The Role of Social and Cultural Capital in Fertility Preference and Contraceptive Use

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Ideational theories explore the extent to which changes in fertility and nuptiality can be explained by the spread of certain knowledge, attitudes, and values. Cultural factors had a role to play in the demographic transition of European nations (for instance, Lesthaeghe 1978). Cultural factors, defined as language, religion, customs and values have been shown to have an impact on adoption of family limitation and other novel behaviors. Also, timing of fertility transition is more strongly associated with social factors such as literacy than to economic factors. The fertility patterns are similar in culturally homogenous groups suggesting the importance of diffusion across such groups (Cleland and Wilson 1987).

Research in India also gives credence to cultural diffusion theories as it shows that fertility levels are similar in contiguous districts that transcend administrative boundaries of states and are conditioned by socio-cultural and historical factors (Bhat 1996). Such regional variations in fertility suggest that state specific models of transitions are inadequate in their explanations. A more detailed review indicated that the transitions were faster in a contiguous belt comprising the southern states. The poorer performance of some northern states in achieving fertility transitions could be due to the slower rate of diffusion as people have limited access to mass media and outreach work by health officials (Bhat and Zavier 1999).

Diffusion theories have been broadly defined as a model of social change in which attitudes and behaviors become more prevalent in a population through diffusion, either through informal face-to-face interactions or through the mass media (Rogers, 1962, Brown 1981 in Casterline 2001). Bongaarts and Watkins theorize that '*social interaction provides a powerful force that accelerates the pace of transition in a community, once contraceptive behavior has been adopted by the innovators grou*p' (1996). Research has shown that contraceptive information is discussed and diffused through social networks.

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[1] An earlier version of this paper was presented at American Sociological Association, Atlanta, 2010.

Research has been carried out in several nations such as Kenya, Thailand and Bangladesh to name a few (Entwisle et al. 1996; Kincaid 2000).

Much of this research can be included under the broad social effects framework, which has been developed to include the causal impacts of innovation diffusion among other determinants of fertility (Casterline 2001). Various types of social effects have been discussed in the literature, which focus on the mechanisms involved in influencing attitudes and behavior of people affecting fertility such as social influence and social learning. A related although distinct social construct - social capital is also included under the broader domain of social effects. Social capital refers to access to resources provided from social relations. This paper reviews two possible mechanisms that can influence fertility preferences – social capital and cultural capital.

THEORY AND REVIEW OF LITERATURE:

Research in Kenya has shown that family planning and fertility preferences are discussed in homogenous groups. Interactions occur largely among people who lived in similar contexts and had similar characteristics. However, social networks had an impact even after controlling for unobserved characteristics like homophily i.e. accessing homogenous networks that determine the nature of social networks (Behrman Kohler and Watkins 2002). Qualitative research has also shown that people sought those in their networks, who were using contraceptives in order to gain more information, especially if they were also planning to use it themselves (Watkins and Warrier 2000). Research in Thailand also gives merit to this argument. The phenomenon of method dominance exists in villages wherein a certain method of contraception gains merit at the village level and is adopted by the village. Since information is shared within the village networks even neighboring villages display very different contraceptive preferences. The more people gain information about a particular mode of contraception from village members who use it successfully, the more likely they were to adopt it themselves. It has been labeled as the phenomenon of 'informational increasing returns' (Entwisle et al. 1996). The effect of early innovators is especially strong as they interact with a large number of people but once the innovation has been diffused, the marginal effect of an additional innovator declines (Behrman et al. 2002).

The exchanges in networks are not limited to information alone but also include for instance, the implications of changes in family size preferences and other determinants of demand for children (Watkins et al. 1995). Attitudes as well as outcomes with respect to contraception as well as health are affected by the strength of associations, community norms and knowledge available through social networks (Kunitz 2001).

The focus of this paper is on the social capital that resides in networks rather than on the networks themselves and how change is transmitted through networks. Lin (1982) defines *social capital as resources embedded in social networks*. These social resources are not possessed goods of the individual but are resources that are accessible through one' s direct and indirect ties. Operationally it can be measured as the sum of resources available to individuals or as value or quality of resources accessed and used (Lin 2004). In more recent work on social capital, the *extent of diversity of resources embedded in one's networks* has received the most emphasis (Lin 2004). Lin makes an important distinction between social networks and social capital – social networks are a basis for social capital. Social capital is also used to denote trust, norms and networks that facilitate cooperation and coordination for mutual benefit (Putnam 2000). Putnam explains the utility of community levels of social capital; "*a well-connected individual in a poorly connected society is not as productive as a well-connected individual in a well-connected society.*" This public-goods aspect of social capital makes it well suited to study how households can benefit from interpersonal networks and civic associations. Social capital has been employed to study a variety of development outcomes and has been shown to have a beneficial impact (Narayan et al. 1999; Cotter et al. 2000).

Research from Nepal shows that participation in a range of voluntary development associations and living in a neighborhood with a voluntary association increased permanent contraceptive use. Interestingly, participation in different types of voluntary associations had a similar relationship with contraceptive use (Barber, Pearce, Chaudhury and Gurung 2002). The presence of a voluntary organization in a neighborhood having a positive impact on contraceptive prevalence suggests that norms and values are transmitted through networks in a village or that the kinds of villages that attract

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voluntary associations are the kinds of villages that also likely pioneers in contraceptive use.

However, literature also highlights the possible negative impact of social capital such as its role in the reinforcement of traditional attitudes and behavior -- as Caldwell et al., (1987) documented for sub- Saharan Africa. Social networks and extended family reinforced traditional beliefs so that women faced pressure to adhere to traditional fertility norms. Social capital is influenced by the macro level institutions such as patriarchy, religion and caste and must be situated within this larger framework. Whether social capital reduces fertility through diffusion of new norms or restrains fertility change through the reinforcement of traditional norms depends on the broader normative climate pertaining to family size. I expect that greater social capital as manifested in more widespread non- governmental and other development organizations will encourage a smaller family size especially in those Indian contexts where a smaller family is often promoted as a development goal and has been incorporated into other development and poverty alleviation programs.

However, social capital may also have an independent impact on fertility preferences especially for a setting like India. Social associations and networks may exercise an indirect control over women and young couples in traditional, patriarchal societies. Reproductive behavior of young brides is under the scrutiny of seniors, not just of the family but also of the community, who may reinforce traditional norms and encourage higher fertility to achieve sons. Andrist demonstrates that social capital can work to enhance restrictions placed on women's autonomy. *Households that have greater social capital expose themselves to greater scrutiny to the outside world* and impose patriarchal norms on their daughters-in-law with respect to their mobility and eating order (2008). Developing this argument further, I believe that women who belong to households with greater traditional form of social capital may desire a greater number of children to meet the societal demands of a son. The social pressures will be exacerbated in joint families where the senior members of the household may exercise more control compared to nuclear families. On the other hand, in areas where small family norms are accepted the pressure may exist to conform to smaller families.

The kind of social capital available will also impact preference. Social capital when related to religious and caste organizations may reinforce traditional attitudes and have a positive impact on wanting another child. Social capital, when measured as associations with development organizations may have a negative impact on desired family size as it may encourage modern ideal of smaller families.

The focus on social networks of the women may also be limiting in scope since it would tap into the concept of social diffusion in networks, which as research shows can be homophilous in character. The participation of the family or any family member in associations may reflect greater heterogeneity of sources of influence. Social capital may therefore have an impact, which could be different from ego centered social networks. Also, in traditional family structures, the family's social capital may be a better measure of the social influences on women as compared to her networks alone.

