Muslim women reporting opposition to family planning as their main reason for nonuse.

<Table 9 about here>

With the effects of religion and other factors controlled, younger women, women not regularly exposed to mass media, and women living in the central region are significantly more likely to report opposition to family planning as their main reason for not currently using contraception. The adjusted proportion reporting opposition to family planning as the main reason for nonuse does not vary much by other characteristics.

Reasons for future nonuse

In each survey, currently married women who were not using a method of family planning at the time of the survey were asked whether they intended to use contraception in the future. Those who answered that they did not intend to use contraception were asked their main reason. Reasons for not intending to use contraception were grouped into five broad categories–wants more children, cannot have children, method problem, opposition to family planning, and other.[15] (In NFHS-2, the response categories were labeled as fertility-related reasons, opposition to use, lack of knowledge, method-related reasons, and other). From this five-category variable in each survey, a simple dichotomous response variable was created—main reason for not intending to use family

planning in the future (opposition to family planning, other reason). The effects of religion on opposition to family planning as a reason for intended future nonuse are estimated using logistic regression. The analysis is limited to currently married women age 15–49 who were not using a method of family planning at the time of the survey and who did not intend to use family planning in the future.[16]

Table 9 presents the unadjusted and adjusted proportions of women reporting opposition to family planning as their main reason for not intending to use contraception in the future by religion and by selected socioeconomic characteristics, separately for NFHS-1 (columns 2 and 3) and NFHS-2 (columns 6 and 7). In both the unadjusted and adjusted models in each survey, Muslim women who do not intend to use family planning are about four times more likely than non-Muslim women to report opposition to family planning as their main reason for intended future nonuse. Controlling for the selected socioeconomic factors has virtually no influence on these effects. The one exception is woman's age, with older women significantly more likely than younger women to report opposition to family planning as their main reason for intended future nonuse. It is noteworthy that the proportion reporting opposition to family planning as the main reason for future nonuse has declined considerably between the two surveys, especially among the Muslim women for whom it has declined from 33 percent in NFHS-1 to 24 percent in NFHS-2.

CONCLUSION

The analysis shows rising contraceptive use rates and declining fertility rates in all religious groups, but large differences by religion remain. Muslim women in India have considerably lower contraceptive use and higher fertility rates at each parity than Hindu women or women belonging to other religions.

The results of this study indicate that religion has a substantial independent effect on fertility in each survey, and differential socioeconomic status of Muslims does not explain their higher fertility. The results find no support for the *characteristics hypothesis* in explaining the fertility differential between Muslims and non-Muslims in India. Goldscheider (1971: 273) has argued, "if fertility differences between religious groups persist after controlling for differential social, demographic, and economic characteristics, the explanation of residual fertility differentiation must rest with a particularized religious ideology on birth control and family size." The fact that controlling for selected socioeconomic factors accounts for much of the lower fertility among women of other religions compared to Hindus suggests that the controls used in this analysis are adequate in capturing socioeconomic conditions that influence fertility behavior in India. The results also indicate declining fertility rates for each of the three religion groups, including Muslims, but the difference between Muslim and non-Muslim fertility rates remains large and statistically significant.

The analysis also shows that significantly lower use of family planning among Muslims is not due to their differential socioeconomic status. Again, the fact that controlling for

socioeconomic factors almost completely accounts for differences in contraceptive use rates between Hindus and women of other religions suggests that the controls are adequately capturing socioeconomic conditions that influence contraceptive acceptance in India. There is remarkable consistency in the direction and size of the effects at each parity and in each survey. Again, the analysis finds no support for the *characteristics hypothesis* in explaining lower contraceptive prevalence among Muslims and points at the role of religious ideology on birth control in Islam (Goldscheider 1971). The results also indicate that contraceptive prevalence is rising for all religion groups, including Muslims, but the difference between Muslim and non-Muslim contraceptive use rates remains large and statistically significant.

Among those who use family planning, Muslims prefer temporary methods to a greater degree than non-Muslims. The analysis indicates that Muslims' preference for temporary modern methods over sterilization is not due to their socioeconomic characteristics. This is consistent with the evidence that Muslims who use contraception are more likely to use temporary spacing methods and less likely to use sterilization (Mistry 1999; Population Research Centre, Dharwad 1991; Caldwell and Caldwell 1988; Ranganekar et al. 1987). The heavy reliance of India's family planning program on sterilization over the years, coupled with Muslims' preference for non-terminal methods, may have contributed to lower acceptance of family planning among Muslims.

The analysis also indicates a greater preference for private-sector sources of family planning services among Muslims than among non-Muslims, independent of preference

for temporary methods and differential socioeconomic characteristics. The analysis shows that greater use of the private sector for obtaining family planning among women of other religions than among Hindus is almost entirely due to these other factors. These results indicate that the heavy reliance of India's family planning program on public-sector sources of supply over the years, coupled with Muslims' preference for private-sector services, may have also contributed to lower acceptance of family planning among Indian Muslims. Results also indicate increasing availability of temporary methods from the private sector, but not of sterilization.

