

Childlessness and its consequences in India: levels, patterns and differentials

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Abstract: The present paper explore various dimensions of the childlessness in India and its states using data from the Census of India and the National Family Health Survey (1998-9) conducted by the IIPS, Mumbai. The paper specifically examines the levels, patterns and differentials in childlessness, factors affecting childlessness and its consequences on women. The paper also tries to measure levels of permanent childlessness in India by using a simple measure. Logistic regression model is used to understand the factors affecting childlessness and its consequences in India and GIS Package is used to understand the spatial patterns in childlessness in India. The findings suggest that the levels of childlessness are moderate in India and they vary from one state to another and also across various sub-groups of women (for example, religion, caste and educational status etc.). The childlessness is higher in the southern states of India compared to the northern states and the differentials are observed by socio-economic characteristics of women. Women who remain childless have also reported adverse experiences in the form of divorce/desertion and domestic violence. In addition to household economic status, woman's age at marriage and her nutritional status, religion and her caste some of the factors found closely associated with the chances of her being childless.

Introduction

According to the World Health Organization (WHO 1997) estimate, globally there are about 60 to 80 million couples with unwanted infertility^{2,3}. The level and patterns of infertility have been found to vary widely across population (Belsey 1978; WHO1975; Belsey 1976; Sherris and Fox 1983); the incidence levels in some of the African countries being as high as 20 to 30 % (Erickson and Brunette 1996). The World Health Organization (WHO 1991) pointed out that the infertility is widespread in some of the regions and its prevalence reaching such proportions that it can well be considered as a public health problem affecting life of the whole society. In its extreme, infertility compounded with pregnancy wastage, infant and child mortality, may lead to depopulation, which poses serious threat to the social and economic development of the region. Despite this, the problem of childlessness in India has been largely overlooked in favor of research and promotion of family planning (IPPF 1982).

Etiology of infertility varies from region to region and from one population to another and even from one locality to another within the same population. To the major part, involuntary infertility is largely related to conditions that are preventable in nature such as sexually transmitted diseases⁴ (WHO 1991a; Rowe 1999), infections and parasitic diseases, iatrogenic health care practices, exposure to toxic substances either in the diet or environment (Rowe 1999) and complications suffered during post partum or post abortion period, particularly in case of illegal induced abortion (WHO 1991a). Further, levels of infertility also depend on the prevalence of 'core' infertility (biological variation in

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² We recognize that there is a difference between infertility, sub-fecundity and childlessness, however, in the context of the present paper they are being used interchangeably.

³ About 8-12% of them have been estimated to be infertile or faced with inability to conceive a child at some point during their reproductive lives with the incidence being similar in most countries independent of the level of country's development (Reproductive Health Outcome 1999).

⁴ According Population Reports 1983, pelvic inflammatory diseases account for more than half of all female infertility in many regions.

chromosomal, congenital, and endochronological abnormalities) and acquired infertility (geographic variation in infectious, environmental and occupational factors)⁵.

Various factors affect infertility, including genetic, psychopathology, disease, nutritional deficiencies, and environmental (Poston and Trent 1982; 1984)⁶. Female circumcision (practised in more than 30 countries and affects 2 million girls each year) has an impact on infertility levels through health hazards associated with the practices (Anonymous 2005; 2008). Sociologists in various cultural settings have observed that infertility is often linked to curse, adultery or immoral behaviour, witchcraft (Greil 1991; Pearce 1999), some activity that had angered ancestors, the deities or anyone in the community (Pearce 1999). At the same time, scientists focusing on cultural issues often interpret fertility differentials among women at different educational levels as a consequence of the greater range of possible lifestyles and other choices increasingly available to women with greater educational attainment (Lesthaeghe 1983; van de Kaa 1987; 1996; Surkyn and Lesthaeghe 2004; Lappegård 2002). It is also argued that women lower their preferences for children as they proceed with their education (Rindfuss, Morgan, and Offutt 1996) and thus a higher rate of childlessness among more educated women, in part, is attributed to their longer stay in education. Empirical studies (Rindfuss and Bumpass 1976; Rindfuss, Bumpass, and St. John 1980; Kravdal 2001; Gustafsson 2001) have found that prolonged education may therefore lead to a postponement of childbearing up to an age when biological factors may make it more difficult to conceive. The desire for having children is likely to decline when women have greater range of options (Jan et.al. 2006).

In addition to this, a number of studies have shown varying levels of childlessness among different socioeconomic sub-groups of women and researchers have argued that the changes in social and economic structures and institutions tend to influence reproductive motivation and fertility by specifying the reward structures related with childbearing (Blake 1973; Hernandez, 1984; Birdsall and Jamison 1983; Poston and Gu 1987; Sun 1984; Poston 1988). For example, Rutstein, and Shah (2004) using Demographic Health Surveys data for number of countries found varied levels of childlessness. Bloom (1986)⁷ observed changes in the average age at first birth, changes in the trends toward permanent childlessness, differences between black and white women in delayed childbearing patterns, and the relationships among educational attainment, wage levels, and timing of childbearing. Vemuri and Manohar (1986) used 1981 census data and observed that in India, childlessness levels did not vary by rural-urban residence of woman or her religion, but noted that woman's education influenced levels of childlessness. Poston and Kramer (1986) observed differential patterns in levels of voluntary and involuntary childlessness among Catholic and non-Catholic women between the ages 30-35 and 40-44 in the United States.

Lumely (1998) observed that voluntary infertility is now common for most of the fertile life span in developed countries due to social and economic development that leads to reduction in fertility/family size (Sun, 1984; Feeney, 1994) since more and more people voluntarily participate in the family planning program (Freedman 1998). In fact the analyses investigating the differential impacts of development and family planning on fertility have shown that the effects of development are usually stronger than those dealing with family planning (Schultz, 1971, 1980, 1994; Gertler and Molyneaux, 1994, 1998; Pritchett, 1994a, 1994b; Hirschman and Young, 1998). This is central to the classical theory of demographic transition described by Notestein (1953) that attributes fertility decline to changes in social life accompanied by industrialization and urbanization (Mason, 1997; Hernandez 1984).

Voluntary childless women are more likely to be higher educated and employed (McAllister & Clarke, 1998; Bachu, 1999), have a managerial job (McAllister & Clarke, 1998; Bachu, 1999), less

⁵ Worldwide anatomical, genetic or immunological factors cause about 5% of infertile couples (WHO 1991b).

⁶ A detail discussion on the factors associated with sub-fecundity may be seen in McFalls 1979a and 1979b; Guest 1978 and International Fertility Research Program 1980).

⁷ He analyzed June 1985 Current Population Survey data for women born between 1935 and 1960 to understand first birth fertility patterns and compared baby-boom generation and those born 20 years earlier, in the 1930s.

religious (Mosher et al., 1992) less traditionally gender orientated (Callan, 1986) and less conventional (Park, 2005). Veevers (1973) in his analysis observed that the childless women tended to be white, nonreligious, and highly educated; many said that they had no desire for children, or felt that the opportunity costs of having children would be too great. Education (Krishnan 1993; Mosher and Bachrach 1982; Poston 1990; Rovi 1994), religion (Krishnan 1993; Mosher and Bachrach 1982; Poston 1990; Rovi 1994) and ethnicity (Mosher and Bachrach 1982) have been found to have significant effects on voluntary childlessness. The changes in marriage pattern too is an important factor that may result in differentials in childlessness at various ages, more so at younger ages as more and more women are now marrying at later ages, late initiation of reproduction has declining effect on fertility levels (Ram 2008).

Until very recently, construction of feminine identity was synonymous with motherhood everywhere and continues to be so even today in most developing countries including India. However, given the normative context that supports medium to high fertility in many developing countries, one would expect most married women to want to have children (Poston et. al. 1982; Freedman et. al. 1959; Whelpton et. al. 1966; Martinson 1970; Bell 1971). Thus, if being a mother is tantamount with being a woman, then failure to become a mother constitutes not fully achieving the status of 'woman' (Homans 1982) and its significance for those who fail to have child cannot be underestimated (Gillespie 1999) and hence infertile women's suffering is exacerbated by strong pronatalist norms (Inhorn 2003). Childlessness may also lead to loss of status of woman within family (Senanayake 1986) as individuals are judged differently according to their fertility status (Callan 1985). The World Fertility Survey data for the developing countries revealed that most of the childlessness among women was involuntary (Poston and Trent 1982; Poston et. al. 1982; Poston et. al. 1983) which is essentially a social status and a social psychological condition brought about as a consequence of infertility (Matthews and Matthews 1986).

Inability to have children, by and large, affects both men and women, but it has multiple consequences depending on the gender, sexual history, life style, society, and cultural background of the people it affects (Wright 2003; Runganga et. al. 2001; Nene et. al. 2002). The issue becomes important as available medical facilities are not only inadequate in many developing countries, but are largely accessible to the upper classes and majority of women seek help from traditional healers (Van Balen and Vissar 1997). In Africa, infertility is attributed to a defect on the part of the female partner and most traditional remedies are directed towards women (Imperato 1977).

The available literature suggests that it is the women who bear major burden of infertility (Parkin 1973; Abbey et. al. 1991; Greil et. al. 1988; Inhorn 1994b; Inhorn and Van Balen 2001; Stanton et. al. 1991; Van Balen and Trimbos-Kemper 1993) as pregnancy, breastfeeding and childrearing activities mainly come primarily under domains of the women's world (Webb 1999). Some of the discrimination includes - restriction on participation in social celebrations, allowing husband to remarry - irrespective of whether childlessness is due to her being infertile or because husband is infertile (Balen 2001; Pearce 1999). In fact, male infertility has rarely been considered a factor in childlessness.

Females in India are almost universally married and marry early (Jain 1975) and newly married girls in India are often blessed by the elders to beget large families and childless or lack of male child invites prejudice and ill will (Gandotra and Pandey 1979) and social stigma. Meade (1979) noted that along with lack of industrialization, cultural factors such as universal and early marriage and childlessness as a social disgrace are the important factors affecting population explosion in India. It is surprising to note that the issues related to the childlessness do not find any place in either recently declared National Population Policy- 2000 document or National Health Policy- 2002 of the Government of India. As a matter of fact, infertility research has been neglected both as a health problem and as subject for social science research. Thrust of both programme and research in the past has been on correlates of high fertility (particularly unwanted fertility) and its regulation rather than the context of infertility, its causes and consequences (Jejeebhoy 1998; Menken 1985; Veevers 1971)). The fertility levels of any population are very much influenced by the levels of childlessness

(both voluntary and involuntary) in the population and it plays an important role in determining both levels and differentials of fertility (Roberts 1972). The evidence in the past has suggested that the decline in impaired fertility leads to an increase in the total fertility rate (Larsen 1996).

In the recent years infertility has received considerable international attention (Bonnar et al. 1984; Belsey 1978; Leridon 1979) but its worldwide extent has never been systematically described. The correct assessment of the future needs of various services - housing, education, health care, demand for various consumer goods etc. would be as much influenced by the levels of childlessness (both in terms of capacity and desire to reproduce) as the fertility levels. Further, very little is known about the characteristics of women who remain childless. Recent analysis by Ram (2008) clearly shows that in India permanent childlessness in urban areas has increased more rapidly compared to the rural areas. According to 1981 census results, nearly 4% of ever married women aged 35-39 in India were childless in rural and urban areas of the country. The proportion of such women increased to 6% in 2001 in rural areas while in urban areas it increased to over 7%. This raises question in our mind – whether such rapid increase in urban areas is any indication of changes in types of childlessness, voluntary versus involuntary, as urbanization and development may lead to rise in latter.