Cultural capital has been defined as institutionalized, widely shared, high status cultural signals (attitudes, preferences, formal knowledge, behaviors, goods and credentials) used for social and cultural exclusion (Lamont and Laureau 1988). Certain communication styles identify individuals as belonging to upper social strata. Bourdieu (1977) has referred to these skills as cultural capital, a concept that has been used extensively in educational research (e.g. DiMaggio 1982; Farkas et al. 1990). In this paper, cultural capital is not defined by the possession of highbrow culture, exclusive tastes and preferences or knowledge of art. The construct of cultural capital is extended to encompass possession of certain qualities that are transmitted through families and modern education and are important processes in stratification as their possession better enables women to shape their lives.

Cultural capital can be embodied and be reflected in long lasting dispositions of the mind and body (Bourdieu 1985). It can be reflected in the women's behavior, demeanor, knowledge and communication styles. Language and communication styles have been shown to be important components of cultural capital (Lareau 2003). Lareau shows that a parental behavior is heavily influenced by cultural repertoires that vary sharply across social classes.

Communication styles are important as they influence access to health services. In India, as everywhere, the medical system is a high status institution that deters easy access because of the social and cultural gap between the larger population and the institutional personnel. Being familiar with the communication styles, being self-confident in higher status interactions makes access to the medical system easier, which facilitates contraceptive use. Cultural capital is institutionalized in the form of education.

Cultural capital, especially in the embodied and institutionalized form can enable women to be better informed, seek useful information and exercise greater choice. It may enable women to exercise greater control over her fertility preferences especially in societies like India where women have been subjugated to a lower status in the household. The family and the larger community influence their decisions, especially with respect to fertility since son preference is deeply entrenched in patriarchal family structures, which creates significant pressure on young brides to deliver son(s). Studies in India have shown that having a son is an important determinant of future fertility behavior (Vlassoff 1990). Women stop childbearing when they reached or closely approximated their ideal number of sons. Therefore, the quest for a son may lead to higher fertility as well as skewed sex ratios.

Greater cultural capital especially greater awareness, confidence and communication skills may lead to more informed decisions about family size, contraceptive use and hence increase the likelihood of being able to exercise choice with respect to the desired family size. Cultural capital may enable better navigation of the health systems, social constraints as well as societal pressures to have another child.

In the Indian context, cultural capital especially self-confidence and communication abilities are largely gained through investments made by family members. Family members engage in concerted cultivation of their children, which also includes access to education, especially higher education and imparting and enabling daughters to develop these qualities. It remains an axis of stratification because certain classes do not have the wherewithal to equip their daughters with such qualities and the requisite resources that lead to the development of such qualities.

Lastly, fertility can fall to low levels without major changes in the women's lives outside the family once they are provided with greater decision-making power at home (McDonald 2000). However, empowerment may not necessarily lead to lowered fertility in a normative context demanding large families and many sons. If women accept the more traditional normative context, their empowerment would not necessarily reduce fertility in those contexts. On the other hand, if women adopt a smaller family size ideal empowerment would be of special significance in the high fertility region.

Gender relations, especially the autonomy exercised by women, would enable her to access networks and exercise her choice. Also, in a context like India, where patriarchal structures limit the resources available to women – a measure of her empowerment will be an important factor to include in this study. Improved autonomy of women leads to greater familiarity with contraceptive methods as well as its adoption (Mason 1993).

H1: Social Capital will have a significant impact on fertility preferences and contraceptive use. However, the direction of the impact can depend on the broader social and normative context. There can be pressure to conform to the two-child family in an area where small families have been adopted as a norm; or social capital could operate in the opposite direction wherein the pressure may exist to have a higher number of children especially sons.
The kind of social capital will also define the direction of impact. Development social capital i.e. associations with development organizations should have a negative impact on desiring an additional birth. Associations with religious and caste organizations tied to traditional and more patriarchal norms should reinforce traditional attitudes and have a positive impact on wanting another child especially in order to gain more sons and limiting contraceptive use.

H2: Greater cultural capital may have a negative impact on wanting another child. Greater cultural capital could operate in two ways: first, it would enable women to gain access to information and services that would help limit her fertility (such as seeking information at the local health centre about modern contraception methods). Secondly, it could also help negotiate her choice with senior family members and the husband.

However, if women desire a higher number of sons they could use these same cultural capital resources to gain more sons.

H3: Gender empowerment may have a negative association with high fertility. Practicing purdah or veiling is representative of traditional beliefs and customs and therefore maybe associated with higher fertility. Having a say in one's own fertility decisions may have a negative association with desiring an additional birth in a normative context wherein smaller families are desirable. However, greater empowerment could be used to achieve a large family, if the woman so desires. Empowerment can also be used to gain more sons.

Causality may be difficult to ascertain in this analysis since having access to better social networks, higher cultural capital and empowerment may well be factors of higher economic capital. Even though standard of living and highest male educational attainment can be controlled for, there are still unmeasured variables that are likely to be related to both higher social and cultural capital and to lower fertility and contraceptive use. As mentioned earlier, the data for social capital is available for the household and not for the eligible women interviewed. However, I make the argument that if the household is more connected, the women in the household are more likely to have access to social capital than those households with lesser contacts.

DATA AND METHODS:

This analysis uses the India Human Development Survey 2005 (IHDS), which has detailed information on social, cultural and economic capital available to the household. The IHDS is a nationally representative survey of 41,554 households, in urban and rural India, across all the states and union territories[2] and has been designed to include a variety of topics. It contains information from 33,480 ever-married women in the reproductive age group of 15-49 years and includes information about their fertility preferences and contraceptive use, as well as their families' association memberships, the women's cultural capital and detailed empowerment measures.

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[2] with the exception of Andaman Nicobar and Lakshadweep

The survey was carried out in face-to-face interviews and contained several modules. The two used in this study are:

1. An interview with a knowledgeable informant typically the head of the household regarding socio-economic condition of the household including income, their networks and associational memberships, employment, educational status etc.
2. An interview with an ever-married woman aged 15-49 regarding health, education, fertility, family planning, marriage, and gender relations.

Methods and Analysis:

All analysis was conducted using a district-level weight provided in the dataset. Multivariate logistic regressions were carried out using STATA IC 10.

The dependent variables are operationalized as dichotomous variables: whether women want an additional child after having two children that are alive at the time of the survey and whether women are currently using any contraception.

India is a country with immense diversity reflected in wide variations in total fertility. The country is divided in two halves for the purpose of this analysis: High fertility region of the country – which includes the most populous states of the north, central India as well as states in the east, and the low fertility region which largely include the southern and western states.

Even though the role of social capital is to transmit information and norms to individual households its influence is dependent on the normative context. It should reduce fertility only in regions where the prevailing information and norms support low fertility. To be tied into networks in the high fertility regions that do not necessarily support low fertility may not have much of an impact on fertility limitation. The country is divided into two regions in an attempt to capture regional influences. I have roughly followed the Dyson and Moore division of the country into two halves where they use the *Satpura* mountain range as a natural division (1983). The sex ratios above this mountain range are also more skewed, as the north of the country is more patriarchal in its outlook. I however, make a change in their classification by categorizing Gujarat as belonging to the low fertility

region because as it is increasingly becoming similar to the developed south and ranked 6th of 28 Indian states using the Human Development Index (HDI), the TFR is also going down steadily and levels of contraceptive use match those of the low fertility states (NHFS 3). It is on the edge of the *satpura* range but towards the north. Orissa has been classified as belonging to high fertility region though it falls in the southern peninsular region adjoining the *satpura* range, because of its poorer development indices (rank 11th of 28, using the HDI) and contraceptive prevalence similar to states in the high fertility region (NFHS 3). The model is run separately for the two regions. To test the significance of interactions between the two regions, a flag for living in the north is created and the model is run with each of the variables and an interaction term for every variable with the flag for the north. Each set of independent variables i.e. social capital, cultural capital and empowerment is also analyzed separately after controlling for relevant factors such as caste, religion and key demographic information about the household.