The analysis shows that religion has a large effect on the likelihood of reporting opposition to family planning as main reason for both current and future nonuse of contraception. Muslim women are about four times more likely than non-Muslim women to report opposition to family planning as the main reason for not currently using contraception and for not intending to use contraception in the future. This substantially greater opposition to family planning among Muslims is not due to their differential socioeconomic status. Both the unadjusted and adjusted differences between Hindus and women of other religions in the proportion reporting opposition to family planning as the main reason for current nonuse or intended future nonuse are small and not significant statistically. These results find support for the *particular theologies hypothesis*, and suggest that greater opposition to family planning among Muslims than among non-Muslims is an important reason for their lower acceptance of family planning and higher fertility. However, the proportion of Muslim women reporting opposition to family

planning as their main reason for not intending to use contraception in future has declined considerably between the two surveys.

The remarkable consistency in the direction and strength of the measured effects across surveys with large probability samples provide confidence in the findings. There are several data limitations that need to be addressed in future studies, however. First, NFHS-1 and NFHS-2 did not collect information on political and psychological factors associated with the minority status of Muslims in India, which may influence their attitude towards childbearing and acceptance of family planning (Krishnan and Yeung 1984; Goldscheider 1971; Berelson 1978; Goldscheider and Uhlenberg 1968). Second, it is important to recognize that Muslim (or Hindu) is not a homogeneous group (Boonstra 2001; Obermeyer 1994), and that there is considerable intra-religion heterogeneity in the manner in which each religion is practiced across various parts of India as well as in the degree of individual religiosity. The surveys did not collect data on regional diversity in religious practices or on individual religiosity. Previous research in South Asia has shown that degree of religiosity can affect childbearing preferences and family planning acceptance (Pearce 2001; Amin et al. 1996), but the evidence is inconclusive (Mistry 1999). Third, the surveys collected no information on the characteristics of health-care service providers, such as their sex or religion, or on the providers' perceptions about childbearing attitudes and family planning acceptance among Muslims. Most doctors in India who perform sterilization operations and IUD insertions are non-Muslim males, which may contribute to lower acceptance of family planning by Muslim women. Moreover, some health workers may believe that it is harder to persuade Muslims to

accept family planning, and some simply may not visit Muslim households due to religious prejudice, which may also reduce the likelihood of Muslims' acceptance of family planning.

In sum, the study finds that religion strongly influences contraceptive use and fertility among Muslims, while the differences between Hindus and women of other religions are largely due to differences in their socioeconomic characteristics. Substantially greater opposition to family planning among Muslims—as reflected in a larger proportion of women mentioning opposition to family planning as a reason for current and intended future nonuse—may be one of the explanations for their lower contraceptive use and higher fertility. Heavy reliance of India's family planning program on sterilization and Muslims' preference for temporary methods may be another reason for lower use of family planning among Muslims. A third reason for lower acceptance of family planning among Muslims may be heavy reliance of India's family planning program on public-sector sources of supply and Muslims' preference for private-sector services, due to greater needs for privacy among Muslims.

What should one conclude from these findings? As hypothesized, religious differentials in contraceptive use and fertility are transitional phenomena. Fertility is falling and contraceptive use is rising among Muslims as well as among non-Muslims, so with progress in socioeconomic conditions and improvements in family planning services, fertility in all religious groups is expected to fall and converge eventually, with some lag for Muslims. During the transition, a number of policy and program measures may help

increase use of family planning and lower fertility among Muslim women. These include: promoting greater availability and use of modern temporary methods; promoting greater involvement of the private sector in providing family planning services; addressing privacy and other concerns associated with public-sector services; strengthening education and motivation programs aimed at addressing opposition to family planning; and improving the quality of services.

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[1] Other religions include Christian, Sikh, Buddhist, Jain, Parsi, Jewish, Zorastrian, and others.

[2] Due to varying interpretations of Islam and many country-specific factors, international comparisons of the religion-contraception relationship do not reveal any systematic patterns. It has been argued that the effects of religion on contraceptive use and fertility should be studied within a context where followers of different religious faiths live side by side under reasonably similar conditions (Clark 1967).

[3] Morgan et al. (2002) find no evidence that higher fertility among Muslims in India, Malaysia, Thailand, and Philippines can be explained by lower autonomy or power of Muslim women (or by a stronger system of patriarchy in Muslim communities). Neidell et al. (1998) also find no evidence that Muslim/non-Muslim fertility differential in Nepal is due to women's power and autonomy. They instead hypothesize that it is due to felt political insecurity related to the minority status of Muslims.

[4] In both NFHS-1 and NFHS-2, the sample design was such that in some states certain categories of respondents (for example, those from urban areas) are oversampled, so that weights are needed to restore the correct proportions. State-level weights are designed to preserve the total numbers of households and ever-married women interviewed in each state, so that the weighted state total equals the unweighted state total. National-level weights are used when generating results at the national level, in which case the weighted national total equals the unweighted national total.

[5] A woman's parity is defined as the number of children that she has ever borne, and a parity progression ratio (PPR) is defined as the proportion of women of specified parity who eventually go on to have another child. For the methodology for estimating period parity progression ratios (PPPRs), see Gandotra et al. (1998), Feeney and Yu (1987); and Feeney (1986).