Thus in the present paper an attempt is made to examine the levels and differentials of permanent childlessness⁸ for India and selected states by socio-economic characteristics such as religion, caste, education, work status, place of residence among the ever married women aged 35-39 years. The analysis has been done using data from census of India⁹. In order to understand the differentials across various sub-groups of women (for example, religion, caste, educational status) we have computed ratios of the levels of permanent childlessness among women of various sub-groups to that of the women of reference group and are presented in the tables along with the levels¹⁰. The paper also explores spatial patterns of childlessness in India with help of GIS. Finally, an attempt is also made to analyze the factors affecting childlessness and its association with marital disruption and gender based violence on women in India using data from the National family Health Survey, 2005-06 (IIPS and Marco International, 2007). Logistic regression has been used in understanding the determinants of childlessness.

Levels and Differentials: National scenario

The data indicates that there were about 4% and over 6% of the ever married women in India aged 35-39 years who were childless between 1981 and 2001, respectively. The corresponding figures for rural India were 4% and 6% and for urban India - 4% and over 7%, respectively (see Figure 1). It is important to note that the level of permanent childless in India has increased considerably by 2.44 percentage points between 1981 and 2001; the corresponding increase was far greater in urban settings compared to the rural (1.94 versus 3.58 percentage points).

⁸ The permanent childlessness in the present paper is defined as percentage of childless ever married women aged 35-39 years who reported themselves as childless at the time of census enumeration (zero parity) out of the total ever married women aged 35-39 years. Further, the present analysis studies childlessness of the ever-married women and not of the men. Rationale for selecting this indicator may be seen in a detail analysis carried out by Ram (2008).

⁹ The census of India provides information on children ever born to the ever married women by selected background characteristics such as educational status, religion and caste of the woman in addition to place of residence by age of the woman. This provides us an opportunity to understand differentials in levels of childlessness across various sub-groups of population.

¹⁰ The ratios across various sub-groups of women have been calculated with respect to a reference category. For example, in case of religion we have computed ratios for other religions by taking levels for 'Hindu' as reference category. Likewise, the reference category for computing the ratios for Caste and education is 'SC women' and 'Non-literate women', respectively. A ratio value of less than unity would mean that the levels of permanent childlessness are relatively higher for women in the reference group compared to other women while a value greater than one would indicate that the levels are relatively lower for the women in the reference group. A value of unity would indicate no difference in the levels of permanent childlessness among the women in the reference group and those in other groups.

Table 1 gives levels of permanent childlessness by religion, caste and educational status of the women for 2001 for India separately for rural and urban areas. In the same table 1, we have also provided ratio of the levels of permanent childlessness in various sub-groups of the population. The levels of permanent childlessness evidently varies across various sub-groups of the population for nation as a whole as well as in urban and rural areas of the country. For example, levels of permanent childlessness were higher among Christian women compared to the women belonging to any other religions; over 8% of the ever married christian women aged 35-39 years were childless in 2001 compared to slightly over 6% among Hindu and Muslim women while it was lowest at less than 6% among women from 'other' religion (See Figure 2). In terms of ratios, Christian women reported 30% higher childlessness compared to the Hindu women while it was higher by about 5% or so for Muslim women (see Figure 3). In contrast, 8% fewer women belonging to 'other religious faiths' were childless compared to the Hindu women. Quite similar patterns were observed for rural and urban areas of the country. However, the gap between Christian and Hindu women, was apparently wider in rural areas than they were in the urban areas (30% versus 26%). In case of Muslim women, however, the gap was wider in urban areas compared to rural areas; about 6% more Muslim women in urban areas reported childless compared to Hindu women. Among women from other religious faiths, the gap was wider in urban areas compared to rural areas; about 18% fewer women from other religious faiths in urban areas reported childless compared to 4% in rural areas in comparison to Hindu women.

Figure 1: Permanent childlessness in India, 1981 and 2001

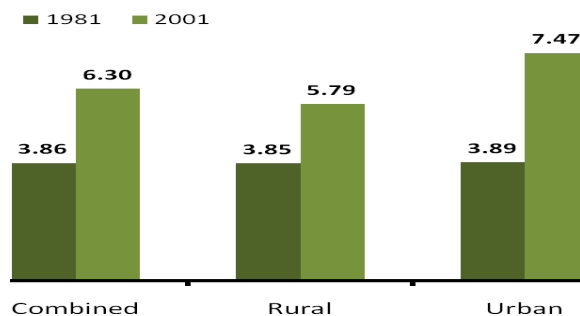
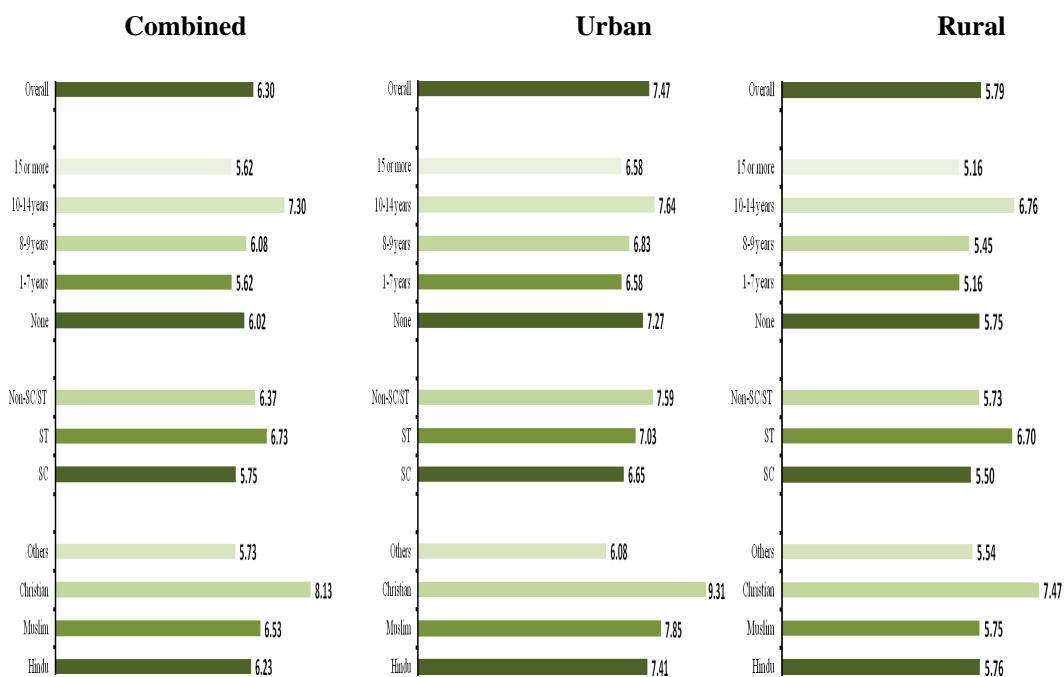
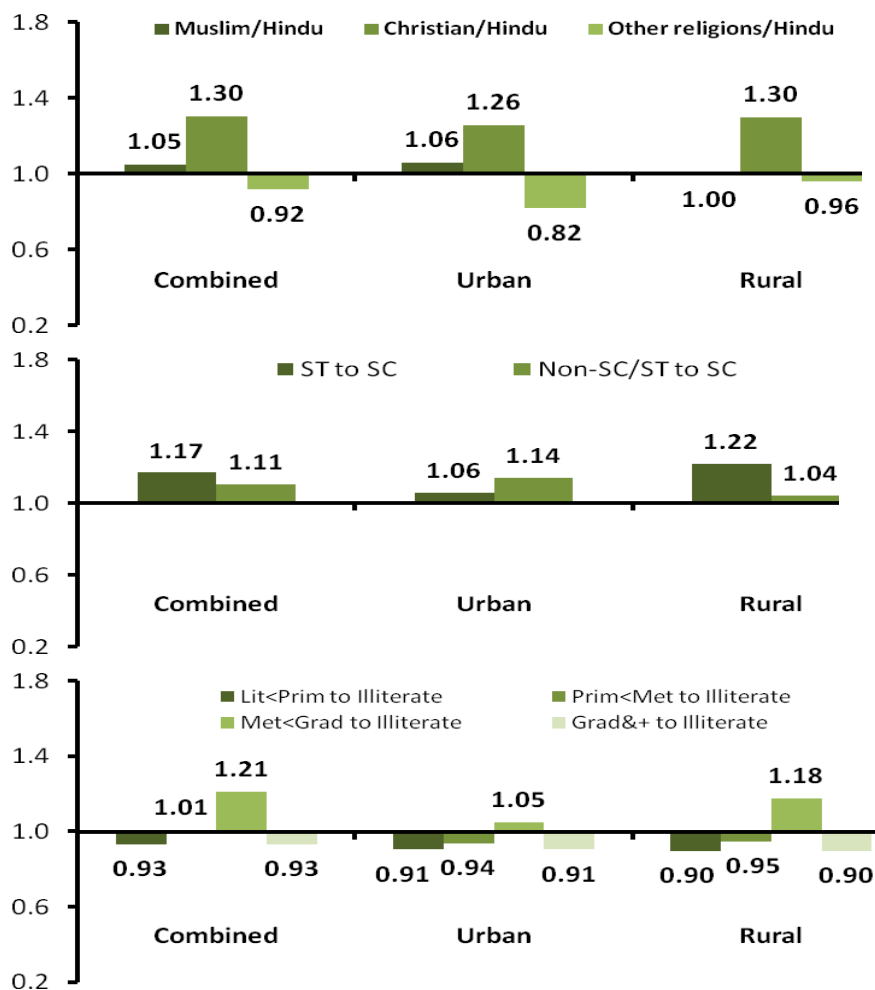


Figure 2: Permanent childlessness by religion, caste and education of the woman, India 2001.



The Scheduled Tribe (ST) women reported relatively higher levels of permanent childlessness (about 7%) compared to either Scheduled Caste (SC) or non-scheduled caste/tribe (Non-SC/ST) women (about 6%). About 11-17% of the ST and Non-SC/ST women reported childlessness in comparison to SC women. In case of educational status of the women, though the patterns are rather unclear at the national level, it may be noted that with the only exception of women who had completed 8-9 years of schooling, educated women were less likely to have reported childlessness compared to the non-literate women.

Figure 3: Differentials in permanent childlessness religion, caste and education of woman, India 2001



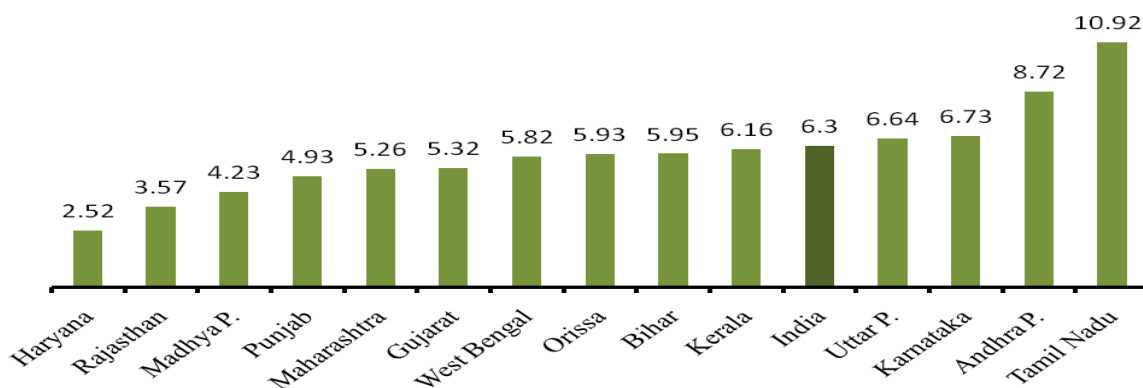
Permanent childlessness: States at a glance

Before understanding the differentials in permanent childlessness by various characteristics of the woman it would be useful to understand its variability in different states of India and hence in Figure 2 we have provided level of the permanent childlessness for major states of India¹¹. The figure clearly reveals that the levels of permanent childless vary considerably in India from one state to another; from a low of just about 2% in Haryana to nearly 9% in Andhra Pradesh and 11% in Tamil Nadu. Out of the 14 major states included, four have higher levels of permanent childlessness than the national average, three are southern states (namely Karnataka, Andhra Pradesh and Tamil Nadu, incidentally,

¹¹ These states together comprise of over 96% of the country's total population.

all three have achieved below replacement fertility levels). The fourth state is Uttar Pradesh where about 7% of the ever married women aged 35-39 years were childless in 2001. In contrast, Rajasthan and Madhya Pradesh, have relatively lower levels of childlessness (at 3-4%), interestingly both these states have relatively high fertility level. States like Madhya Pradesh, Punjab, Maharashtra and Gujarat reported relatively moderate levels of permanent childless (4-5%) and at close to 6% in states of West Bengal, Orissa, Bihar and Kerala.