Dependent Variable:

The first DV measures whether women want an additional child after having two children that are alive. I use fertility intention as a predictor of future fertility. Research has found individual reproductive intention to be strongly predictive of additional births in comparison to other demographic and social indicators (Westoff and Ryder 1977).

The second DV refers to current contraceptive use. The respondents were asked if they were using any methods to prevent pregnancy. If they were using any method, they are coded as practicing contraception.

Fertility continues to decline in India as shown by the recent Demographic and Health Survey i.e. National Family Health Survey III. The current total fertility rate (TFR) of 2.7 is lower than the TFR of 2.9 children per woman at the time of NFHS-2. In urban areas, the TFR has reached replacement levels (2.1), but in rural areas the TFR is 3.0 (NFHS 3 Report). Therefore, it would be interesting to look at the attitudes and preferences of women towards a third birth and to see if social influences are a significant factor predicting it. Two-child family is the recommended norm and is increasingly being

realized by families in India. Those families that go beyond the second child are somewhat distinct from those that limit their fertility to two children.

Analytical Sample:

The sample contains ever-married women in the age group of 15 to 49 years who have two children that are alive at the time of the survey. Couples have been encouraged to have two children and small family sizes have been promoted in the national population policy, 2000 as well as the tenth five year plan (2002-2007). "Hum do, Hamare do" which translates into "We two, ours two" to "Chotta parivar, Sukhi parivar" which means "small family, happy family' are slogans that have been promoted over a period of time. This national message has been advertised across the country and implemented along with a wide range of family welfare programs, which have been expanded to include the ICPD agenda of broader development goals.

The sample includes women who have two children that are alive at the time of survey because those women who have experienced a larger number of births are not useful subjects in this study as they already have a large number of children and may not be in position to either exercise choice or may actually desire a large number of children and seek networks that reinforce that behavior. Currently pregnant women are excluded as the pregnancy could have been planned or unplanned and preferences may change to reflect the current state. Those women who themselves have been sterilized or their husbands have been sterilized have been included as it captures their preference to do so. However, women who are no longer fertile have been excluded from this analysis. The total number of women in this sample amounts to 7217 for the first dependent variable – desire for a third birth and 6986 for the second dependent variable i.e. current contraceptive usage.

Studies have shown that in patriarchal societies like India, having a son is an important determinant of future fertility behavior. Research shows that families belonging to higher socio-economic status exercise son preference while keeping the family small through sex selective abortions resulting in highly skewed sex ratios at birth (Das Gupta and Bhatt 1997). These women have probably exercised their preference and will be likely to limit their family once they have achieved the ideal number of sons. However, it is hard to

control for those that have practiced sex selective abortions to keep their families small. A variable indicating if the woman has at least one son is added to the model to shed some light on the issue of son preference.

The Independent Variables:

The measure of social capital is based on the number of groups or associations that anybody in the household participates in. Social network measures for the women are not available and therefore we use social capital of the household as a measure of social capital accessible to the women. Respondents were asked nine questions about their family members' participation in social organizations. "Does anybody in the household belong to": 1) women's group 2) youth club, sports group, or reading room; 3) trade union, business or professional group; 4) self help group; 5) credit or savings group; 6) religious or social group or festival society; 7) caste association; 8) Development group or NGO; and 9) Agricultural, milk, or other co-operative. I use these nine dichotomous variables to construct two additive indexes of associational membership of the households. Religion and caste organizational memberships are separated from memberships in development/self help group organizations, as their impact might be in opposing directions. Participation in caste and religious groups might reinforce traditional norms and preferences however; participation in development organizations might suggest a shift in values and a move toward modernization. Cronbach's alpha suggests that both the indexes have reasonable estimates of reliability: Religious and caste group index has a reliability of .592 and development memberships index has a reliability of .586.

The distribution of the memberships differed significantly by class as is evident by the graph below. The middle and the rich clearly have access to more social capital. The poorer quintiles have lower social capital but interestingly they have more religious capital than development capital.

Figure 1
Distribution of Social Capital according to Standard of Living
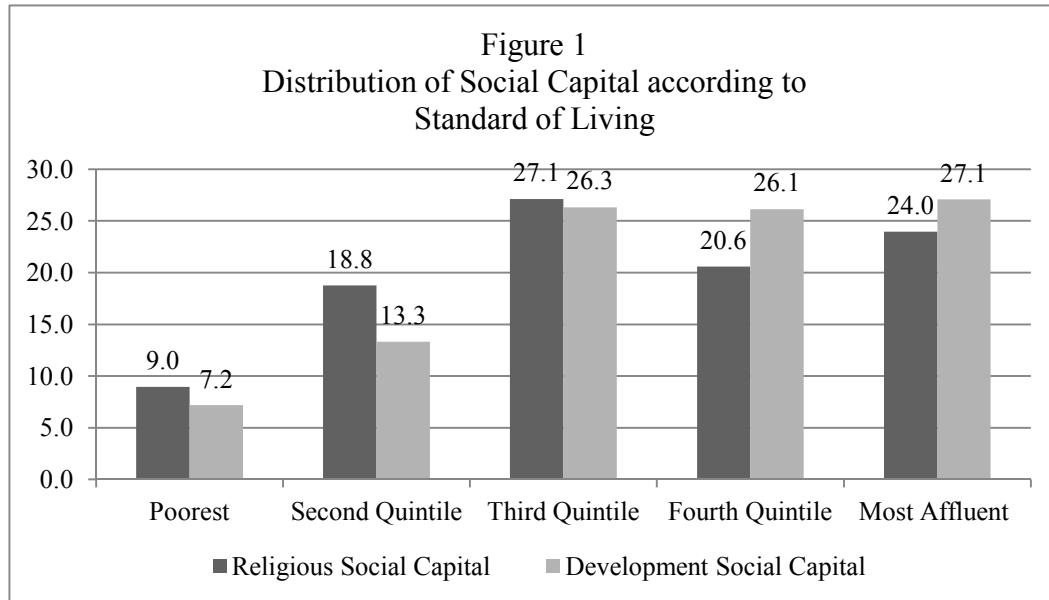
The second independent variable is a measure of self-efficacy for the women. It is constructed by adding up five measures of the women's communication abilities, confidence and overall knowledge as judged by the interviewer. The scale has five items, which measured the following - whether she understood the purpose of the interview; whether she had any difficulty understanding the questions; whether she looked directly at the interviewer and clearly responded to the questions; whether she was knowledgeable about health and education expenditure and whether she appeared confident. The row means were taken to construct this index and it has a Cronbach's alpha of .74. As is evident from the table below, self-efficacy scores increases with standard of living.

Distribution of Cultural Capital according to Standard of Living	
	Mean of Self Efficacy Scale (0 -2)
Poorest	1.55
Second Quintile	1.57
Third Quintile	1.65
Fourth Quintile	1.75
Most Affluent	1.78

Education is conceptualized as a measure indicating cultural capital. It influences women in a variety of ways: education leads to improved knowledge, enhanced self confidence, greater ability to negotiate for resources (Caldwell 1979; Levine, 1987); education improves receptivity to non-traditional modes of learning as well as helps in adoption of newer behaviors (McDonald 2000). Though education is not a resource that is available

to all girls in gender-stratified societies, it still has a powerful impact on fertility; female education is inversely related to fertility, especially at the individual level (Jejeebhoy 1995). Even in rural areas with few opportunities for women to work for pay, women's education leads to lowered fertility suggesting that higher education has an impact larger than increased opportunity cost due to women's participation in the labor force (Sathar and Mason 1993).

The third set of independent variable measured two dimensions of empowerment of the woman. The respondents were asked if she had a say in the number of children she would have. 81% of the women had a say in this decision but it is important to note that 78% of husbands had the most say in this decision as compared to only 18% of the respondents[3]. Purdah/ veiling was also included as a measure of empowerment. 45% of the women in the sample practice veiling.