[6] 'Primary school complete' means 5–7 completed years of education, 'middle school complete' means 8 or more completed years of education.

[7] A woman is categorized as regularly exposed to electronic mass media if she listens to radio or watches television at least once a week or goes to a cinema hall or theatre to see a movie at least once a month.

[8] Scheduled castes and scheduled tribes are castes and tribes that the Government of India identifies as socially and economically backward and in need of special protection from social injustice and exploitation.

[9] Standard of living is defined as an index based on ownership of a number of consumer durables and other household items. The definition of the index varies slightly between NFHS-1 and NFHS-2.
In NFHS-1, standard of living is measured by an index defined in terms of ownership of household goods. The standard of living (SLI) index is calculated by adding the following scores: house type: 4 for *pucca*, 2 for semi-*pucca*, 0 for *kachha*; toilet facility: 4 for own flush toilet, 2 for public or shared flush toilet or own pit toilet, 1 for shared or public pit toilet, 0 for no facility; source of lighting: 2 for electricity, 1 for kerosene, gas or oil, 0 for other source of lighting; main fuel for cooking: 2 for electricity, liquified natural gas, or biogas, 1 for coal, charcoal, or kerosene, 0 for other fuel; source of drinking water: 2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source; separate room for cooking: 1 for yes, 0 for no; ownership of house: 2 for yes, 0 for no; ownership of agricultural land: 4 for 5 acres or more, 3 for 2.0–4.9 acres, 2 for less than 2 acres or acreage not known, 0

for no agricultural land; ownership of irrigated land: 2 if household owns at least some irrigated land, 0 for no irrigated land; ownership of livestock: 2 if own livestock, 0 if do not own livestock; durable goods ownership: 4 for a car or tractor, 3 each for a scooter/motorcycle or refrigerator, 2.5 for a television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, water pump, bullock cart, or thresher, 1 for a clock/watch. Index scores range from 0–10 for low SLI to 10.5–20 for medium SLI and 20.5–45.5 for high SLI.

In NFHS-2, standard of living is measured by an index calculated by adding the following scores: house type: 4 for *pucca*, 2 for semi-*pucca*, 0 for *kachha*; toilet facility: 4 for own flush toilet, 2 for public or shared flush toilet or own pit toilet, 1 for shared or public pit toilet, 0 for no facility; source of lighting: 2 for electricity, 1 for kerosene, gas or oil, 0 for other source of lighting; main fuel for cooking: 2 for electricity, liquified natural gas, or biogas, 1 for coal, charcoal, or kerosene, 0 for other fuel; source of drinking water: 2 for pipe, hand pump, or well in residence/yard/plot, 1 for public tap, hand pump, or well, 0 for other water source; separate room for cooking: 1 for yes, 0 for no; ownership of house: 2 for yes, 0 for no; ownership of agricultural land: 4 for 5 acres or more, 3 for 2.0–4.9 acres, 2 for less than 2 acres or acreage not known, 0 for no agricultural land; ownership of irrigated land: 2 if household owns at least some irrigated land, 0 for no irrigated land; ownership of livestock: 2 if own livestock, 0 if do not own livestock; durable goods ownership: 4 for a car or tractor, 3 each for a moped/scooter/motorcycle, telephone, refrigerator, or color television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, black and white television, water pump, bullock cart, or thresher, 1 each for a mattress, pressure cooker, chair, cot/bed, table, or clock/watch. Index scores range from 0–14 for low SLI to 15–24 for medium SLI to 25–67 for high SLI.

Kachcha houses are made from mud, thatch or low-quality materials. *Pucca* houses are made from high-quality materials (such as bricks, tiles, cement, and concrete) throughout, including roof, walls, and floor. Semi-*pucca* houses are made from partly low-quality materials and partly high-quality materials.

Because the SLI is calculated slightly differently in NFHS-1 and NFHS-2, comparisons of this index between the two surveys are not exact.

[10] North includes Delhi, Haryana, Himachal Pradesh, Jammu and Kashmir, and Punjab. Central includes Madhya Pradesh, Uttar Pradesh, Bihar, and Rajasthan. East includes Orissa and West Bengal. Northeast includes Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim. West includes Goa, Gujarat, and Maharashtra. South includes Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu. Kashmir region of Jammu and Kashmir state and Sikkim were not included in NFHS-1.

[11] In NFHS-1, respondents were asked to report their caste or tribe status, and their answers were compared with the official government list of scheduled castes and scheduled tribes before re-coding the responses to scheduled caste, scheduled tribe, or "other." In NFHS-2, there was no checking against the official government list. Instead, respondents were first asked the name of their caste or tribe, if any. Then, if they belonged to a caste or tribe, they were asked whether they belonged to a scheduled caste, a scheduled tribe, an "other backward caste," or none of these. Because of these differences, the caste/tribe variable is not comparable between the two surveys.

[12] The actual cut-offs used in the analysis were January 1, 1980 for NFHS-1 and January 1, 1986 for NFHS-2. The restriction to currently married women still in their first marriage effectively controls for variations in marital history and marital status, and the restriction to the 12-year period preceding each survey, guarantees that measured effects are not influenced by events in the more distant past, which are of less interest to policymakers and program managers.