Figure 4: Permanent childlessness in states of India, 2001



In order to make the analysis more reader friendly, for studying the differentials in levels of permanent childlessness at state levels, in the present analysis we have selected five states, namely Bihar, Gujarat, Punjab, Tamil Nadu and Uttar Pradesh, one each from each of the five geographical region of the country. The state having highest level of permanent childlessness within the region has been selected for the further analysis. In addition to the place of residence, the differentials in the present analysis have been examined by the religion, caste and educational status of the woman. Further, the analysis is carried out for 2001.

<u>Region</u>	<u>Name of the States and level of permanent childlessness in 2001</u>
North	Haryana (2.52); Punjab (4.93) ; Rajasthan (3.57)
East	West Bengal (5.82); Orissa (5.93); Bihar (5.95)
Central	Madhya P. (4.23); Uttar P. (6.64)
West	Maharashtra (5.26); Gujarat (5.32)
South	Andhra P. (8.72); Karnataka (6.73); Kerala (6.16); Tamil Nadu (10.92)

Levels and differentials by residence

Figure 5A below provide details of the levels of permanent childlessness in the selected states and India by place of residence of the woman and also the ratio of urban levels to that of the rural 2001. As noted, the levels of permanent childlessness vary considerably across rural and urban areas for all the states included. About 4-5% rural women aged 35-39 years in Gujarat and Punjab were childless while their share was at about 6% in Bihar and Uttar Pradesh. In contrast, proportion of such woman was considerably high in Tamil Nadu at 10%. In case of urban areas, over 6% of women in Bihar, Gujarat and Punjab were childless in 2001 while their share in Tamil Nadu and Uttar Pradesh was as high as 12% and 9%, respectively.

In terms of rural-urban differentials, as measured by ratios, it has been observed that proportions of childless women was more in urban areas than the rural areas in all states as the ratio exceed unity in all cases (see Fig. 5B). Further, the extent of rural-urban gaps varies considerably across selected states. For example, in Uttar Pradesh an additionally 41% more women in urban areas were childless compared to their rural counterparts. The corresponding figures for Gujarat and Punjab were 34% and

37% respectively and 21% in Tamil Nadu. However, urban-rural gaps in this respect were narrow in Bihar.

Figure 5A: Permanent childlessness in selected states by place of residence, 2001

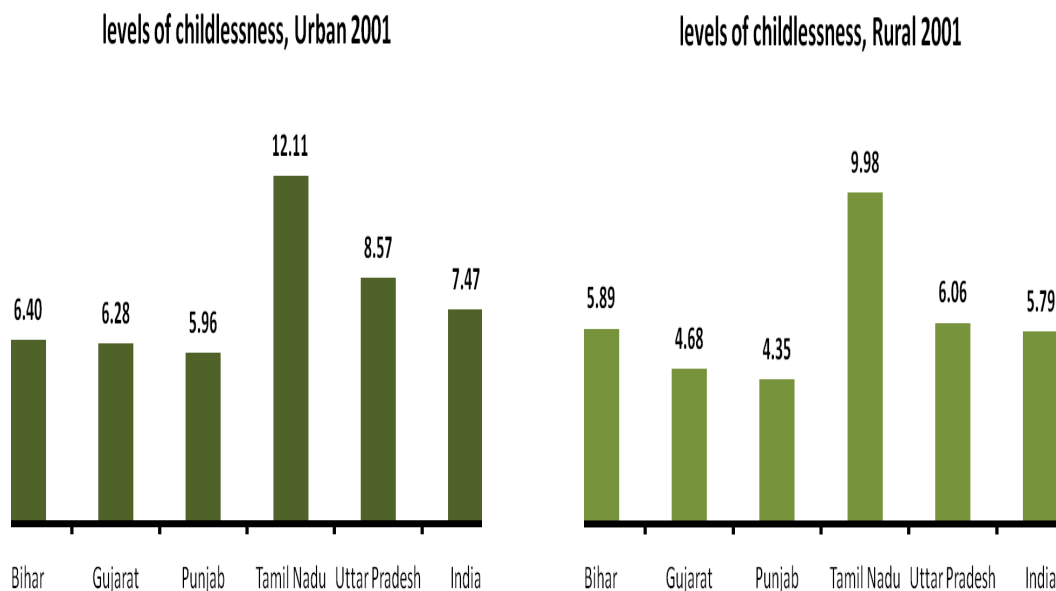
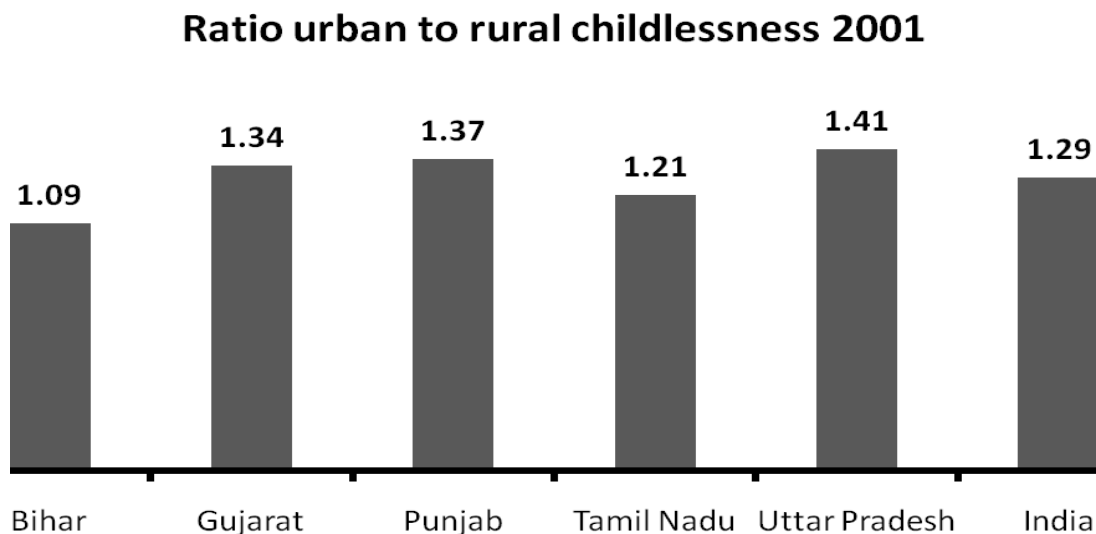


Figure 5B: Ratio of urban childlessness to rural, 2001



Levels and Differentials by Religion

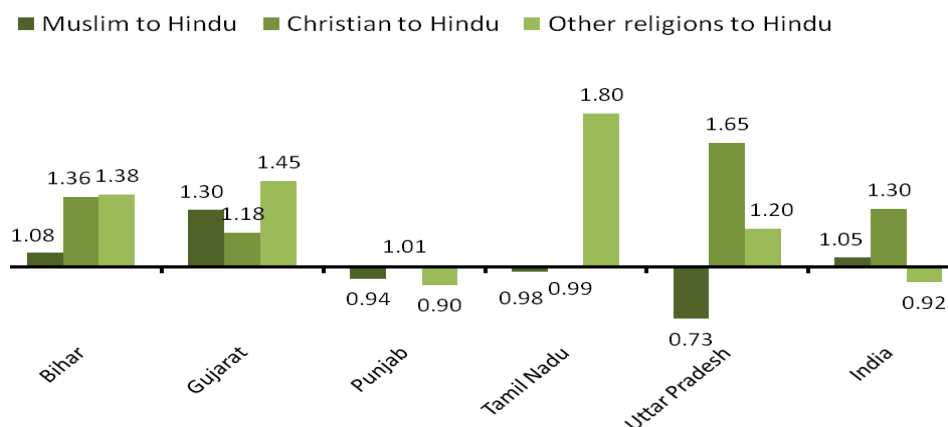
Table 2 gives levels of permanent childlessness for selected states and India¹² for Hindu, Muslim, Christian and women belonging to other religions for 2001 for combined, urban and rural areas. As seen for the country as a whole, the levels of permanent childlessness vary considerably for women from various religious faiths in the selected states. Further, there are variations across states for women belonging to same religious faiths. For example, the permanent childlessness in Bihar and

¹² Figures for India have been included only for reference purpose.

Gujarat varies from 5.87% and 5.15%, respectively, for Hindu women to 8.08% and 7.47%, respectively for those belonging to other religious faiths. In Punjab, it varies from a low of 4.74% for women of other religions to 5.29% for Christian women. The corresponding range for Uttar Pradesh is 4.75% for Muslim women to 10.75% for Christian women and for Tamil Nadu is 10.67% among Muslim women to 19.66% for those from other religions. Similar patterns may be observed for urban and rural areas of the states (see last two panels of the Table 2).

At the outset, with a few exceptions, Hindu women reported lower levels of permanent childlessness in most of the states selected for analysis as compared to the women from any other religions. However, Muslim women in Punjab and Tamil Nadu reported levels lower by 6% and 2% respectively and 27% in Uttar Pradesh compared to the Hindu women. In contrast, 8% more Muslim women in Bihar and 30% of them in Gujarat reported being childless as compared to the Hindu women. With the exception of Tamil Nadu, Christian women on the whole have reported higher childlessness levels in all states (higher by about 65% in Uttar Pradesh and 36% in Bihar). Women from other religions too have reported higher permanent childlessness levels in all states except Punjab. For example, the levels were reported to be higher by about 80% in Tamil Nadu and 38-45% in Bihar and Gujarat and by about 20% in Uttar Pradesh whereas in case of Punjab, it was lower by 10% for women from other religions compared to Hindu women. Inter-state comparison show that the differences were wider in Tamil Nadu and Uttar Pradesh and were somewhat moderate in Bihar and Gujarat while they were marginal in Punjab.

Figure 6: Ratio of permanent childlessness for women of various religions to that of Hindu women, 2001.



The patterns seem to be quite similar for rural and urban areas as well (see table 2) with a few interesting findings. For example, in Bihar and Gujarat, Hindu-Muslim differentials in levels of permanent childlessness are wider in rural areas than they are in the urban areas. In contrast, the levels of childlessness are lower for Muslim women in Tamil Nadu and Uttar Pradesh in rural areas compared to their urban counterparts.