Control Variables:

Relevant controls such as the respondent's age and education, the highest education received by men in the household, religion, caste, area of residence (urban or rural) as well as family category are included in the analysis. The inclusion of mass media in the model was contemplated upon but it was challenging to ascertain what its impact might be since traditional norms are promoted along with modern norms on TV and radios.

In India, girls suffer from pervasive neglect and discrimination and it is reflected in higher mortality among girls as well as skewed sex ratios at birth (for instance, Das Gupta 1987; Das Gupta and Bhatt 1997). Excess mortality of girls has been observed to be concentrated among higher parities in South Asia (Das Gupta 1987). For this reason, a variable that measures whether the woman has had at least one son been introduced. Only 7% of women who have at least one son desire a third birth as opposed to 29.3% of women without any sons.

Lastly, standard of living is included to reflect the long-term economic status of the household. The IHDS calculated a household's standard of living based on 30 housing

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[3] "Most say in the number of children to have" was not included because it led to a loss of a significant number of cases.

amenities and household goods (includes flush toilet, cooking gas, electricity and household goods).

Results: Multivariate Logistic Regression for Desire for a Third Child

As expected, social capital does have a significant impact on future fertility preferences. But the type of social capital is crucial. The direction of the impact gives credence to the argument that social and religious organizations reinforce traditional norms as they have a positive and significant impact on wanting another child. However, social capital, when measured as associations with development organizations, has an opposite impact. Such organizations encourage modern modes of thought as well as provide households with greater access to other resources such as knowledge about contraceptives, in turn encouraging smaller families. These organizations could also pressure its members, either directly or indirectly to conform to the two-child family norm.

The results show that development social capital has a significant impact although the interaction term with region is not significant in the analysis suggesting that the impact of these development organizations restrains fertility in all sections of the country. However, religious and caste social capital has a significant interaction with region. Membership in these associations seems to encourage fertility only in the South, where larger families are not normative. The calculated effect in the North is negligible.

It was hypothesized that cultural capital of women, namely greater communication abilities, confidence and education would enable her to exercise greater control over her fertility preferences. However, the self-efficacy index and its interaction term are not significant in this analysis. Women's education has the expected negative association with wanting a third child. But the interaction term is not significant suggesting the influence does not vary by region.

Purdah has a significant and positive association with desiring a third child and the influence varies by region. The association is stronger in the low fertility region as *Purdah* represents a more constrained environment as well as a traditional way of life in an otherwise more liberal environment of south and western India. *Purdah* has a more

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limited influence in the high fertility region, as the disadvantages associated with the *Purdah* are not unique to the group that practices veiling.

Control variables:

Living in a joint family has a positive association with desiring the third child and this effect does not vary by region. The age of the respondent has a significant impact on wanting another child. The interaction term is significant which suggests its impact varies for the two regions. The age of the women is significant because as women grow older they gain more control over their lives (Sen et al. 2005). It could also be a factor of older women being further past their youngest child. In India the trend is to have children early after marriage and cease soon after. Higher ages may mean that older women have actually completed their desired fertility (Visaria 2004).

Having a son has a strong association with desiring a third child that is present in both regions. However, the coefficient may be stronger in the high fertility northern region, probably due to the fact that the north of the country is far more patriarchal than the south, which is more egalitarian in its outlook. Highly skewed sex ratios are observed mainly in the north. North has a much stronger son preference as roughly half of the married women living in the populous northern states of Bihar, Rajasthan and Uttar Pradesh reported that they wanted more sons than daughters as opposed to less than 10 percent in Tamil Nadu (Visaria 2004).

The standard of living has a negative impact on desiring a third birth and it does not vary by region. Despite the extra resources available, the families with the highest standards of living are those who want to concentrate those resources on a smaller number of children.

Caste is not a significant factor for either of the regions. Among religions, only being Muslim has a strong negative association with the dependent variable but this relationship ceases to be significant when empowerment variables are added to the equation[4]. The practice of *purdah* probably explains the negative association of Muslim and desiring a third child.

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[4] Refer to Appendix 2 for this analysis.

Results: Multivariate Logistic Regression for Desire for Contraceptive Use

As expected, social capital does have a significant impact on contraceptive use and it does vary by the kind of social capital. Even in this analysis, social and religious organizations reinforce traditional norms as they have a negative impact on contraceptive use. However, social capital, when measured as associations with development organizations, has an opposite impact. Membership in such organizations is associated with contraceptive use. The social capital results have a significant interaction with region, which suggests that their impact varies by region. Membership in these associations seem to determine contraceptive behavior only in North, where larger families are normative, overall development poor and service provision weak.

It was hypothesized that cultural capital of women, namely greater communication abilities, confidence and education would be associated with contraceptive use. The self-efficacy index and its interaction term are significant in this analysis. This suggests that communication skills and confidence are successful in enabling women to exercise fertility control but this effect varies by region. It is in the north where this effect is significant, a region marked by low empowerment for women. In such a region higher cultural capital is associated with contraceptive use as women use this cultural capital to control their family size. Women's education has the expected positive association with contraceptive use in the north only. This is not surprising since the southern states are close to replacement TFR and education is less influential factor in fertility decisions.

Control variables:
Living in a joint family has a negative association with contraceptive use and this effect does not vary by region. The age of the respondent has a positive impact on contraceptive use only in the north of the country. It could be because older women are less likely to want more children. As mentioned earlier, higher ages mean that older women have actually completed their desired fertility (Visaria 2004). Standard of living has a positive association with contraceptive use throughout the country. This is not a surprising finding as economic resources make contraceptive information and services more accessible all over the country.

Having a son has a positive association with contraceptive use that is present in both regions. However, the coefficient is stronger in the high fertility northern region, probably due to the fact that the north of the country is far more patriarchal than the south, which is more egalitarian in its outlook.

Surprisingly and different from analysis for desire for a third child, caste is a significant factor for contraceptive use. Other backward classes are less likely to use contraception in the South of the country and schedules tribes are less likely to use contraceptives throughout the country. Among religions, Muslim has a strong negative association with the dependent variable and this effect is true for the entire country. Christians are less likely to be using contraceptives only in the South of the country.

DISCUSSION:

'Do you want to have any more children?' is a loaded question in India. Pervasive family planning propaganda ensures that women know the socially desirable responses particularly so if they develop a good rapport with the interviewer.   This is especially true in the South where the fertility transition occurred much earlier.

Social capital plays a role in how these norms are followed. But it makes a crucial difference what types of social capital a woman's family is connected to and where she lives to understand how social capital actually affects fertility plans. Ties to development organizations expose women to modern norms and reduce the number of children desired. Ties to more traditional organizations and to traditional practices, not surprisingly, act in the opposite direction: more traditional ties to religious and caste organizations lead to higher desired fertility.

However, the results for contraceptive use are significant only for the north for social capital. The effect of development social capital on contraceptive use is significant only in the high fertility region. This is not surprising because in resource-deprived region of the north, development organization offer a great advantage. In the South, where family planning services are more accessible, this relationship is not significant. For desiring a third birth, development social capital had a negative association for the entire country.

Religious and caste based social capital has a negative association with contraception use only in the north whereas it had positive association with a desiring a third child only in the South. It is challenging to reconcile these results. Such organizations may influence preferences in the South, because of pervasive small family norms where these organizations provide support to resist such norms. However, it is negatively associated with contraceptive use only in the north because the TFR is much higher in the region. Since, desired fertility is often more than three children for several regions in the north, the desire for a third child may not necessarily be associated with religious and caste social capital but it nevertheless promotes higher fertility, which is reflected in the negative relationship of contraception with traditional social capital.

The practice of *purdah*, which is an outward marker of traditional ties, also leads to higher planned fertility. What is surprising here is that these ties are especially important in the south where higher fertility runs against the grain of conventional practice. It would appear here that the social capital resources are not so much conduits of new fertility norms (as they have appeared in much of the demographic literature) but sources of strength to help resist the prevailing pressures towards smaller families. However, *purdah* practice is not significantly associated with contraceptive use in the final model.