[13] Separate regressions by parity are necessary because the effects of religion and other socioeconomic variables on contraceptive use differ considerably depending on the number of living children a woman already has. Alternatively, one could include the number of living children as one of the predictor variables, but then one would also have to include a number of interaction terms. It is simpler to run a separate model for each subgroup of women defined by their number of living children.

[14] Private-sector sources include: private hospital or clinic, pharmacy or drugstore, private doctor, shop, or other private source. Public-sector sources include: government or municipal hospital, primary health

centre, sub-centre, government family planning clinic, public mobile clinic, camp, government paramedic, or other government source. Other sources include: husband, friend or relative, or other non-public or non-private source. The list of sources of family planning method was somewhat different in NFHS-2 than in NFHS-1, so the public-private categorization is not strictly comparable between the two surveys.

[15] Since wanting more children and intending to use contraception in the future (after having had the wanted children) are not incompatible, some of the respondents who supplied these answers may have effectively evaded the question on reasons for not intending to use contraception in the future. Sixty-three percent of currently married, non-contracepting women age 15–29 in NFHS-1 and 37 percent in NFHS-2 mention a desire for more children as their main reason for not intending to use contraception in the future, which suggests that many women perceive family planning as a means of stopping childbearing but not as a means of spacing births.

[16] The five sets of analyses were also conducted separately for rural and urban areas, for the four high-fertility northern states (Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan), and the four relatively low-fertility southern states (Andhra Pradesh, Tamil Nadu, Karnataka, and Kerala) for each survey. Because the results from these separate analyses were mostly consistent with those presented here for India as a whole, they are not discussed separately.

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Table 1 Sample distribution of ever-married women age 15-49 by religion and other selected characteristics, India: NFHS-1 and NFHS-2

Characteristic	NFHS-1	NFHS-2
Religion		
Hindu	82.2	81.9
Muslim	11.9	12.5
Other religion	6.0	5.6
Age		
15–19	10.6	9.6
20–29	40.7	39.4
30–39	30.3	31.5
40–49	18.5	19.5
Education		
Illiterate	62.6	57.3
Literate, < middle complete	18.3	19.5
Middle school complete	19.2	23.2
Current work status		
Working	31.6	35.7
Not working	68.4	64.3
Media exposure		
Exposed	53.1	60.2
Not exposed	46.9	39.8
Caste/tribe		
Scheduled caste	12.1	18.3
Scheduled tribe	8.7	8.7
Other	79.2	73.0
Standard of living		
Low	37.4	32.1
Medium	39.0	47.2
High	23.7	20.7
Residence		
Urban	26.1	26.2
Rural	73.9	73.9
Region		
North	12.2	12.2
Central	25.0	23.9
East and Northeast	25.8	25.5
West	14.4	14.5
South	22.8	24.0
Number of women	84,328	84,682

Note: For definitions of variables see text.

Table 2 Period parity progression ratios (PPPRs) for the three-year period immediately preceding the survey by religion, India: NFHS-1 and NFHS-2

Parity transition	NFHS-1					NFHS-2			
	Hindu	Muslim	Other religion	All India		Hindu	Muslim	Other religion	All India
M→1	97	96	98	97		96	96	95	96
1→2	93	94	91	93		91	95	91	92
2→3	77	90	68	78		68	79	62	69
3→4	65	80	56	67		58	70	45	59
4→5	61	76	56	63		55	70	41	57
5→6	58	71	49	60		56	68	53	58
6→7	59	71	54	61		50	63	49	53
7+→8+	51	61	45	54		45	55	44	48

Table 3 Total fertility rate (TFR) for the three years preceding the survey by religion and by state, India: NFHS-1 and NFHS-2

India/state	NFHS-1					NFHS-2			
	Hindu	Muslim	Other religion	Total		Hindu	Muslim	Other religion	Total
India	3.30	4.41	2.70	3.39		2.77	3.58	2.31	2.85
North									
Delhi	2.90	4.76	2.16	3.02		2.35	3.01	1.88	2.40
Haryana	3.86	6.93	3.81	3.99		2.77	5.98	2.55	2.88
Himachal Pradesh	2.90	4.78	4.41	2.97		2.11	3.23	2.19	2.14
Jammu & Kashmir[1]	3.01	3.88	2.71	3.13		2.68	2.72	3.52	2.71
Punjab	2.91	4.16	2.89	2.92		2.29	3.31	2.04	2.21
Rajasthan	3.66	4.00	2.10	3.63		3.69	4.93	2.13	3.78
Central									
Madhya Pradesh	3.92	4.18	2.67	3.90		3.35	3.39	2.07	3.31
Uttar Pradesh	4.75	5.28	3.34	4.82		3.87	4.76	2.26	3.99
East									
Bihar	3.79	5.18	3.35	4.00		3.36	4.44	2.19	3.49
Orissa	2.90	4.25	3.08	2.92		2.45	3.01	2.30	2.46
West Bengal	2.52	4.59	2.24	2.92		2.02	3.29	1.68	2.29
Northeast									
Assam	2.92	5.03	4.65	3.53		2.00	3.05	1.59	2.31
West									
Goa	1.90	2.20	1.84	1.90		1.68	2.80	1.75	1.77
Gujarat	2.96	3.34	3.17	2.99		2.70	3.12	1.80	2.72
Maharashtra	2.69	4.11	2.65	2.86		2.45	3.30	2.20	2.52
South									
Andhra Pradesh	2.60	2.88	1.81	2.59		2.20	2.53	2.57	2.25
Karnataka	2.72	3.93	2.22	2.85		2.04	2.84	1.62	2.13
Kerala	1.65	2.97	1.80	2.00		1.64	2.46	1.88	1.96
Tamil Nadu	2.45	2.47	2.78	2.48		2.16	2.57	2.16	2.19