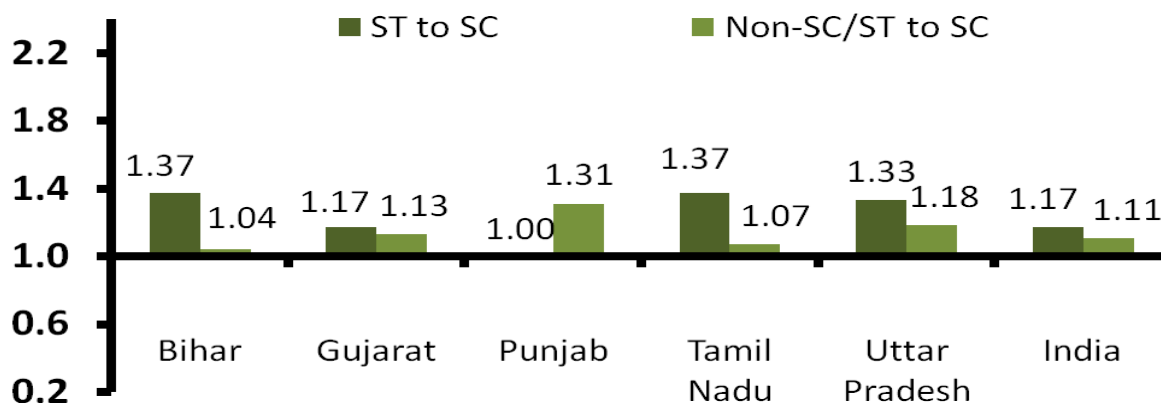
Levels and Differentials by Caste

The levels of permanent childlessness and the ratios by caste of the woman are presented in table 3 by place of residence for selected states and India for 2001. The data indicates considerable variations in the levels across various caste groups in the selected states; the levels of childlessness being relatively higher in Tamil Nadu for all three sub-groups compared to other states included. For example, about 4-6% of SC women in Bihar, Gujarat, Punjab and Uttar Pradesh and over 10% of them in Tamil Nadu reported being childless. In case of ST women, it varied from a high of over 14% in Tamil Nadu to

about 5-8% in the remaining states while for Non-SC/ST women, it ranged between 11% in Tamil Nadu and 5-7% in the remaining states.

In terms of the ratios, an interesting finding emerging from the figure 7 is that the levels of childlessness are always higher for ST and Non-SC/ST women compared to the SC women in all states as the value of ratio is always greater than unity in all states under analysis. Further, the extent of differentials varies from one group to another for same states and also across states for same group of women. For example, the gap between ST and SC women was greater than that between Non-SC/ST women and SC women in all states; an additional of about 17-37% of ST women compared to SC women reported themselves as childless. The difference between Non-SC/ST women and SC women was relatively narrow.

Figure 7: Ratio of permanent childlessness for women of scheduled tribe and Non-SC/ST to that of the SC women, 2001



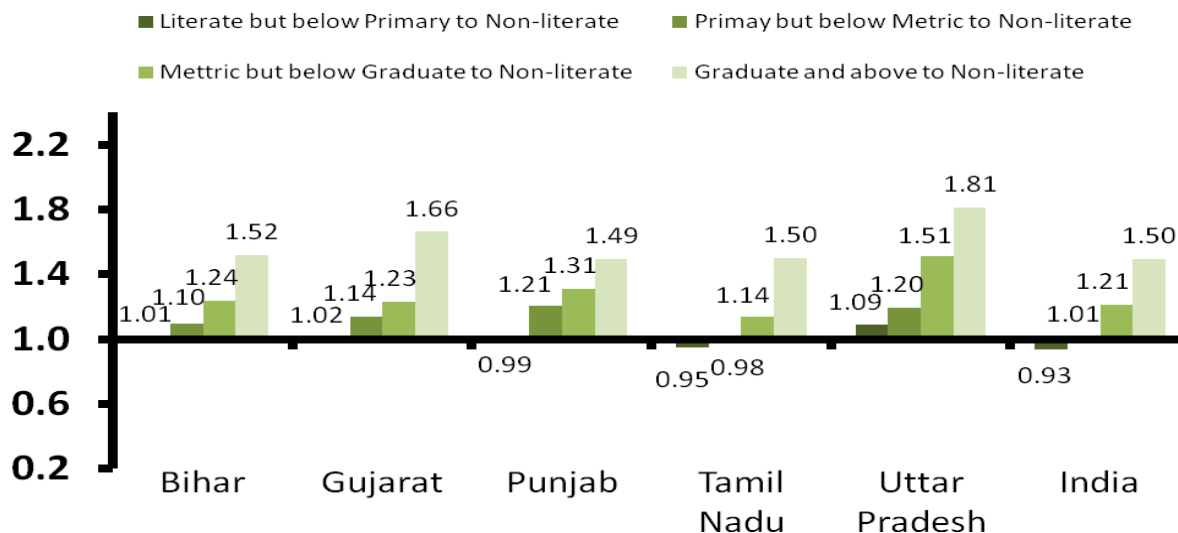
Another interesting finding emerging is that the difference in levels of childlessness between SC and ST women were greater in the rural areas compared to urban areas in all states. In case of Non-SC/ST and SC women it is found that while the gap was wider in urban areas in Punjab it was narrower in rural areas in Bihar and Gujarat. In Tamil Nadu and Uttar Pradesh the gaps were quite similar in both rural and urban areas.

Levels and Differentials by education

Table 4 provides levels and ratios of permanent childlessness for 2001 by educational status of the woman for selected states of India by place of residence. The findings suggest that the levels of childlessness vary by educational status of the woman for all states and the levels actually rise with advancement in the educational status of the woman. For example, about 4-6% of non-literate women in Bihar, Gujarat, Punjab and Uttar Pradesh and about 11% of them in Tamil Nadu were childless in 2001 while among those who had completed graduate or higher education their proportion was over 6% in Punjab, 8-9% in Bihar and Gujarat, 11% in Uttar Pradesh and nearly 16% in Tamil Nadu. Similar observations may be made for rural and urban areas as well.

With respect to ratios, as may be seen from the Figure 8 below, with only four exceptions, the value of the ratio always exceeded unity (also true separately rural and urban areas) indicating that the levels of permanent childlessness go up with improvement in education of the woman. For example, the levels of permanent childlessness were higher by about 50-81% among women who had completed graduation or higher education as compared to non-literate women in all the states included in the analysis. However, the differentials are relatively more prominent in Uttar Pradesh and Gujarat. It is interesting to point out that the gap between highly educated and non-literate women widen considerably in rural areas as compared to the urban areas (see last panel of table 4).

Figure 8: Ratio of permanent childlessness for women with different educational status to that of the Non-literate women, 2001



Childlessness in India: District Scenario

IN this section we try to understand the distribution of districts in India by levels of childlessness in 1981 and 2001. This has been done by classifying the districts in the following three broad categories on the basis of levels of childless:

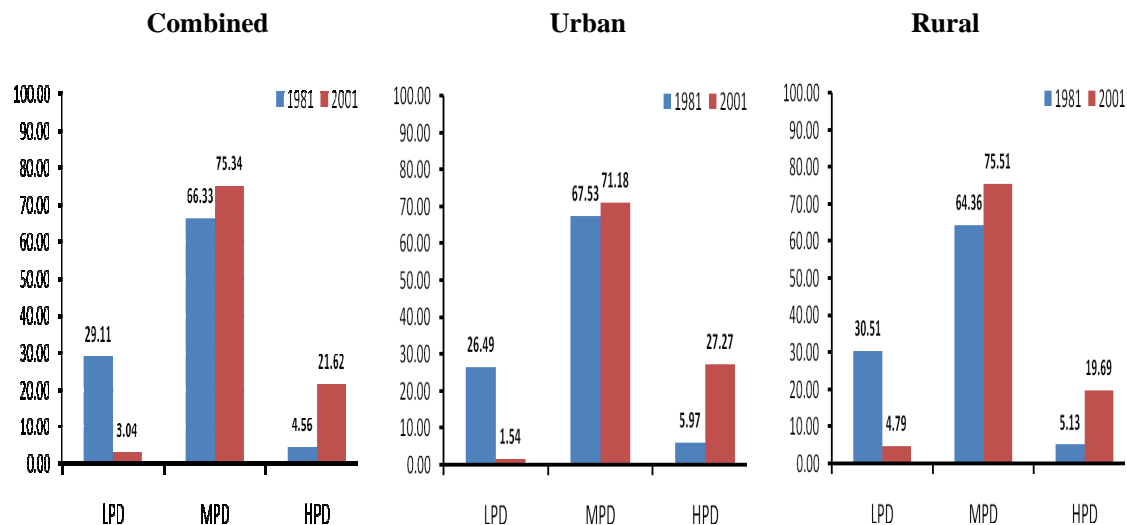
<u>Category</u>	<u>% of the childless women</u>
Group I: Low Prevalence Districts (LPD)	Up to 2.50 %
Group II: Medium Prevalence Districts (MPD)	2.51 to 7.50 %
Group III: High Prevalence Districts (HPD)	Greater than 7.50 %

As seen from data in Table 5 and Figure 9, majority of districts in India fall in medium prevalence districts group (MPD), about 66 % and 75% districts in 1981 and 2001, respectively, had 2.51 to 7.50% of childless women aged 35-39 years. Nearly 29% of districts in 1981 were low prevalence districts (LPD), which declined to 3% in 2001. About 5% districts in 1981 were high prevalence districts (HPD) which increased to 22% in 2001; indicating a dramatic shift in the position of many districts from low ore medium prevalence to high prevalence. Of the 115 low prevalence districts in 1981, 27 were from undivided Uttar Pradesh followed by Karnataka (19), Maharashtra (11), West Bengal (10) and Arunachal Pradesh (9) - thus comprising of about two-thirds of the total districts in this category. Of the 18 low prevalence districts in 2001, 11 were from Haryana, 6 from Rajasthan, 2 from Manipur and one from Himachal Pradesh. All districts from Karnataka, Arunachal Pradesh, Meghalaya and Mizoram belonged to LPD group in 1981. Of the 262 medium prevalence districts in 1981, 39 were from undivided Madhya Pradesh, 28 from undivided Uttar Pradesh and 26 each from Rajasthan and undivided Bihar. All the districts from Gujarat, Rajasthan and Tamil Nadu belonged to MPD in 1981. Of the 18 HPD districts in 1981, 7 were from Andhra Pradesh, 4 from undivided Madhya Pradesh, 3 from Orissa, 2 from Manipur and one from undivided Uttar Pradesh. The analysis reveals that more districts in the state have come in this group in 2001 and also many districts from other parts of the country have entered in the HPD group.

Similar pattern may be seen in the rural and urban areas as well, however, proportion of districts in HPD group was quite similar in 1981 (at about 5-6%) which has increased considerably in both the areas but much more rapid in urban areas than the rural areas in 2001 (27% compared to 20%). In

contrast, proportion of districts in LPD group was 26% and 31% during 1981 and 2001 respectively in urban and rural areas which by 2001 came down to just about 2% in urban areas and about 5% in rural areas.

Figure 9: Distribution of districts by levels of permanent childlessness in India, 1981 and 2001