Cultural capital, as reflected in communication skills and awareness, is associated with contraceptive use. It is not associated fertility preferences and this might suggest that women use their communication skills to practice fertility control. Communication skills, not surprisingly, are not associated with preferences since desires are personal and do not require negotiation.

An interesting step forward would be to create the social capital variables at the macro level: districts or even villages. This would help reduce the endogeneity problems and would be more consistent with the Putnam take on social capital as a collective good.

There is inconclusive evidence that female empowerment also has differential effects in the high fertility North than the low fertility South. In the North, women who are more empowered in having a say in the number of children, may use that greater empowerment to have *more* children in keeping with the high fertility norms there. In the south,

however, women may use their empowerment to plan fewer children, in keeping with the lower fertility norms there. So, the issue seems to be not so much a direct relationship of empowerment with lower fertility, but empowerment to realize the local norms: more children in the North, fewer in the South.

Limitations and extensions:

For PAA, I also intend to extend this analysis to study son-preference in addition to the preference measure. The third measure shall look at the desire for another son. This would be calculated as the difference between the number of existing sons and ideal number of sons for those women who desire a third birth.

Lastly, the problem of self-selection in the study cannot be dismissed. Participation in these organizations is largely voluntary and therefore those people who are associated with development organizations may also be more likely to limit their fertility. It is possible that families that have memberships in development organizations reduce their fertility because of the norms and information they receive from these organizations. On the other hand, families who already have low fertility could be more likely to join those development organizations that support their self-identity of being modern and progressive. This relationship may overstate the causal relationship between social capital and fertility control.

CONCLUSION

I explore the impact of social and cultural factors on desiring a third child and find that social capital has a significant impact on fertility preferences. This study highlights the need to distinguish between the kinds of social capital, for ties to traditional social capital operate differently from development social capital. Development social capital has the expected effect and negatively impacts the desire to have a third birth.

This study also highlights that social capital varies according to the normative social context of the region, in that whether social capital reduces fertility through diffusion of new norms, or restrains fertility change through the reinforcement of traditional norms. This analysis highlights that greater traditional social capital is positively associated with higher planned fertility especially in the low fertility region since it helps resist the

prevailing pressures towards smaller families. It is also associated negatively with contraceptive use in high fertility regions.

The effect of patriarchy is also evident, as having a son already has a strong and negative impact on desiring another child in both the regions and is more prominent in the patriarchal north as compared to the south. In the south as well, having a son is negatively associated with desiring a third child, suggesting that the south is not as gender neutral as it is often made out to be.

Table of Weighted Means and Standard Deviations:

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
Whether they desire another child	7217	0.097	0.297	0	1
Current Contraceptive Use	6986	0.647	0.478	0	1
Social Capital (Associations with Development Organizations	7217	0.470	0.930	0	6
Social Capital (Religious and Caste association)	7217	0.281	0.575	0	2
Cultural Capital Scale	7217	1.681	0.368	0	2
Say in the decision to have a child	7217	0.809	0.393	0	1
Purdah/ Veiling	7217	0.448	0.497	0	1
Education of the woman	7217	5.513	4.890	0	15
Age of the woman	7217	31.914	7.238	17	49
Standard of Living (Quintiles)	7217	3.342	1.337	1	5
Family Category	7217	1.432	0.495	1	2
Urban	7217	0.347	0.476	0	1
Highest education received by men in the Household	7217	7.731	4.899	0	15
Have at least one son	7217	0.859	0.348	0	1
Brahmin	7217	0.057	0.232	0	1
Other Backward Castes	7217	0.415	0.493	0	1
Scheduled Castes	7217	0.187	0.390	0	1
Scheduled Tribe	7217	0.058	0.234	0	1
Other Caste	7217	0.282	0.450	0	1
Hindu	7217	0.848	0.359	0	1
Muslim	7217	0.082	0.274	0	1
Christian	7217	0.039	0.194	0	1
Other Religions	7217	0.031	0.172	0	1
North	7217	0.490	0.500	0	1

RESULTS FOR NORTH AND SOUTH AND SIGNIFICANCE OF INTERACTION
VARIABLES FOR DESIRE FOR A THIRD CHILD:

	South (Low fertility region)	North (High fertility region)	Significance of interaction variables[5]
Social Capital (Associations with Development Organizations	-0.526***	-0.249	NS
Standard errors	(0.13)	(0.134)	
Social Capital (Religious and Caste association)	0.366**	-0.053	*
	(0.141)	(0. 161)	
Woman's Self Efficacy Index	-0.278	-0.364	NS
	(0.245)	(0.213)	
Respondent has a say in the number of children	0.368	-0.333	*
	(0.241)	(0.208)	
Purdah/ Veiling	1.088***	0.211	***
	(0.206)	(0. 183)	
Education of the woman	-0.0911***	-0.067**	NS
	(0.0277)	(0.025)	
Age of the woman	-0.187***	-0.138***	*
	(0.0164)	(0.0164)	
Standard of Living (Quintiles)	-0.204*	-0.139	NS
	(0.0992)	(0.0991)	
Family Category (Joint)	0.591**	0.403*	NS
	(0.218)	(0.176)	
Urban	-0.043	0.182	NS
	(0.226)	(0.174)	
Highest education received by men in the Household	0.047	-0.012	NS
	(0.0266)	(0.0269)	
Have at least one son	-1.854***	-2.339***	NS
	(0.199)	(0.175)	
Caste (Reference: Brahmin)			
Other Backward Caste	1.115	0.536	NS
	(1.099)	(0.296)	
Scheduled Caste	1.524	-0.055	NS
	(1.12)	(0.354)	
Scheduled Tribe	0.833	0.517	NS
	(1.151)	(0.392)	
Other Castes	1.934	-0.053	NS

[5] The full interaction model is presented in Appendix 1

	(1.101)	(0.345)	
Religion (Reference: Hindu)			
Muslim	0.548	0.870	NS
	(0.312)	(0.28)	
Christian	1.251	0.540	NS
	(0.66)	(0.491)	
Other Religions	-0.015	0.286	NS
	(0.569)	(0.358)	
Constant	2.593	4.289***	
	(1.337)	(0.691)	
Observations	3415	3802	

*** *p*<0.001, ** *p*<0.01, * *p*<0.05. Robust Standard Errors reported in parenthesis.

RESULTS FOR NORTH AND SOUTH AND SIGNIFICANCE OF INTERACTION VARIABLES FOR CONTRACEPTIVE USE[6]

	South (Low fertility region)	North (High fertility region)	Significance of interaction variables[1]
Social Capital (Associations with Development Organizations	-0.0624	0.579***	***
Standard errors	(0.0478)	(0.0979)	
Social Capital (Religious and Caste association)	-0.0372	-0.679***	***
	(0.0797)	(0.0930)	
Woman's Self Efficacy Index	-0.221	0.811***	***
	(0.177)	(0.135)	
Respondent has a say in the number of children	-0.0822	0.147	NS
	(0.133)	(0.133)	
Purdah/ Veiling	0.102	-0.0123	NS
	(0.138)	(0.108)	
Education of the woman	-0.0176	0.0528***	NS
	(0.0141)	(0.0136)	
Age of the woman	0.0163	0.0153*	NS
	(0.00839)	(0.00746)	
Standard of Living (Quintiles)	0.141*	0.0424	NS
	(0.0578)	(0.0534)	
Family Category (Joint)	-0.271*	-0.187	NS
	(0.115)	(0.102)	
Urban	0.435***	0.0539	*
	(0.121)	(0.117)	
Highest education received by men in the Household	-0.0335*	-0.0305*	NS
	(0.0140)	(0.0138)	
Have at least one son	0.411**	0.570***	NS
	(0.130)	(0.130)	
Caste (Reference: Brahmin)			
Other Backward Caste	-0.860**	-0.0649	*
	(0.313)	(0.166)	
Scheduled Caste	-0.647	0.145	*
	(0.342)	(0.187)	
Scheduled Tribe	-0.854*	-0.487	NS