[1] NFHS-1 included only Jammu region of Jammu & Kashmir

Table 4 Percentage of women using any modern contraceptive method at the time of the survey by religion and by state, India: NFHS-1 and NFHS-2

India/state	NFHS-1					NFHS-2			
	Hindu	Muslim	Other religion	Total		Hindu	Muslim	Other religion	Total
India	42	28	52	41		49	37	58	48
North									
Delhi	61	47	67	60		66	49	61	64
Haryana	51	14	48	50		63	29	72	62
Himachal Pradesh	59	41	46	58		68	54	61	68
Jammu & Kashmir[1]	52	34	61	49		53	46	59	49
Punjab	60	41	58	59		68	50	66	67
Rajasthan	32	19	45	32		41	25	60	40
Central									
Madhya Pradesh	36	39	51	37		44	45	56	44
Uttar Pradesh	21	11	40	20		29	21	48	28
East									
Bihar	26	8	24	23		27	9	21	25
Orissa	37	16	41	36		47	35	44	47
West Bengal	62	43	63	58		70	56	65	67
Northeast									
Assam	48	32	27	43		49	34	36	43
West									
Goa	52	48	37	48		50	48	41	48
Gujarat	50	35	67	49		59	58	64	59
Maharashtra	57	36	54	54		62	49	64	61
South									
Andhra Pradesh	48	45	52	47		61	47	52	60
Karnataka	51	37	50	49		60	44	61	58
Kerala	73	38	71	63		72	47	72	64
Tamil Nadu	50	46	49	50		52	49	53	52

[1] NFHS-1 included only Jammu region of Jammu & Kashmir

Table 5 Unadjusted and adjusted effects of religion and other selected demographic and socioeconomic factors on parity progression ratios, India: NFHS-1 and NFHS-2

	NFHS-1								NFHS-2							
	Unadjusted				Adjusted				Unadjusted				Adjusted			
Variable	2→3	3→4	4→5	5+→6+	2→3	3→4	4→5	5+→6+	2→3	3→4	4→5	5+→6+	2→3	3→4	4→5	5+→6+
Religion																
Hindu†	83	71	66	60	85	71	64	58	75	65	61	59	76	65	61	57
Muslim	91 ***	85 ***	79 ***	72 ***	92 ***	84 ***	78 ***	72 ***	85 ***	79 ***	74 ***	68 ***	85 ***	80 ***	76 ***	71 ***
Other religion	75 ***	60 ***	58 ***	53 ***	85	69	64	58	67 ***	53 ***	53 **	54 *	78	62	61	58
Education																
Illiterate†	89	78	72	64	89	77	68	62	85	74	67	62	83	71	66	61
Literate, < middle complete	83 ***	65 ***	57 ***	54 ***	86 ***	70 ***	61 ***	55 ***	74 ***	58 ***	52 ***	53 ***	77 ***	63 ***	59 ***	56 ***
Middle school complete	61 ***	46 ***	47 ***	46 ***	73 ***	56 ***	55 ***	50 ***	52 ***	40 ***	41 ***	42 ***	64 ***	51 ***	53 ***	50 ***
Current work status																
Working	84	70 ***	65 ***	59 ***	86	71 **	65	60 *	77 **	66	61 **	59 **	76 ***	66 *	62 *	59 **
Not working†	83	73	69	64	86	74	67	62	75	67	64	62	79	68	65	61
Media exposure																
Exposed	77 ***	63 ***	58 ***	55 ***	85 ***	70 ***	62 ***	58 ***	69 ***	56 ***	53 ***	53 ***	76 ***	63 ***	59 ***	56 ***
Not exposed†	89	79	75	66	87	76	69	62	86	77	70	65	80	71	68	63
Caste/tribe																
Scheduled caste	88 ***	77 ***	73 ***	63	89 ***	77 ***	71 ***	63	83 ***	71 ***	65 ***	60	82 ***	70 ***	67 ***	61
Scheduled tribe	87 ***	76 ***	70 *	61	86	73	66	60	84 ***	73 ***	68 ***	63 *	80 **	71 ***	68 ***	64 **
Other†	82	70	67	62	86	72	65	61	73	64	61	60	76	65	62	59
Standard of living																
Low†	88	76	72	64	86	73	67	62	83	74	68	64	78	69	67	63
Medium	86 **	74 ***	68 ***	63	87	74	66	62	78 ***	67 ***	62 ***	60 ***	79	68	63 **	60 **
High	70 ***	58 ***	53 ***	50 ***	84 **	71	62 **	53 ***	58 ***	46 ***	46 ***	47 ***	73 ***	59 ***	55 ***	52 ***
Residence																
Urban	75 ***	64 ***	60 ***	56 ***	85	73	64 *	58 ***	65 ***	56 ***	57 ***	55 ***	77	66	64	57 **
Rural†	86	74	70	63	86	73	67	62	80	70	64	62	78	67	64	61
Region																
North	85 ***	71 ***	63 ***	59 ***	89 ***	74 ***	63 ***	59 ***	79 ***	68 ***	63 ***	61 ***	84 ***	72 ***	67 ***	62 ***
Central	89 ***	82 ***	78 ***	69 ***	89 ***	81 ***	75 ***	68 ***	87 ***	79 ***	74 ***	67 ***	85 ***	78 ***	75 ***	67 ***
East and Northeast	85 ***	77 ***	72 ***	63 ***	85 ***	75 ***	68 ***	60 ***	77 ***	70 ***	64 ***	60 ***	75 ***	66 ***	62 ***	57 ***
West	83 ***	66 ***	59 *	54	87 ***	69 ***	58	52	76 ***	59 ***	51 *	50	80 ***	61 ***	53	50
South†	75	58	55	51	80	61	54	51	63	50	46	49	68 ***	52 ***	49	50
Number of women	36,799	28,033	19,230	30,946	36,243	27,646	18,964	30,459	37,047	26,933	17,617	26,384	36,243	26,305	17,179	25,649