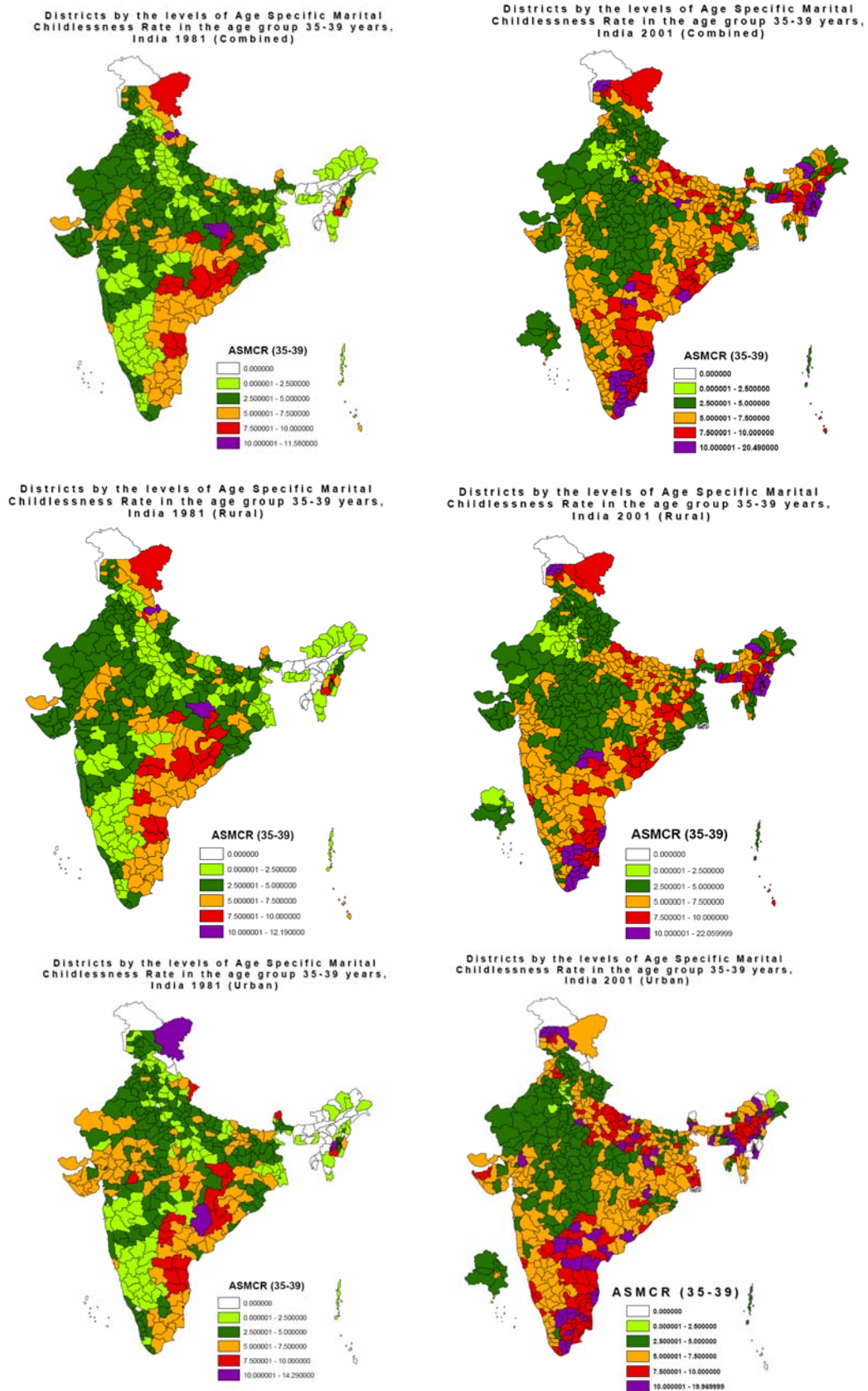
Spatial patterns of childlessness

The main purpose of the analysis here is to highlight geographical variations in the levels of childlessness at the district level and also to understand whether there is a spatial pattern with respect to the prevalence of childlessness between 1981 and 2001 and if it is then whether it has any pattern in terms of topography of the area. It is thus intended to understand if levels of childlessness are higher around the coastal line or in the plane areas or if they are more in southern region or other region - north, west or east. This would help us understand whether women living in a particular geographical condition experiences varied chances of childlessness. For the analysis we have used GIS software. In addition to GIS, we have also provided names of the districts that have 10% or higher levels of childlessness in tables 6A and 6B for 1981 and 2001 respectively for combined, rural and urban areas.

In Figure 10 we have provided maps of India depicting district scenario of the prevalence of permanent childlessness for 1981 and 2001 separately for rural and urban residence. This is useful as analyzing simple distribution of the units (as done above) does not allow us to understand spatial patterns. Plotting the units helps understand the spatial pattern more effectively. Based on the levels of childlessness, we have grouped districts in categories as below:

<u>Category</u>	<u>Level of childlessness (% of childless women)</u>
I	00.00 per cent (also includes districts for which data is not available)
II	0.01 – 2.50 per cent
III	2.51 – 5.00 per cent
IV	5.01 – 7.50 per cent
V	7.51 – 10.00 per cent
VI	More than 10.00 per cent

Figure 10: Spatial patterns of permanent childlessness, 1981- and 2001



One can clearly see a spatial pattern as far as the levels of permanent childlessness in India is concerned). It may be seen that irrespective of time and place of residence, coastal areas of the country tend to have higher levels of childlessness as most of the districts along the coastal line fall group depicted with red or purple colors (more so on the eastern coast). Further, levels of childlessness seem to be high in southern states as well as north eastern states of the country as compared to other regions. In contrast, northern as well as western districts reveal relatively lower levels of childlessness. Another important finding emerging from the comparison between 1981 and 2001 map is that over time, districts have moved from lower levels to higher levels of childlessness. The upward shift seems more intense in southern region compared to other regions where number of districts which fell in category-II (0.01 to 2.50%) in 1981 moved to category-III (5.01 to 7.50%) in 2001. Also many districts in southern region have moved from categories-III and IV in 1981 to category -VI in 2001. Also some of the districts in north-eastern regions have moved from category-III to category-V over 1981-2001.

Data used in the analysis so far does not provide any opportunity to understand the underlying factors of childlessness in the population. As a result, the data from the National Family Health Survey III (NFHS II) conducted by the IIPS, Mumbai during 2005-06 (IIPS and Macro International 2007) has been used to examine the factors determining childlessness and its association with some of the adverse behavior indicators such as marital disruption and experience of domestic violence by the women. Although there are obvious advantages of the NFHS data over census data, there are some limitations of the NFHS data as well; NFHS sample size, for example, has a clear limitation to undertake the analysis of childless women either at the state level or in the conventional five-year age groups. As a result of this, subsequent analysis is carried out at the regional level and also by grouping the women in the age groups 35-49 together to overcome problems related to sample size. We have classified states in Six Regions¹³. The analysis of NFHS 3 data (see appendix -1) indicates that about 3% of currently married women aged 35-49 years were childless in India at the time of survey and varied between a low of just about 1% in states in northern region to over 4% in states in southern region and 3.4% and 3.7% in states in western and eastern regions respectively.

The data in Appendix-1 also reveal wide variations in the levels of childlessness by socio-economic characteristics across states in different regions. For example, relatively higher proportions of women from low SLI households, those who married after age 21 years and those who have better nutritional status were childless. In eastern region, Christian women, schedule tribe women, working as professional and marrying at later ages, higher proportion of them were childless compared to women in other groups. The variability in levels of childless among women of various sub-groups was relatively less in states in northern region, more women living in urban areas and those belonging to Christian were childless. In case of western and central regions, the percentage of childless women was lower for those from poor households and marrying at later ages.

Factors affecting childlessness

The results of the logistic regression in Table 7 reveal that the Christian women, women belonging to 'other' religious faiths, scheduled caste women and those coming from households belonging to better economic strata were significantly more likely to be childless as compared to their respective counterparts. In contrast, women working in professional occupations, who married at later ages (after age 18) and those with better nutritional status (as measured by Body Mass Index, BMI) were significantly less likely to be childless compared to their respective counterparts. For example, women from high SLI were twice or more likely to be childless compared to women from low SLI (odd ratio

¹³ **East Region:** Orissa, Bihar and West Bengal;

West Region: Maharashtra, Goa and Gujarat;

North Region: Jammu & Kashmir, Rajasthan, Himachal Pradesh, Punjab, Delhi and Haryana;

South Region: Andhra Pradesh, Tamil Nadu, Kerala and Karnataka;

Central Region: Uttar Pradesh and Madhya Pradesh;

Northeast Region: Tripura, Assam, Meghalaya, Manipur, Mizoram, Arunachal Pradesh, Nagaland & Sikkim.

= 2.132). Likewise, the odds of being childless were higher by about 53% for women from medium SLI households belonging compared to those coming from economically poor households. Likewise, the odds of being childless were significantly higher for Christian women, and those from 'other' religions, and Scheduled caste women; 64%, 41% and 29%, respectively compared to Hindu and Non-SC/ST women, respectively. In comparison to this, the odds of being childless were lower by about 76% and 27% for women who married after age 21 and between ages 19-21 years, respectively, compared to the those who married before age 15. Nutritional status of the women too had impact on the childless status of the woman as the odds of childlessness were lower by about 26% and 19% for those with BMI of above 25.0 and 18.5-25.0 compared to those with poor nutritional status (BMI= below 18.5). Although experience of reproductive morbidity did not emerge as statistically significant determinant of childlessness, the direction of the relationship indicates that the odd of being childless is higher the women who experience any reproductive morbidity than those who did not. Likewise, substance users were slightly more likely to be childless compared to non-users. Even with educational status of the woman, although the relationship is not statistically significant, women with 8 or more years of education were more likely to be childless compared to those who were illiterate or educated below middle (Odd ratio = 1.163).

Marital disruption, domestic violence and childless status

As noted in the review, in countries like India where motherhood/parenthood is given the utmost priority over everything else and where status of women in the society is very poor, the childless status of the women makes her vulnerable to number of adverse outcomes including marital disruption and experience of domestic violence (from husband or in-laws). The NFHS data provides information on the current marital status of the women and incidence of domestic violence ever and in the past 12 months prior to the survey date. We understand that this data may not be able to throw light on the nature of relationship of these variables with that of the childlessness as it fails to provide information on the exact reason for marriage dissolution (in case of marital status) and/or incidence of domestic violence whether it was offshoot of the childless status or not. However, in spite of this limitation we have used the data to understand whether there exists any association between childless status of the woman and marital disruption and experience of recent domestic violence. Thus our results need to be understood in this context. Table 8 provides percentage of divorced, separated or deserted women among those who are childless and those with children for woman aged 15-34 years and 35-49 years. Table 9 provides the percentages of women who reported experiencing domestic violence ever and recent either from husband or in-laws among those who are childless and those with children for woman aged 35-49 years.

Marital disruption and Childlessness

Findings in table 8 indicates that the percentage of women reporting marital disruption was consistently and significantly higher among those who were childless compared to those who had children irrespective of region and age group, the impact being substantially higher for the older women. This seems quite logical in the sense that in situations where woman fail to have a child the families may give some more time to the woman and wait before taking the final plunge. At the national level, for example, over 4% who were divorced/separated/disserted among childless women aged 15-34 compared to just about 1% among those with children. However, in case of older women, nearly one in five childless women reported being divorced/separated/deserted (17%) as compared to less than 2% among those with children indicating that the atrocities, as measured by marital disruption, were far more common among childless.

Similar observations are also made in different regions of the country. As a matter of fact the gaps actually were wider in some regions. For example, women residing in the southern, western and northeastern regions suffer more marital disruption as compared to their counterparts with children. About 19-21% of the childless women aged 35-49 years and about 5-6% of them in the age group 15-34 years living in these regions were divorced/separated/disserted in comparison to 3% or fewer

among those with children. It may be recalled from our earlier discussions at the state and districts levels that the prevalence of childlessness is higher in number of districts in these regions; there many districts in these states where more than 10% of the women in 2001 were childless. In case of east, central and north regions, percentage of older childless women who reported marital disruption varied between 10-17% while it was less than 2% among those with children.

Domestic violence and Childlessness

Domestic violence is quite common in India as the data in table 9 clearly indicates that over one-quarter of women aged 35-49 years in India ever experienced domestic violence while about 12% of reported that they were beaten up by their husbands/in-laws in the past 12 months prior to the survey. Though the differences by childless status of the woman are somewhat mixed it may be noted that at the national level, the proportion of women reported experiencing violence from husband/in-laws was greater for those who were childless compared to those who had children. For example, about 27% of the childless women aged 35-49 years in India reported that they were ever beaten by their husbands or in-laws while this was about 25% among those with children. IN case of experience of recent violence, the proportion was similar for both groups of women (12%).

At the regional level, the relationship becomes clearer in north, west and central regions particularly where substantially higher proportions of childless women reported ever experiencing domestic violence from husband/in-laws. For example, significantly higher proportion of childless women in these regions (central-28%, west-27%, and north-35%) reported ever experience of domestic violence compared to the ones who had children (11%, 20% and 21%, respectively). The differences were narrow in case of other regions. About 26-27% of childless women in east and south regions reported ever experiencing domestic violence compared to 24-27% of those with children. The relationship between childless status of the women and experience of current violence is absent in all regions but north and south. In north, higher proportion of childless women than those with children reported experience of domestic violence in the past 12 months prior to survey (20% versus 11%); corresponding figures for south are 13% and 12% respectively. In other regions, the proportion of women reporting experience of current violence was either similar (central region) or was higher for those who had children compared to those who did not.