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[6] The full interaction model is presented in Appendix 1

	(0.391)	(0.261)	
Other Castes	-0.483	0.235	*
	(0.312)	(0.168)	
Religion (Reference: Hindu)			
Muslim	-0.764***	-0.415*	NS
	(0.213)	(0.162)	
Christian	-0.533**	0.665	**
	(0.203)	(0.399)	
Other Religions	-0.177	-0.529**	NS
	(0.449)	(0.202)	
Constant	1.523**	-1.998***	NS
	(0.581)	(0.433)	
Observations	3281	3705	

*** $p<0.001$, ** $p<0.01$, * $p<0.05$. Robust Standard Errors reported in parenthesis.

Appendix 1: FULL MODEL FOR DESIRE FOR A THIRD CHILD

	Full Interaction model
Social Capital (Associations with Development Organizations	-0.526***
	(0.13)
Development Social Capital * North	0.277
	(0.186)
Social Capital (Religious and Caste association)	0.366**
	(0.141)
Religious Social Capital * North	-0.419*
	(0.214)
Woman's Self Efficacy Index	-0.278
	(0.245)
Self Efficacy index * North	-0.087
	(0.324)
Say of the respondent in the number of children	0.368
	(0.241)
Number of Children * North	-0.701*
	(0.318)
Purdah/ Veiling	1.088***
	(0.206)
Purdah* North	-0.877***
	(0.276)
Education of the woman	-0.0911***
	(0.0277)
Women's Education*North	0.024
	(0.0373)
Age of the woman	-0.187***
	(0.0164)
Women's Age* North	0.0487*
	(0.0231)
Standard of Living (Quintiles)	-0.204*
	(0.0992)
Standard of Living * North	0.065
	(0.135)
Family Category (Joint)	0.591**
	(0.218)

Family Category* North	-0.188
	(0.28)
Urban	-0.043
	(0.226)
Urban*North	0.225
	(0.285)
Highest education received by men in the Household	0.047
	(0.0266)
Highest Education Male* North	-0.059
	(0.0379)
Have atleast one son	-1.854***
	(0.199)
Have atleast one son * North	-0.485
	(0.266)
Caste (Reference: Brahmin)	
Other Backward Caste	1.115
	(1.099)
Other Backward Caste*North	-0.579
	(1.138)
Scheduled Caste	1.524
	(1.12)
Scheduled Caste* North	-1.579
	(1.175)
Scheduled Tribe	0.833
	(1.151)
Scheduled Tribe*North	-0.316
	(1.216)
Other Castes	1.934
	(1.101)
Other Castes* North	-1.987
	(1.154)
Religion (Reference: Hindu)	
Muslim	0.548
	(0.312)
Muslim* North	0.322
	(0.419)
Christian	1.251
	(0.66)
Christian* North	-0.711
	(0.822)
Other Religions	-0.015

	(0.569)
Other Religion*North	0.301
	(0.672)
North	1.697
	(1.505)
Constant	2.593
	(1.337)
Observations	7217

*** p<0.001, ** p<0.01, * p<0.05

FULL MODEL FOR CURRENT CONTRACEPTIVE USE

	Full Interaction model
Social Capital (Associations with Development Organizations	-0.0624
	(0.0478)
Development Social Capital * North	0.641***
	(0.109)
Social Capital (Religious and Caste association)	-0.0372
	(0.0797)
Religious Social Capital * North	-0.642***
	(0.123)
Woman's Self Efficacy Index	-0.221
	(0.177)
Self Efficacy index * North	1.032***
	(0.223)
Say of the respondent in the number of children	-0.0822
	(0.133)
Number of Children * North	0.229
	(0.188)
Purdah/ Veiling	0.102
	(0.138)
Purdah* North	-0.114
	(0.176)
Education of the woman	-0.0176
	(0.0141)
Women's Education*North	0.0705***
	(0.0196)
Age of the woman	0.0163
	(0.00839)
Women's Age* North	-0.00100
	(0.0112)
Standard of Living (Quintiles)	0.141*
	(0.0578)
Standard of Living * North	-0.0989
	(0.0787)
Family Category (Joint)	-0.271*
	(0.115)

Family Category* North	0.0841
	(0.153)
Urban	0.435***
	(0.121)
Urban*North	-0.381*
	(0.168)
Highest education received by men in the Household	-0.0335*
	(0.0140)
Highest Education Male* North	0.00302
	(0.0197)
Have atleast one son	0.411**
	(0.130)
Have atleast one son * North	0.159
	(0.183)
Caste (Reference: Brahmin)	
Other Backward Caste	-0.860**
	(0.313)
Other Backward Caste*North	0.795*
	(0.354)
Scheduled Caste	-0.647
	(0.342)
Scheduled Caste* North	0.792*
	(0.389)
Scheduled Tribe	-0.854*
	(0.391)
Scheduled Tribe*North	0.367
	(0.470)
Other Castes	-0.483
	(0.312)
Other Castes* North	0.719*
	(0.355)
Religion (Reference: Hindu)	
Muslim	-0.764***
	(0.213)
Muslim* North	0.349
	(0.268)
Christian	-0.533**
	(0.203)
Christian* North	1.198**
	(0.447)
Other Religions	-0.177
	(0.449)

Other Religion*North	-0.352
	(0.492)
North	-3.520***
	(0.725)
Constant	1.523**
	(0.581)
Observations	6986

*** p<0.001, ** p<0.01, * p<0.05

Appendix 2: Models for Social Capital, Cultural Capital, Empowerment with all the controls and the Full Model for desire for another child (including the three sets of independent variable).

VARIABLES	Social Capital	Cultural Capital	Empowerment	Full Model
Social Capital (Associations with Development Organizations	-0.591***			-0.526***
	(0.127)			(0.13)
Development Social Capital * North	0.332			0.277
	(0.184)			(0.186)
Social Capital (Religious and Caste association)	0.306*			0.366**
	(0.143)			(0.141)
Religious Social Capital * North	-0.319			-0.419*
	(0.211)			(0.214)
Woman's Self Efficacy Index		-0.21		-0.278
		(0.232)		(0.245)
Self Efficacy Scale * North		-0.181		-0.0867
		(0.308)		(0.324)
Most say of the respondent in the number of children			0.388	0.368
			(0.234)	(0.241)
Number of Children * North			-0.759*	-0.701*
			(0.312)	(0.318)
Purdah			1.190***	1.088***
			(0.203)	(0.206)
Purdah*North			-0.989***	-0.877***
			(0.272)	(0.276)
Education of the woman	-0.0977***	-0.0974***	-0.0985***	-0.0911***
	(0.0267)	(0.0256)	(0.0262)	(0.0277)
Women's Education*North	0.0216	0.0236	0.025	0.0235
	(0.0366)	(0.0359)	(0.0359)	(0.0373)
Age of the woman	-0.181***	-0.182***	-0.188***	-0.187***
	(0.0162)	(0.0158)	(0.0159)	(0.0164)
Women's Age* North	0.0417	0.0409	0.0490*	0.0487*
	(0.023)	(0.0228)	(0.0229)	(0.0231)
Standard of Living (Quintiles)	-0.159	-0.182	-0.233*	-0.204*
	(0.097)	(0.0977)	(0.0989)	(0.0992)
Standard of Living * North	-0.00247	0.0248	0.0761	0.065
	(0.133)	(0.134)	(0.135)	(0.135)
Family Category (Reference: Nuclear family)				
Joint Family	0.683***	0.676***	0.603**	0.591**
	(0.206)	(0.205)	(0.219)	(0.218)
Family Category* North	-0.283	-0.263	-0.221	-0.188
	(0.27)	(0.271)	(0.28)	(0.28)
Highest education received by men in the Household	0.0553*	0.0581*	0.0499*	0.047
	(0.0261)	(0.0239)	(0.0247)	(0.0266)