† Reference category in the underlying hazard regression.

* p<.05, ** p<.01, ***p<.001

Notes: For definition of variables see text. Parity progression ratios (PPRs) are expressed as percentages. Both unadjusted and adjusted PPRs are predicted values calculated from hazard regressions. Unadjusted PPRs for a particular parity transition are based on separate hazard regressions for each predictor variable, with that variable as the only predictor variable. Adjusted PPRs for a particular parity transition are based on a single hazard regression consisting of all the predictor variables in the table and age and age squared variables. For any given predictor variable in the adjusted column, the set of control variables consists of all the other predictor variables in the table and age and age squared variables. Effects of age are not shown in the table. When calculating the adjusted PPRs, the control variables are set at their mean values in the group of women for which the hazard regression was run. This group of women includes all currently married women still in their first marriage at the time of the survey who reached the specified starting parity since January 1 of 1980 for NFHS-1 and since January 1 of 1986 for NFHS-2. All models and numbers of women are based on the weighted sample. Constant terms in the regressions are reset so that predicted percentages agree with observed percentages when predictor variables in the regressions are

Table 6 Unadjusted and adjusted effects of religion and other selected demographic and socioeconomic factors on contraceptive prevalence rates among currently married, non-pregnant women age 15-49 with specified number of living children at the time of the survey, India: NFHS-1 and NFHS-2

| | NFHS-1 | | | | | | | | NFHS-2 | | | | | | | |
| | Unadjusted | | | | Adjusted | | | | Unadjusted | | | | Adjusted | | | |
Variable	2	3	4	5+	2	3	4	5+	2	3	4	5+	2	3	4	5+
Religion																
Hindu†	51	63	63	51	51	64	64	53	62	71	69	54	63	71	70	55
Muslim	33 ***	39 ***	43 ***	34 ***	39 ***	41 ***	41 ***	31 ***	45 ***	57 ***	55 ***	40 ***	48 ***	58 ***	54 ***	37 ***
Other religion	62 ***	73 ***	70 **	62 ***	51	64	62	56	72 ***	76 **	78 ***	61 *	62	67	72	54
Education																
Illiterate†	36	52	54	44	42	56	57	46	48	63	63	47	55	68	67	49
Literate, < middle complete	57 ***	74 ***	74 ***	63 ***	56 ***	70 ***	69 ***	57 ***	67 ***	77 ***	77 ***	64 ***	67 ***	74 ***	73 ***	57 ***
Middle school complete	69 ***	78 ***	76 ***	69 ***	61 ***	70 ***	68 ***	59 ***	73 ***	79 ***	77 ***	70 ***	66 ***	73 **	66	60 ***
Current work status																
Working	66 *	67 ***	66 ***	52 ***	53 **	66 ***	64 **	50	65 ***	73 ***	72 ***	54 ***	68 ***	73 ***	71 ***	53 *
Not working†	46	59	58	46	49	60	59	47	59	68	65	49	58	68	65	50
Media exposure																
Exposed	60 ***	72 ***	72 ***	61 ***	54 ***	67 ***	68 ***	56 ***	70 ***	77 ***	77 ***	64 ***	66 ***	75 ***	73 ***	60 ***
Not exposed†	34	48	49	40	43	55	54	43	41	55	56	41	51	61	61	44
Caste/tribe																
Scheduled caste	37 ***	55 ***	58 *	49	43 ***	58 **	58	47	52 ***	68 **	66 *	52	55 ***	70	67	51
Scheduled tribe	40 ***	52 ***	55 **	45	49	58	58	43 *	47 ***	60 ***	61 ***	47 *	58 *	64 **	62 **	44 **
Other†	52	64	62	49	51	63	62	49	65	72	69	51	63	71	69	52
Standard of living																
Low†	41	54	54	42	50	61	60	46	50	61	58	42	60	68	63	47
Medium	45 *	60 ***	60 ***	48 ***	47 *	61	61	48	61 ***	70 ***	69 ***	53 ***	61	70	69 ***	53 ***
High	65 ***	75 ***	74 ***	64 ***	54	65	64 *	55 ***	73 ***	79 ***	80 ***	66 ***	64	73 *	75 ***	57 ***
Residence																
Urban	61 ***	71 ***	71 ***	59 ***	48	63	64 **	53 ***	71 ***	79 ***	77 ***	61 ***	64 *	72 *	70 *	53
Rural†	45	58	57	45	51	62	60	47	57	66	64	48	61	69	67	50
Region																
North	52 ***	65 ***	66 ***	58	50 ***	62 ***	64 **	57	64 ***	71 ***	72 ***	59	62 ***	70 ***	70 ***	58
Central	27 ***	39 ***	43 ***	35 ***	31 ***	42 ***	45 ***	35 ***	35 ***	50 ***	51 ***	41 ***	39 ***	52 ***	51 ***	41 ***
East and Northeast	49 ***	54 ***	52 ***	44 ***	52 ***	58 ***	55 ***	47 ***	56 ***	59 ***	57 ***	45 ***	62 ***	64 ***	61 ***	48 ***
West	56 ***	74	78 *	69 **	53 **	73	78 **	68 ***	68 ***	81	85 *	73 ***	65 ***	80	84 **	71 ***
South†	64	76	74	61	61	73	72	57	74	82	80	64	71	80	78	60
Number of women	16,749	16,558	11,100	12,795	16,498	16,331	10,943	12,590	19,421	17,550	11,011	11,373	19,081	17,188	10,765	11,083