Fertility levels and Childlessness

The present analysis also examines the interrelationship between levels of childlessness on the fertility levels (measured by total fertility rate, given in Table 10) at the district level using percentages of the childless women in the age group 35-49 years and district TFR estimated using census 2001 data by Ram et al (2005). The correlation coefficient between percentage of childless women and TFR is – 0.302 (significant at the 0.01 level) indicating that the fertility levels are lower in the districts where levels of childlessness are higher. The distribution of districts by fertility levels for various levels of childlessness in table 10 reveals that the proportional share of districts with low fertility increases with the increase in the percentages of childless women. For example, the share of district with below replacement level fertility was less than 5% among districts with less than 2.5% childless women aged 35-49 years which increased over 17% among those with 2.51 to 5.00% childless women to further nearly 29% among those with 5.01 to 7.5% childlessness. Further, the share of districts in below replacement is over 44% among districts with 7.51 – 10.00% childless and rises to over 56% in case of districts with more than 10% childlessness. On the other hand, share of districts with TFR of more than 4 declines with the increase in the levels of childlessness. For example, TFR was more than 4.00 in over 9% of the districts. This increases to nearly 5% among those with childlessness of 7.51 – 10.00 and to less than 3% among those with greater than 10.00% childlessness.

Concluding Remarks

The study has clearly brought out various dimensions of childlessness at the national, state and district level. The study suggests that the levels of childlessness in India are moderate in comparison to other countries. Nearly 16 % of Indian women in 2001 in the reproductive ages were childless and was higher in the southern states as compared to the northern states. The analysis further reveals that over 6% of women in India remain childless. There prevail considerable differentials in childlessness by religion, caste and education in addition to place of residence and from one state to another state. On the whole, Christian and Muslim women and the Scheduled tribe women seem to have higher levels of childlessness than other women. The analysis of the data at the state level indicates that the southern states seem to report higher levels of childlessness compared to the northern states. There mapping of childlessness rates at the district level reveals spatial patterns in the prevalence of childlessness in the country suggesting that group of districts in a geographical proximity where the rates are higher. The districts in southern regions of the country and those located on the eastern coast of the country apparently have higher levels while northern districts and those located on the western coast have lower levels.

The likelihood of childlessness among young women is closely associated with religion, caste, household standard of living index, and economic activity status, age at marriage and her nutritional status. Those who were professionals, married later than 18 years and had better nutritional status were less likely to be childless as compared to their respective counterparts. In contrast, Christian women and women from 'other' religions, and those belonging to scheduled caste and coming from better socio-economic households were more likely to be childless compared to those who were Hindu or belonged to non-SC/ST groups and come from poor households. The analysis further shows that women who remain childless face many adverse consequences in the form of divorce/separation/desertion as compared to those who have children.

Marital disruption was far more common among childless women than those who had children; over 17% childless women aged 35-49 years experienced marital disruption compared to less than 2% among those with children. Over 19% of the childless women aged 35-49 years living in southern states, 20% of those in western states and 21% of those in the northeastern states experienced marital disruption in comparison to just 3 or fewer among those who had children. Similarly, 17% of childless women in eastern states, 13% in northern states and 10% in central states reported marital disruption compared to less than 2% among those with children.

At the national level, proportion of women who experienced domestic violence from husband/in-laws was about 27% for childless women aged 35-39 compared to 25% among those with children. Further, the disparity between two groups of women with respect to domestic violence experience is far more in states in central, northern and western regions. The percentage of women who ever experienced domestic violence in northern states was 35% among childless women compared to 21% among those who had children while it was 28% and 11%, respectively, among states in central regions.

The findings suggest some association between levels of childlessness and fertility level at the district level. The fertility levels are higher in the districts with lower levels of childlessness rates. The fertility levels are lower in districts with higher childlessness incidence. The proportional share of districts with low fertility increases with the increase in childless levels (share of district with below replacement level fertility was less than 5 % among districts with less than 2.5% childless women aged 35-49 years which increased over 17% among those with 2.51 to 5.00% childless women to further nearly 29% among those with 5.01 to 7.5% childlessness. Further, the share of districts in below replacement is over 44 % among districts with 7.51 – 10.00% childless and rises to over 56% in case of districts with more than 10 % childlessness. Share of districts with TFR of more than 4 declines with the increase in the levels of childlessness.

Table 1: Levels of permanent childlessness[#] and ratios by selected background characteristics of the women, India 2001.

Sub-groups / Categories	Combined		Urban		Rural	
	% childless	Ratio	% childless	Ratio	% childless	Ratio
Religion						
Hindu	6.23	1.00	7.41	1.00	5.76	1.00
Muslim	6.53	1.05	7.85	1.06	5.75	1.00
Christian	8.13	1.30	9.31	1.26	7.47	1.30
Others	5.73	0.92	6.08	0.82	5.54	0.96
Caste						
SC	5.75	1.00	6.65	1.00	5.50	1.00
ST	6.73	1.17	7.03	1.06	6.70	1.22
Others	6.37	1.11	7.59	1.14	5.73	1.04
Education						
Non-literate	6.02	1.00	7.27	1.00	5.75	1.00
1-7 years of schooling	5.62	0.93	6.58	0.91	5.16	0.90
8-9 years of schooling	6.08	1.01	6.83	0.94	5.45	0.95
10-14 years of schooling	7.30	1.21	7.64	1.05	6.76	1.18
15 or more years of schooling	5.62	0.93	6.58	0.91	5.16	0.90
Overall	6.30		7.47		5.79	

[#]measured as percentage of childless women among ever married women aged 35-39 years

Table 2: Levels of permanent childlessness[#] by religion of the woman in selected states of India, 2001.

State	Religion of the woman				Ratio to Hindu			
	Hindu	Muslim	Christian	Other religion	Hindu	Muslim	Christian	Other religion
Combined								
Bihar	5.87	6.32	8.01	8.08	1.00	1.08	1.36	1.38
Gujarat	5.15	6.68	6.08	7.47	1.00	1.30	1.18	1.45
Punjab	5.24	4.92	5.29	4.74	1.00	0.94	1.01	0.90
Tamil Nadu	10.92	10.67	10.84	19.66	1.00	0.98	0.99	1.80
Uttar Pradesh	6.52	4.75	10.75	7.82	1.00	0.73	1.65	1.20
India	6.23	6.53	8.13	5.73	1.00	1.05	1.30	0.92
Urban								
Bihar	6.07	7.83	8.11	8.21	1.00	1.29	1.34	1.35
Gujarat	6.05	7.45	7.49	7.52	1.00	1.23	1.24	1.24
Punjab	6.09	6.15	7.36	5.74	1.00	1.01	1.21	0.94
Tamil Nadu	12.23	10.91	11.82	19.51	1.00	0.89	0.97	1.60
Uttar Pradesh	8.56	8.49	12.11	9.19	1.00	0.99	1.41	1.07
India	7.41	7.85	9.31	6.08	1.00	1.06	1.26	0.82
Rural								
Bihar	5.85	6.22	7.93	8.03	1.00	1.06	1.36	1.37
Gujarat	4.61	5.52	4.96	7.15	1.00	1.20	1.08	1.55
Punjab	4.10	4.03	4.36	4.44	1.00	0.98	1.06	1.08
Tamil Nadu	9.99	10.06	9.52	20.04	1.00	1.01	0.95	2.01
Uttar Pradesh	6.01	6.29	8.35	6.85	1.00	1.05	1.39	1.14
India	5.76	5.75	7.47	5.54	1.00	1.00	1.30	0.96

[#]measured as percentage of childless women among ever married women aged 35-39 years

Table 3: Levels of permanent childlessness[#] by woman's caste for selected states, India, 2001

State	Caste of the woman			Ratio to SC		
	SC	ST	Non-SC/ST	SC	ST	Non-SC/ST
Combined						
Bihar	5.73	7.87	5.97	1.00	1.37	1.04
Gujarat	4.73	5.54	5.34	1.00	1.17	1.13
Punjab	4.02	NA	5.27	1.00	NA	1.31
Tamil Nadu	10.29	14.13	11.03	1.00	1.37	1.07
Uttar Pradesh	5.79	7.72	6.86	1.00	1.33	1.18
India	5.75	6.73	6.37	1.00	1.17	1.11
Urban						
Bihar	5.55	7.25	6.49	1.00	1.31	1.17
Gujarat	5.54	6.74	6.33	1.00	1.22	1.14
Punjab	5.24	NA	6.14	1.00	NA	1.17
Tamil Nadu	11.49	10.26	12.22	1.00	0.89	1.06
Uttar Pradesh	7.62	9.95	8.70	1.00	1.31	1.14
India	6.65	7.03	7.59	1.00	1.06	1.14
Rural						
Bihar	5.74	7.90	5.90	1.00	1.38	1.03
Gujarat	4.13	5.41	4.50	1.00	1.31	1.09
Punjab	3.58	NA	4.70	1.00	NA	1.31
Tamil Nadu	9.77	14.83	9.95	1.00	1.52	1.02
Uttar Pradesh	5.50	7.39	6.22	1.00	1.34	1.13
India	5.50	6.70	5.73	1.00	1.22	1.04

[#]measured as percentage of childless women among ever married women aged 35-39 years

Table 4: Levels of permanent childlessness[#] by woman's education status for selected states, India, 2001

State	Educational status of the woman					Ratio to Non-literate				
	Non-literate	1-7 yrs.	8-9 yrs.	10-14 yrs.	15 or more	Non-literate	1-7 yrs.	8-9 yrs.	10-14 yrs.	15 or more
Combined										
Bihar	5.68	5.76	6.24	7.04	8.62	1.00	1.01	1.10	1.24	1.52
Gujarat	4.90	5.02	5.59	6.04	8.15	1.00	1.02	1.14	1.23	1.66
Punjab	4.34	4.29	5.23	5.70	6.48	1.00	0.99	1.21	1.31	1.49
Tamil Nadu	10.54	10.03	10.33	11.99	15.82	1.00	0.95	0.98	1.14	1.50
Uttar Pradesh	5.97	6.52	7.14	9.04	10.82	1.00	1.09	1.20	1.51	1.81
India	6.02	5.62	6.08	7.30	9.00	1.00	0.93	1.01	1.21	1.50
Urban										
Bihar	6.20	5.77	5.78	6.37	7.93	1.00	0.93	0.93	1.03	1.28
Gujarat	6.07	5.64	6.05	6.38	8.15	1.00	0.93	1.00	1.05	1.34
Punjab	5.73	5.42	6.14	5.88	6.26	1.00	0.95	1.07	1.03	1.09
Tamil Nadu	12.24	10.82	11.25	12.53	16.20	1.00	0.88	0.92	1.02	1.32
Uttar Pradesh	7.75	7.72	8.07	9.13	10.55	1.00	1.00	1.04	1.18	1.36
India	7.27	6.58	6.83	7.64	8.94	1.00	0.91	0.94	1.05	1.23
Rural										
Bihar	5.65	5.75	6.38	7.41	9.56	1.00	1.02	1.13	1.31	1.69
Gujarat	4.53	4.51	4.92	5.27	8.16	1.00	1.00	1.09	1.16	1.80
Punjab	3.91	3.88	4.62	5.46	7.76	1.00	0.99	1.18	1.40	1.98
Tamil Nadu	9.89	9.35	9.01	10.60	13.51	1.00	0.95	0.91	1.07	1.37
Uttar Pradesh	5.65	6.08	6.61	8.90	12.17	1.00	1.08	1.17	1.58	2.15
India	5.75	5.16	5.45	6.76	9.30	1.00	0.90	0.95	1.18	1.62

[#]measured as percentage of childless women among ever married women aged 35-39 years

Table 5: Distribution of Districts by the levels of permanent childlessness, 1981& 2001.**A: Combined areas**