Highest Education Male* North	-0.0655	-0.0716*	-0.0642	-0.0593
	(0.0376)	(0.0362)	(0.0366)	(0.0379)
Have at least one son	-1.787***	-1.663***	-1.757***	-1.854***
	(0.195)	(0.203)	(0.208)	(0.199)
Son * North	-0.534*	-0.649*	-0.539*	-0.485
	(0.264)	(0.269)	(0.273)	(0.266)
Caste (Ref: Brahmin)				
Other Backward Caste (OBC)	0.937	0.825	1.038	1.115
	(1.099)	(1.058)	(1.08)	(1.099)
OBC * North	-0.393	-0.329	-0.545	-0.579
	(1.138)	(1.098)	(1.119)	(1.138)
Scheduled Caste	1.265	0.985	1.301	1.524
	(1.118)	(1.072)	(1.098)	(1.12)
Scheduled Caste* North	-1.34	-1.075	-1.4	-1.579
	(1.172)	(1.129)	(1.152)	(1.175)
Scheduled Tribe	1.108	0.959	0.757	0.833
	(1.143)	(1.11)	(1.124)	(1.151)
Scheduled Tribe*North	-0.575	-0.532	-0.273	-0.316
	(1.209)	(1.176)	(1.189)	(1.216)
Forward Castes	1.712	1.565	1.821	1.934
	(1.102)	(1.06)	(1.083)	(1.101)
Forward Castes* North	-1.741	-1.638	-1.881	-1.987
	(1.154)	(1.115)	(1.135)	(1.154)
Religion (Reference: Hindu)				
Muslim	1.155***	1.151***	0.509	0.548
	(0.303)	(0.273)	(0.296)	(0.312)
Muslim * North	-0.297	-0.297	0.358	0.322
	(0.412)	(0.387)	(0.402)	(0.419)
Christian	1.041	0.681	0.89	1.251
	(0.634)	(0.629)	(0.654)	(0.66)
Christian * North	-0.596	-0.264	-0.303	-0.711
	(0.799)	(0.798)	(0.817)	(0.822)
Other Religions	0.0587	0.106	0.0452	0.0148
	(0.617)	(0.654)	(0.587)	(0.569)
Other Religion*North	0.0973	0.112	0.258	0.301
	(0.713)	(0.745)	(0.686)	(0.672)
Urban	-0.0555	0.124	0.109	-0.0433
	(0.223)	(0.211)	(0.217)	(0.226)
Urban*North	0.205	0.0699	0.0798	0.225
	(0.282)	(0.271)	(0.275)	(0.285)
North	1.281	1.627	1.76	1.697
	(1.375)	(1.451)	(1.393)	(1.505)
Constant	2.414*	2.672*	2.064	2.593
	(1.231)	(1.289)	(1.229)	(1.337)
Observations	7217	7217	7217	7217

*** $p<0.001$, ** $p<0.01$, * $p<0.05$. Robust Standard Errors reported in parenthesis.

Models for Social Capital, Cultural Capital, Empowerment with all the controls and the Full
Model for desire for contraceptive use (including the three sets of independent variable)

VARIABLES	Social Capital	Cultural Capital	Empowerment	Full Model
Social Capital (Associations with Development Organizations	-0.0665			-0.0624
	(0.0476)			(0.0478)
Development Social Capital * North	0.658***			0.641***
	(0.112)			(0.109)
Social Capital (Religious and Caste association)	-0.0388			-0.0372
	(0.0796)			(0.0797)
Religious Social Capital * North	-0.745***			-0.642***
	(0.120)			(0.123)
Woman's Self Efficacy Index		-0.217		-0.221
		(0.172)		(0.177)
Self Efficacy Scale * North		1.215***		1.032***
		(0.217)		(0.223)
Most say of the respondent in the number of children			-0.0546	-0.0822
			(0.129)	(0.133)
Number of Children * North			0.327	0.229
			(0.181)	(0.188)
Purdah			0.127	0.102
			(0.136)	(0.138)
Purdah *North			0.00871	-0.114
			(0.172)	(0.176)
Education of the woman	-0.0219	-0.0201	-0.0214	-0.0176
	(0.0140)	(0.0141)	(0.0140)	(0.0141)
Women's Education*North	0.0847***	0.0681***	0.0786***	0.0705***
	(0.0197)	(0.0192)	(0.0194)	(0.0196)
Age of the woman	0.0151	0.0152	0.0154	0.0163
	(0.00841)	(0.00832)	(0.00840)	(0.00839)
Women's Age* North	-9.14e-05	0.00112	0.00146	-0.00100
	(0.0112)	(0.0111)	(0.0111)	(0.0112)
Standard of Living (Quintiles)	0.139*	0.139*	0.132*	0.141*
	(0.0581)	(0.0580)	(0.0580)	(0.0578)
Standard of Living * North	-0.0603	-0.0802	-0.0397	-0.0989
	(0.0790)	(0.0776)	(0.0774)	(0.0787)
Family Category (Reference: Nuclear family)				
Joint Family	-0.264*	-0.279*	-0.272*	-0.271*

	(0.114)	(0.113)	(0.114)	(0.115)
Family Category* North	0.105	0.144	0.163	0.0841
	(0.153)	(0.151)	(0.152)	(0.153)
Highest education received by men in the Household	-0.0325*	-0.0323*	-0.0320*	-0.0335*
	(0.0139)	(0.0139)	(0.0140)	(0.0140)
Highest Education Male* North	-0.000945	0.00263	-0.00143	0.00302
	(0.0197)	(0.0195)	(0.0196)	(0.0197)
Have at least one son	0.409**	0.417**	0.416**	0.411**
	(0.130)	(0.128)	(0.129)	(0.130)
Son * North	0.141	0.103	0.0635	0.159
	(0.183)	(0.183)	(0.182)	(0.183)
Caste (Ref: Brahmin)				
Other Backward Caste (OBC)	-0.876**	-0.893**	-0.882**	-0.860**
	(0.313)	(0.312)	(0.311)	(0.313)
OBC * North	0.824*	0.836*	0.828*	0.795*
	(0.356)	(0.357)	(0.357)	(0.354)
Scheduled Caste	-0.659	-0.703*	-0.681*	-0.647
	(0.340)	(0.339)	(0.338)	(0.342)
Scheduled Caste* North	0.850*	0.919*	0.931*	0.792*
	(0.389)	(0.390)	(0.390)	(0.389)
Scheduled Tribe	-0.819*	-0.855*	-0.858*	-0.854*
	(0.392)	(0.392)	(0.390)	(0.391)
Scheduled Tribe*North	0.298	0.358	0.324	0.367
	(0.465)	(0.470)	(0.462)	(0.470)
Forward Castes	-0.490	-0.508	-0.498	-0.483
	(0.311)	(0.312)	(0.311)	(0.312)
Forward Castes* North	0.774*	0.788*	0.829*	0.719*
	(0.354)	(0.357)	(0.356)	(0.355)
Religion (Reference: Hindu)				
Muslim	-0.690***	-0.701***	-0.763***	-0.764***
	(0.199)	(0.202)	(0.213)	(0.213)
Muslim * North	0.234	0.138	0.0930	0.349
	(0.256)	(0.259)	(0.268)	(0.268)
Christian	-0.547**	-0.573**	-0.554**	-0.533**
	(0.204)	(0.199)	(0.202)	(0.203)
Christian * North	1.079*	1.191**	1.041*	1.198**
	(0.429)	(0.435)	(0.425)	(0.447)
Other Religions	-0.181	-0.156	-0.169	-0.177
	(0.445)	(0.443)	(0.444)	(0.449)
Other Religion*North	-0.326	-0.414	-0.322	-0.352
	(0.486)	(0.485)	(0.483)	(0.492)
Urban	0.430***	0.454***	0.459***	0.435***