† Reference category.

* p<.05, ** p<.01, ***p<.001

Note: For definition of variables see text. Both unadjusted and adjusted percentages shown in this table are estimated by logistic regression. Unadjusted percentages are based on separate logistic regressions for each predictor variable, with that variable as the only predictor variable. Adjusted percentages are based on a single logistic regression consisting of all the predictor variables in the table and age and age squared variables. For any given predictor variable in the adjusted column, the set of control variables consists of all the other predictor variables in the table and age and age squared variables. Effects of age are not shown in the table. All models and numbers of women are based on the weighted sample. Constant terms in the regressions are reset so that predicted percentages agree with observed percentages when predictor variables in the regressions are set to their mean values.

Table 7 Unadjusted and adjusted effects of religion and other selected demographic and socioeconomic factors on use of modern non-terminal methods of family planning among currently married women age 15-49 who were using a modern contraceptive method at the time of the survey, India: NFHS-1 and NFHS-2

	NFHS-1		NFHS-2	
Variable	Unadjusted	Adjusted	Unadjusted	Adjusted
Religion				
Hindu†	14	14	14	14
Muslim	28 ***	32 ***	34 ***	38 ***
Other religion	25 ***	24 ***	24 ***	22 ***
Age				
20	54 ***	66 ***	51 ***	61 ***
30	21 ***	21 ***	22 ***	23 ***
40	8 ***	7 ***	9 ***	7 ***
Education				
Illiterate†	8	10	8	10
Literate, < middle complete	17 ***	16 ***	18 ***	17 ***
Middle school complete	44 ***	36 ***	43 ***	38 ***
Current work status				
Working	8 ***	14 *	8 ***	13 ***
Not working†	21	16	24	18
Media exposure				
Exposed	21 ***	16 *	20 ***	16
Not exposed†	8	14	9	16
Caste/tribe				
Scheduled caste	9 ***	13 **	10 ***	14 **
Scheduled tribe	7 ***	12 **	10 ***	16
Other†	17	16	18	16
Standard of living				
Low†	7	11	8	12
Medium	14 ***	15 ***	15 ***	15 ***
High	33 ***	22 ***	33 ***	22 ***
Residence				
Urban	28 ***	20 ***	28 ***	23 ***
Rural†	11	13	12	13
Region				
North	27 ***	29 ***	30 ***	31 ***
Central	22 ***	29 ***	22 ***	27 ***
East and Northeast	17 ***	20 ***	24 ***	32 ***
West	13 ***	11 ***	15 ***	14 ***
South†	9	7	7	5
Number of women	31,793	31,329	36,291	35,637

† Reference category
* p<.05, ** p<.01, ***p<.001

Note: For definition of variables see text. Both unadjusted and adjusted percentages shown in this table are estimated by logistic regression. Unadjusted percentages are based on separate logistic regressions for each predictor variable, with that variable as the only predictor variable. Adjusted percentages are based on a single logistic regression consisting of all the predictor variables in the table. For any given predictor variable in the adjusted column, the set of control variables consists of all the other predictor variables in the table. All models and numbers of women are based on the weighted sample. Constant terms in the regressions are reset so that predicted percentages agree with observed percentages when predictor variables in the regressions are set to their mean values.