State/UTs	1981				2001			
	Low	Medium	High	Total	Low	Medium	High	Total
Andhra P.	0	16	7	23	0	7	16	23
Bihar	5	26	0	31	0	33	4	37
Jharkhand					0	13	3	16
Gujarat	0	19	0	19	0	25	0	25
Haryana	4	8	0	12	11	8	0	19
Jammu & K	0	13	1	14	0	6	8	14
Karnataka	19	0	0	19	0	24	3	27
Kerala	6	6	0	12	0	14	0	14
Madhya P.	2	39	4	45	0	45	0	45
Chhatisgarh					0	20	0	20
Maharashtra	11	15	0	26	0	34	1	35
Orissa	0	10	3	13	0	22	8	30
Punjab	1	11	0	12	0	17	0	17
Rajasthan	0	26	0	26	6	26	0	32
Tamil Nadu	0	16	0	16	0	0	30	30
Uttar P.	27	28	1	56	0	55	15	70
Uttarnchal					0	6	0	6
W. Bengal	10	6	0	16	0	15	3	18
A&N Island	1	1	0	2	0	1	1	2
Arunachal P.	9	0	0	9	0	11	2	13
Himachal P.	7	5	0	12	1	11	0	12
Manipur	1	3	2	6	0	1	8	9
Meghalaya	5	0	0	5	0	0	7	7
Mizoram	3	0	0	3	0	8	0	8
Nagaland	3	4	0	7	0	1	7	8
Pondicherry	1	3	0	4	0	4	0	4
Sikkim	0	4	0	4	0	4	0	4
Goa	0	1	0	1	0	0	2	2
Daman Diu	0	2	0	2	0	2	0	2
Assam	NA	NA	NA	0	0	13	10	23
Tripura	NA	NA	NA	0	0	15	0	15
Delhi	NA	NA	NA	0	0	3	0	3
Chandigarh	NA	NA	NA	0	0	1	0	1
DN Haveli	NA	NA	NA	0	0	1	0	1
Lakshadweep	NA	NA	NA	0	0	1	0	1
All INDIA N	115	262	18	395	18	446	128	592
%	29.11	66.33	4.56	100.00	3.04	75.34	21.62	100.00

NA: Information not available

Table 5 Contd....

B: Rural Areas

State/UTs	1981				2001			
	Low	Medium	High	Total	Low	Medium	High	Total
Andhra P.	0	15	7	22	0	11	11	22
Bihar	6	25	0	31	0	34	3	37
Jharkhand					0	12	6	18
Gujarat	0	19	0	19	0	25	0	25
Haryana	3	9	0	12	16	3	0	19
Jammu & K	0	13	1	14	0	6	8	14
Karnataka	19	0	0	19	-	25	2	27
Kerala	6	6	0	12	0	14	0	14
Madhya P.	3	38	4	45	0	45	0	45
Chhatisgarh					0	14	2	16
Maharashtra	11	14	0	25	0	33	0	33
Orissa	0	9	4	13	0	22	8	30
Punjab	1	11	0	12	0	17	0	17
Rajasthan	0	26	0	26	8	24	0	32
Tamil Nadu	0	15	0	15	0	1	28	29
Uttar P.	29	25	2	56	0	60	10	70
Uttarnchal					0	13	0	13
W. Bengal	11	4	0	15	0	15	2	17
A&N Island	1	1	0	2	0	1	1	2
Arunachal P.	9	0	0	9	0	11	2	13
Himachal P.	7	5	0	12	1	11	0	12
Manipur	1	3	2	6	0	1	8	9
Meghalaya	5	0	0	5	0	0	7	7
Mizoram	3	0	0	3	0	8	0	8
Nagaland	3	4	0	7	0	1	7	8
Pondicherry	1	2	0	3	0	2	0	2
Sikkim	0	4	0	4	0	4	0	4
Goa	0	1	0	1	0	0	2	2
Daman Diu	0	2	0	2	1	1	0	2
Assam	NA	NA	NA	0	0	15	8	23
Tripura	NA	NA	NA	0	0	4	0	4
Delhi	NA	NA	NA	0	2	5	0	7
Chandigarh	NA	NA	NA	0	0	1	0	1
DN Haveli	NA	NA	NA	0	0	1	0	1
Lakshadweep	NA	NA	NA	0	0	1	0	1
All INDIA N	119	251	20	390	28	441	115	584
%	30.51	64.36	5.13	100.00	4.79	75.51	19.69	100.00

Table 5 Contd....

C: Urban Areas

State/UTs	1981				2001			
	Low	Medium	High	Total	Low	Medium	High	Total
Andhra P.	0	13	10	23	0	5	18	23
Bihar	0	31	0	31	0	31	6	37
Jharkhand					0	16	2	18
Gujarat	0	18	0	18	0	22	2	24
Haryana	3	9	0	12	5	14	0	19
Jammu & K	2	11	1	14	0	7	7	14
Karnataka	19	0	0	19	0	19	8	27
Kerala	1	10	0	11	0	11	3	14
Madhya P.	4	35	6	45	0	45	0	45
Chhatisgarh					0	16	0	16
Maharashtra	13	13	0	26	0	34	1	35
Orissa	0	11	2	13	0	27	3	30
Punjab	1	11	0	12	0	15	2	17
Rajasthan	1	25	0	26	1	31	0	32
Tamil Nadu	0	16	0	16	0	0	30	30
Uttar P.	20	35	1	56	0	37	33	70
Uttarnchal					0	13	0	13
W. Bengal	9	7	0	16	0	12	6	18
A&N Island	1	0	0	1	0	1	0	1
Arunachal P.	5	0	0	5	1	8	3	12
Himachal P.	7	3	0	10	1	9	0	10
Manipur	1	3	2	6	0	0	5	5
Meghalaya	5	0	0	5	0	3	4	7
Mizoram	3	0	0	3	0	7	0	7
Nagaland	5	1	0	6	0	2	6	8
Pondicherry	1	3	0	4	0	4	0	4
Sikkim	1	2	1	4	1	2	1	4
Goa	0	1	0	1	0	0	2	2
Daman Diu	0	2	0	2	0	2	0	2
Assam	NA	NA	NA	0	0	7	16	23
Tripura	NA	NA	NA	0	0	3	1	4
Delhi	NA	NA	NA	0	0	9	0	9
Chandigarh	NA	NA	NA	0	0	1	0	1
DN Haveli	NA	NA	NA	0	0	1	0	1
Lakshadweep	NA	NA	NA	0	0	1	0	1
All INDIA N	102	260	23	385	9	415	159	583
%	26.49	67.53	5.97	100.00	1.54	71.18	27.27	100.00

Table 6: Districts having 10% or higher proportion of childless women aged 35-39, 40-44 and 45-49.**A: 1981**

Name of the state	Name of the districts	Age specific childlessness		
		35-39	40-44	45-49
Combined				
Jammu & Kashmir	Ladakh	--	--	11.58
Andhra Pradesh	Nizamabad	--	10.28	--
	Cuddapah	--	10.50	10.69
	Nellore	--	11.56	12.25
	Chittoor	--	10.28	10.32
Madhya Pradesh	Surguja	10.83	--	--
Uttar Pradesh	Uttarkashi	11.58	12.2	15.96
Rural				
Jammu & Kashmir	Ladakh	--	--	11.24
Andhra Pradesh	Nizamabad	--	10.17	--
	Cuddapah	--	10.21	10.36
	Nellore	--	11.54	12.55
	Chittoor	--	10.4	10.59
Madhya Pradesh	Surguja	10.94	--	--
	Mandla	--	10.13	--
Uttar Pradesh	Uttarkashi	12.19	12.81	16.51
Urban				
Jammu & Kashmir	Ladakh	11.07	11.36	14.47
Madhya Pradesh	Surguja	--	10.31	--
	Seoni	--	11.84	10.05
	Raigarh	--	11.89	14.67
	Bastar	10.11	12.46	--
	Balaghat	--	--	10.98
Andhra Pradesh	Nizamabad	--	10.87	--
	Medak	--	11.42	--
	Cuddapah	--	11.91	12.26
	Nellore	--	11.66	10.87
	Rangareddi	--	--	10.21
Manipur	Manipur West	14.29	14.49	22.45
Uttar Pradesh	Tehri Garhwal	--	--	15.9
Nagaland	Mon	--	--	14.29

NOTE: '--' indicates values are less than 10%

Table 6 contd...

B: 2001

State Name	District Name	Combined			Rural			Urban		
		35-39	40-44	45-49	35-39	40-44	45-49	35-39	40-44	45-49
J. & Kashmir	Kupwara	13.08	11.85	10.31	14.59	14.99	12.47	11.32	10.47	10.70
	Pulwama	--	--	--	--	--	--	12.27	11.23	--
	Sri Nagar	11.52	--	--	10.65	--	--	10.78	--	--
	Baramula	11.08	--	--	13.15	11.90	10.30	13.03	10.15	--
	Kargil	--	--	--	--	--	--	13.72	10.14	--
Uttar Pradesh	Agra	11.76	11.52	10.90	--	--	--	18.17	18.28	17.36
	Allahabad	--	--	--	--	--	--	17.92	16.13	15.83
	Sant Ravidas Nagar	--	--	--	--	--	--	10.73	11.28	10.36
	Balrampur	--	--	--	--	--	--	10.61	--	--
	Mau	--	--	--	--	--	--	10.34	--	--
	Varanasi	10.33	--	--	--	--	--	13.88	12.70	11.60
	Azamgarh	--	--	--	--	--	--	13.37	12.27	11.42
	Allahabad	10.89	10.17	10.08	--	--	--			
Bihar	Gaya				--	--	--	11.38	10.54	--
Jharkhand	Palamu				--	--	--	10.90	10.46	--
Gujarat	Sabar Kantha				--	--	--	10.87	10.02	11.38
West Bengal	Kolkata	12.37	11.65	10.78	--	--	--	12.37	11.65	10.78
	Darjiling	--	--	--	--	--	--	11.80	11.02	--
Orissa	Koraput	--	10.58	11.90	--	11.31	12.89	--	--	--
	Rayagada	--	--	10.76	--	10.30	11.35	--	--	--
	Malkangiri	--	--	10.73	--	10.17	10.96	--	--	--
	Sambalpur	--	--	--	--	--	--	10.41	10.42	10.36
Andhra Pradesh	Adilabad	--	10.28	10.90	10.49	10.79	11.17	--	--	10.02
	Nizamabad	10.88	11.66	11.07	10.43	11.31	10.69	12.89	13.49	13.03
	Hyderabad	19.97	19.31	19.01	--	--	--	19.97	19.31	19.01
	Rangareddi	13.76	14.09	14.45	--	--	--	18.69	19.07	19.58
	Visakhapatnam	11.19	12.05	12.49	--	10.38	11.11	13.64	14.59	14.73
	Warangal	--	--	--	--	--	--	12.67	13.43	13.62
	Mahbubnagar	--	--	--	--	--	--	--	10.01	10.06
	Kurnool	--	--	--	--	--	--	11.42	11.34	11.18
	Krishna	--	--	--	--	--	--	10.64	11.08	11.56
	Guntur	--	--	--	--	--	--	--	10.73	11.09
	Prakasam	--	--	--	--	--	--	10.14	10.68	11.07
	Nellore	--	--	--	--	--	--	--	10.37	11.52
	Cuddapah	--	--	--	--	10.22	10.23	--	--	--
	Chittoor	--	--	--	--	--	10.28	--	--	--
	Karnataka	Bidar	--	--	--	--	--	--	--	10.46
Gulbarga		--	--	--	--	--	--	10.08	10.55	10.30
Tamil Nadu	Chennai	19.83	19.32	18.69	NA	NA	NA	19.83	19.32	18.69
	Thiruvallur	14.03	14.12	14.45	12.63	13.38	13.83	15.22	14.71	14.98
	Kancheepuram	13.53	13.59	13.43	12.00	12.14	12.32	14.84	14.75	14.39
	Cuddalore	--	10.70	10.66	10.13	11.21	11.32	--	--	--
	Thanjavur	--	--	--	--	--	10.12	--	--	--
	Salem	11.36	12.13	11.95	11.40	12.19	12.32	11.32	12.06	11.50
	Namakkal	11.04	11.81	11.76	11.05	12.09	12.07	11.03	11.32	11.15
	Erode	10.76	11.15	10.54	11.28	11.49	10.71	10.15	10.76	10.34
	Coimbatore	11.68	11.55	11.22	11.14	11.27	10.61	11.98	11.69	11.57
Dindigul	11.01	11.50	11.11	12.01	12.35	11.97	--	--	--	

NOTE: '--' indicates values are less than 10%

Table 6B: contd....