Table 8 Unadjusted and adjusted effects of religion and other selected demographic and socioeconomic factors on private sector source of supply of family planning among currently married women age 15-49 who were using a modern contraceptive method (including women whose husbands were using) at the time of the survey, India: NFHS-1 and NFHS-2

Variable	NFHS-1		NFHS-2	
	Unadjusted	Adjusted	Unadjusted	Adjusted
Religion				
Hindu†	17	18	21	22
Muslim	30 ***	24 ***	38 ***	31 ***
Other religion	22 ***	18	31 ***	26
Family planning method				
Sterilization†	14	15	16	17
Modern temporary method	57 ***	50 ***	72 ***	68 ***
Age				
20	29 ***	19	39 ***	24
30	20 ***	19	25 ***	24
40	15 ***	18	18 ***	22
Education				
Illiterate†	10	15	12	19
Literate, < middle complete	22 ***	19 ***	27 ***	24 ***
Middle school complete	48 ***	27 ***	52 ***	32 ***
Current work status				
Working	11 ***	16 ***	14 ***	20 ***
Not working†	24	20	30	24
Media exposure				
Exposed	27 ***	19	30 ***	24 **
Not exposed†	9	18	11	21
Caste/tribe				
Scheduled caste	9 ***	15 **	13 ***	19 ***
Scheduled tribe	9 ***	18	12 ***	19 **
Other†	21	19	27	24
Standard of living				
Low†	8	11	11	16
Medium	17 ***	18 ***	21 ***	21 ***
High	42 ***	31 ***	47 ***	36 ***
Residence				
Urban	37 ***	24 ***	40 ***	29 ***
Rural†	13	16	17	20
Region				
North	14 ***	8 ***	22	11 ***
Central	14 ***	11 ***	19 *	14 ***
East and Northeast	18	20 ***	24	26 **
West	24 *	27	25	27 *
South†	20	25	23	31
Number of women	31,793	31,329	36,291	35,637

† Reference category
* p<.05, ** p<.01, ***p<.001

Note: For definition of variables see text. Both unadjusted and adjusted percentages shown in this table are estimated by logistic regression. Unadjusted percentages are based on separate logistic regressions for each predictor variable, with that variable as the only predictor variable. Adjusted percentages are based on a single logistic regression that includes all the predictor variables in the table. For any given predictor variable in the adjusted columns, the set of control variables consists of all the other predictor variables in the table. Constant terms in the regressions are reset so that predicted percentages agree with observed percentages when predictor variables in the regressions are set to their mean values.

Table 9 Unadjusted and adjusted effects of religion and other selected demographic and socioeconomic factors on proportion reporting opposition to family planning as main reason for current non-use of contraception among currently married women age 15-49 who were not using any contraception (and whose husbands were not using) at the time of the survey, and on intended future nonuse of contraception among current non-users who did not intend to use family planning in the future, India: NFHS-1 and NFHS-2

| | NFHS-1 | | NFHS-2 | | | |
| | Future non-use | | Current non-use | | Future non-use | |
Variable	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
Religion						
Hindu†	7	7	11	10	6	6
Muslim	33 ***	32 ***	46 ***	44 ***	24 ***	23 ***
Other religion	8	8	10	14	5	5
Age						
20	6 ***	6 ***	23 ***	22 ***	5 ***	5 ***
30	16 ***	16 ***	22 ***	22 ***	11 ***	11 ***
40	14 ***	14 ***	12 ***	13 ***	11 ***	11 ***
Education						
Illiterate†	10	9	16	15	8	7
Literate, < middle complete	10	10	16	15 *	9	9
Middle school complete	5 ***	6 **	11 ***	13	6 ***	7
Current work status						
Working	7 ***	8 **	11 ***	14	6 ***	7
Not working†	10	10	18	15	8	8
Media exposure						
Exposed	7 ***	8 **	12 ***	13 *	7 ***	7 **
Not exposed†	10	10	17	16	9	8
Caste/tribe						
Scheduled caste	6 ***	10	10 ***	14	6 ***	8
Scheduled tribe	5 ***	8	8 ***	11	4 ***	6 *
Other†	10	9	18	16	9	8
Standard of living						
Low†	10	9	16	15	7	7
Medium	9	9	15	14	8	8
High	8 *	10	12	15	7 **	7
Residence						
Urban	9	7 **	13	14	8	7
Rural†	9	9	15	15	7	8
Region						
North	6	8	13 *	13	7	7
Central	10 **	9	19 ***	19 **	9 ***	8 ***
East and Northeast	11 ***	9	16 ***	14	8 ***	7
West	11 ***	12 ***	10	13 *	7	9
South†	7	8	11	13	6	6
Number of women	25,230	24,788	30,925	30,180	16,445	16,015

† Reference category
* p<.05, ** p<.01, ***p<.001

Note: For definition of variables see text. Both unadjusted and adjusted percentages shown in this table are estimated by logistic regression. Unadjusted percentages are based on separate logistic regressions for each predictor variable, with that variable as the only predictor variable. Adjusted percentages are based on a single logistic regression consisting of all the predictor variables in the table. For any given predictor variable in the adjusted column, the set of control variables consists of all the other predictor variables in the table. All models and numbers of women are based on the weighted sample. Constant terms in the regressions are reset so that predicted percentages agree with observed percentages when predictor variables in the regressions are set to their mean values.