State Name	District Name	Combined			Rural			Urban		
		35-39	40-44	45-49	35-39	40-44	45-49	35-39	40-44	45-49
Tamil Nadu	Madurai	12.34	12.64	12.39	12.41	12.60	12.78	12.28	12.67	12.07
	Tiruchirappalli	--	--	--	--	10.08	10.14	--	--	--
	Sivaganga	--	10.09	10.09	10.15	10.31	10.33	--	--	--
	Ramanathapuram	10.51	10.07	10.10	11.21	10.51	10.55	--	--	--
	Virudhunagar	10.76	10.99	10.98	11.58	11.94	11.55	--	--	10.28
	Toothukudi	10.50	10.31	--	10.59	10.58	--	10.39	--	--
	Tirunelveli	11.16	10.80	10.40	11.80	11.53	11.31	10.50	10.04	--
	Dharmapuri	--	--	--	--	--	--	--	10.27	10.58
	Karur	--	--	--	--	--	--	--	10.03	10.50
	Perambalur	--	--	--	--	--	--	11.50	12.44	12.75
	Thiruvarur	--	--	10.01	--	--	10.16	--	--	--
	The Nilgiris	--	--	--	--	10.36	10.21	--	--	--
	Kanniyakumari	--	--	--	10.13	10.07	--	--	--	--
	Ariyalur	--	--	--	--	--	--	11.80	12.82	12.75
Arunachal Pradesh	Lower Subansiri	12.83	15.11	13.58	13.87	15.83	13.78	--	--	10.97
	Papum Pare	11.15	11.96	12.16	--	--	--	12.61	15.20	14.55
	West Siang	--	--	--	--	--	--	13.79	11.59	14.98
	Upper Siang	--	--	11.76	--	--	11.76	--	--	--
Meghalaya	West Garo Hills	13.27	13.82	13.86	13.09	13.73	13.72	14.67	14.62	14.99
	East Khasi Hills	10.05	--	--	10.02	--	--	10.08	--	--
	East Garo Hills	11.89	11.50	14.05	12.72	12.50	14.92	--	--	--
	South Garo Hills	--	--	10.62	--	--	10.85	--	--	--
	Ri Bhoi	11.24	12.46	12.12	11.28	12.65	12.62	10.70	--	--
	Jaintia Hills	--	--	--	--	--	--	10.99	--	10.88
Assam	Kamrup	--	--	--	--	--	--	13.87	12.61	11.68
	Tinsukia	--	--	--	--	--	--	11.31	10.57	--
	Cachar	--	--	--	--	--	--	11.32	10.50	--
	Hailakandi	--	--	--	--	--	--	10.66	11.03	--
	Karimganj	--	--	--	--	--	--	15.47	14.40	13.11
	North Cachar Hills	--	--	--	--	--	--	--	--	10.31
Nagaland	Tuensang	12.30	11.96	11.56	12.80	12.22	11.80			
	Kohima	12.61	11.04	11.06	10.91	--	--	17.47	17.49	15.97
	Wokha	--	--	--	--	--	--	--	10.01	--
	Zunheboto	--	--	--	--	--	--	13.92	13.57	13.57
	Dimapur	10.30	--	--	--	--	--	12.13	11.53	11.90
	Mon	--	--	--	--	--	--	11.18	--	11.50
	Mokokchung	10.63	--	--	10.56	--	--	11.04	--	10.22
	Zunheboto	10.47	--	--	--	--	--	--	--	--
Manipur	Senapati	11.24	11.14	10.06	11.24	11.14	10.06	--	--	--
	Ukhrul	13.28	11.45	--	13.28	11.45	--	--	--	--
	Tamenglong	16.65	13.66	13.39	16.65	13.66	13.39	--	--	--
	Bishnupur	13.53	11.51	10.82	14.61	12.02	11.28	11.62	10.58	10.04
	Imphal West	12.62	10.56	--	13.57	12.29	11.01	11.86	--	--
	Imphal East	--	--	--	--	--	--	11.79	--	--
	Churachandpur	18.89	18.00	14.48	18.89	18.00	14.48	--	--	--
	Chandel	20.49	17.20	16.86	22.06	18.23	17.77	10.06	--	--
Sikkim	West	--	--	--	--	--	--	--	--	12.5

NOTE: '--' indicates values are less than 10%

Table 7: Results of Logistic Regression for childless women aged 35-49 years, India, 2005-06.
Dependent Variable: Childless (Yes =1, No=0)

Background Characteristics	Odds Ratios	No. of cases
Place of residence of the woman		
Rural [®]		18358
Urban	0.910	15624
Religion of the woman		
Hindu [®]		26030
Muslim	0.892	3301
Christian	1.638***	2804
Other Religions	1.409**	1847
Caste of the woman		
Non-Scheduled Caste/Tribes [®]		23993
Scheduled Tribe	1.119	4269
Scheduled Caste	1.288**	5720
Household Standard of Living Index (SLI)		
Low [®]		5737
Medium	1.525***	10073
High	2.132***	18172
Education of the woman		
0-7 years of schooling [®]		23694
8 or more years of schooling	1.163	10288
Working status of the woman		
Not Working [®]		17731
Non-Professional	0.910	14804
Professional	0.766**	1447
Age at first Marriage of the woman		
< 15 years [®]		9650
15-18 years	1.085	11268
19-21 years	0.734***	6990
>21 years	0.244***	6074
Body Mass Index of the woman		
Less than 18.5 [®]		7300
18.5 – 25.0	0.808**	17710
More than 25.0	0.743***	8972
Substance Use by the woman		
Non-User [®]		27209
User	1.013	6773
Reproductive Morbidity experience		
Did not experienced any reproductive morbidity [®]		31018
Experienced any reproductive morbidity	1.092	2964
-2 log likelihood		8130.62

Note: [®] denotes reference category;

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Table 8: Percentages of divorced/separated/deserted women by their childless status, 2005-06.

Regions	15-34 years		35-49 years	
	Childless	Have children	Childless	Have children
All India	4.2 (9114)	1.3 (51439)	16.8 (1051)	1.6 (37321)
East	3.1 (2349)	1.4 (12477)	16.8 (237)	1.2 (7917)
West	6.1 (1223)	1.5 (7547)	19.8 (167)	1.6 (5571)
North	3.4 (1172)	0.7 (6449)	12.5 (87)	0.5 (5140)
South	5.3 (1953)	1.7 (10708)	19.3 (352)	3.0 (9113)
Central	3.4 (2126)	0.8 (12361)	10.0 (160)	1.1 (8225)
North-East	4.8 (289)	2.2 (1897)	20.8 (48)	2.3 (1355)

Table 9: Percentages of women aged 35-49 who have experienced domestic violence by childlessness status, 2005-06.

Regions	Ever Experience [§]		Recent Experience [#]	
	Childless	Have children	Childless	Have children
All India	26.9 (1051)	24.9 (37321)	12.4 (1051)	12.5 (37321)
East	27.3 (237)	27.4 (7917)	14.8 (237)	16.7 (7917)
West	26.9 (167)	20.1 (5571)	6.6 (167)	9.8 (5571)
North	34.5 (87)	20.7 (5140)	19.5 (87)	10.5 (5140)
South	25.9 (352)	23.7 (9113)	13.1 (352)	12.3 (9113)
Central	27.5 (160)	11.4 (8225)	10.6 (160)	11.4 (8225)
North-East	16.7 (48)	29.5 (1355)	8.3 (48)	15.0 (1355)

[§] Percentages of women who have ever been beaten by their husbands and/or in-laws
[#] Percentages of women who have experienced violence in the past 12 months prior to the survey from their husbands only

Table 10: Interrelationship between percentages of the childless women aged 35-49 years and the level of total fertility rate in the districts of India, 2001.

Level of Childlessness	Level of TFR				
	Below 2.1	2.1 – 3.00	3.01 – 4.00	More than 4.00	Total
Below 2.50	4.5	72.7	13.6	9.1	22 (100.00)
2.51 – 5.00	17.5	33.6	40.8	8.1	223 (100.00)
5.01 – 7.50	28.7	39.0	31.4	0.9	223 (100.00)
7.51 – 10.00	44.2	36.0	15.1	4.7	86 (100.00)
More than 10.00	56.4	28.2	12.8	2.6	39 (100.00)
Total	27.7	37.1	30.7	4.6	593 (100.00)

Appendix 1

Percentage of childless women aged 35-49 years by background characteristics for regions, India, 2005-06.

characteristics	India	North	East	West	South	Central	North East
Place of residence of the woman							
Urban	3.1	1.2	3.7	3.4	4.2	2.1	2.8
Rural	2.6	1.9	2.6	2.5	3.4	1.8	3.6
Religion of the woman							
Hindu	2.7	1.6	2.8	2.8	3.8	1.8	3.3
Muslim	3.0	2.0	2.7	1.9	3.7	3.2	4.9
Christian	3.2	4.5	11.8	6.4	2.6	0.0	2.4
Others	2.5	1.5	4.7	4.7	0.0	0.0	2.0
Caste of the woman							
ST	2.7	2.9	5.2	2.3	1.2	2.0	1.7
SC	2.4	1.0	2.1	3.2	3.5	1.8	3.3
Non-SC/ST	2.8	1.8	3.0	2.8	3.9	1.9	3.6
Standard of living index (SLI) of the household							
Low	3.5	2.6	3.1	3.8	5.4	2.5	3.7
Medium	2.5	1.7	2.4	2.6	3.3	1.9	3.3
High	2.5	1.4	3.4	2.8	3.2	1.5	3.3
Educational status of the woman							
0-7 years	2.6	1.6	2.8	2.8	3.6	1.8	2.9
8 or more years	3.2	1.8	3.2	3.1	4.1	2.3	4.3
Working Status of the woman							
Not working	2.6	1.2	2.7	2.9	4.2	1.7	3.3
Non-professional	2.7	2.2	2.9	2.9	3.2	1.9	3.2
Professional	5.1	2.7	8.1	3.2	5.4	6.0	6.3
Age at marriage of the woman							
<15 years	2.1	2.1	1.9	1.8	3.1	1.7	2.3
15-18 years	1.9	1.2	2.2	1.8	2.8	1.3	1.5
19-21 years	2.9	1.5	3.2	3.5	3.1	3.0	1.8
>21 years	6.9	2.2	11.6	7.2	7.3	5.4	7.4
Body Mass Index (BMI) of the woman							
<18.5	2.2	1.9	2.2	1.7	2.7	1.9	3.0
18.5-25.0	2.9	1.5	3.4	3.2	4.0	1.7	3.9
>25.0	3.1	2.0	3.0	3.4	4.1	2.4	2.1
Substance use by woman							
Non-users	2.8	1.8	2.9	2.9	3.8	1.8	4.1
Users	2.6	0.7	2.9	3.0	2.9	2.3	2.7
Experience of any reproductive morbidity							
Absent	2.8	1.5	3.0	3.0	3.8	1.9	3.4
Present	2.3	2.8	2.1	1.9	2.8	1.9	3.3
Overall	2.7	1.7	2.9	2.9	3.7	1.9	3.4
N	38372	5227	8157	5738	9466	8385	1403

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