	(0.120)	(0.117)	(0.117)	(0.121)
Urban*North	-0.373*	-0.338*	-0.290	-0.381*
	(0.168)	(0.163)	(0.163)	(0.168)
North	-1.887**	-3.843***	-2.366***	-3.520***
	(0.610)	(0.705)	(0.622)	(0.725)
Constant	1.165*	1.494**	1.132*	1.523**
	(0.496)	(0.569)	(0.495)	(0.581)
Observations	6986	6986	6986	6986

*** $p<0.001$, ** $p<0.01$, * $p<0.05$. Robust Standard Errors reported in parenthesis.

Reference:

Andrist, Lester. 2008. "Social Capital's Dark Side and Patriarchy in India". India Human Development Survey. Working Paper No. 7. Source: http://ihds.umd.edu/papers.html

Bhat, Mari P. N. 1996. "Contours of Fertility Decline in India: A District-level Study Based on the 1991 Census". In K Srinivasan (ed.), *Population Policy and Reproductive Health*, Hindustan Publications, New Delhi.

Bhat, Mari P. N. and Zavier Francis. 1999. "Findings of National Family Health Survey: Regional Analysis". *Economic and Political Weekly* Vol. 34, No. 42/43, pp. 3008- 3017.

Bongaarts, John and Susan Cotts Watkins. 1996. "Social Interactions and Contemporary Fertility Transitions". *Population and Development Review* 22(4): 639-682.

Casterline, John B. Hans. 2001. "Diffusion Processes and Fertility Transition: Introduction*".* Pp.1-38 in John B. Casterline (ed.) *Diffusion Processes and Fertility Transition*. National Academy Press.

Behrman Jere R., Hans-Peter Kohler and Susan Cotts Watkins. 2002. "Social Networks and Changes in Contraceptive Use over Time: Evidence from a Longitudinal Study in Rural Kenya". *Demography* Vol. 39, No. 4, pp. 713-738.

Behrman Jere R., Hans-Peter Kohler and Susan Cotts Watkins. 2001. "The Density of Social Networks and Fertility Decisions: Evidence from South Nyanza District, Kenya." *Demography* Vol. 38, No. 1, pp. 43-58.

Bourdieu Pierre. 1985. "The forms of capital". In *Handbook of Theory and Research for the Sociology of Education*, ed. JG Richardson, pp. 241-58. New York: Greenwood.

Caldwell, John and Pat Caldwell. 1987. "The cultural context of high fertility in sub-Saharan Africa" *Population and Development Review* 13(3): 409-437.

Caldwell, John C. 1979. "Education as a Factor in Mortality Decline: An Examination of Nigerian Data" *Population Studies* 33:395-413.

Cleland, John and Wilson Christopher. 1987. "Demand Theories of the Fertility Transition: an Iconoclastic View". *Population Studies*. Vol. 41. No. 1. pp. 5-30.

Cotter, David A., Joan M. Hermsen, and Reeve Vanneman. 2002. "Where the Ends Don't Meet: Social Capital Effects on Economic Hardships." Paper presented at the *Spatial Inequality Workshop,* Ohio State University, Columbus, Ohio, September 21-22.

Das Gupta, Monica. 1987. "Selective Discrimination against Female Children in Rural Punjab, India". *Population and Development Review* 13: 77-100.

Das Gupta, Monica and Bhat P. N. Mari. 1997. "Fertility Decline and Increased Manifestation of Sex Bias in India". *Population Studies* 51, 307-15.

Dyson, Tim and Moore M. 1983. "On kinship structure, female autonomy, and demographic behavior in India". *Population and Development Review* 9: 35-60.

DiMaggio, Paul. 1982. "Cultural Capital and School Success: The Impact of Status Culture Participation on the Grades of U.S. High School Students." *American Sociological Review* 47: 189-201.

Barbara Entwisle, Ronald R. Rindfuss, David K. Guilkey, Aphichat Chamratrithriong, Sara R. Curran, and Yothin Sawangdee. 1996. A Community and Contraceptive Choice in Rural Thailand: " Case Study of Nang Rong." *Demography* 33:1-11.

Farkas, George, Grobe R.P., Sheehan D, and Yuan Shuan. 1990. "Cultural Resources and School Success: Gender, Ethnicity, and Poverty Groups within an Urban District." *American Sociological Review* 55: 127-142.

Entwisle, Barbara, Ronald Rindfuss, David K., Aphichat Guilkey Chamratrithirong, Sara R. Curran and Yothin Sawangdee. 1996. "Community and Contraceptive Choice in Rural Thailand: A Case Study of Nang Rong". *Demography* Vol. 33, No. 1, pp. 1-11.

Government of India 2002. *National Human Development Report 2001*. Planning Commission.

International Institute of Population Sciences. 2006. *National Family Health Survey 3 Reports* (NFHS-3), Mumbai: IIPS.

Jejeebhoy, Shireen 1995. *Women's Education, Autonomy, and Reproductive Behaviour: Experience from Developing Countries*. Oxford: Oxford University Press.

Kincaid, Laurence. 2000. "Social networks, ideation, and contraceptive behavior in Bangladesh: a longitudinal analysis: *Social Science and Medicine* 50, 215-231.

Kunitz Stephen J. 2001. "Accounts of social capital". In: Leon DA and Walt E (eds.), *Poverty, Inequality and Health: An International Perspective*. Oxford: Oxford University Press.

Lamont, Michele and Lareau Annette 1988. *"*Cultural Capital: Allusions, Gaps and Glissandos in Recent Theoretical Developments". *Sociological Theory* Vol. 6, No. 2, pp. 153-168.

LeVine, Robert. 1987. "Women's Schooling, Patterns of Fertility, and Child Survival" Educational Researcher, Vol. 16, No. 9, pp. 21-27.

Lin Nan. 2005. "Social Capital". pp. 604-612 in Jens Beckert and Milan Zagiroski (eds) *Encyclopedia of Economic Sociology*. Rutledge Ltd.

Lesthaeghe Ron. 1978. *The Decline of Belgian Fertility, 1800-1970*. Princeton University Press, Princeton N.J., 350 pp.

Mason, Karen Oppenheim. 1993. "The impact of women's position on demographic change during the course of development," in Nora Federici, Karen Oppenheim Mason, and

Solvi Sogner (eds.), Women's Position and Demographic Change. Oxford: Clarendon Press, pp. 19-42.

McDonald, P. 2000. "Gender equity in theories of fertility transition". *Population and Development Review* 26(3): 427-439.

Sather, Z.A. and Mason, K.O. 1993. "How Female Education Affects Reproductive Behaviour in Urban Pakistan". *Asian and Pacific Population Forum* 6 (4) 93-103.

Sen, Mitali, Sonya Rastogi and Reeve Vanneman. 2006. "Disempowered by Whom? Gender vs. Generation in Family Decision Making". Presented at the annual meeting of the *Population Association of America,* Los Angeles, March 2006.

Visaria, Leela 2004. "The Continuing Fertility Transition". In Dyson Tim, Cassen Robert, Visaria Leela. *Twenty-first century India: Population, Economy, Human Development, and the Environment.* New Delhi: Oxford University Press.

Vlassoff, Carol 1990. "Fertility intentions and subsequent Behavior: A longitudinal Analysis in Rural India". *Studies in family planning*, No. 4, Pg 216 -225.

Watkins, S.C. and I. Warriner.2000. "How Are Networks Selected?" Unpublished manuscript, Population Studies Center, University of Pennsylvania, Philadelphia.

Westoff, Charles and Norman Ryder. 1977. "The Predictive Validity of Reproductive Intentions". *Demography* Vol. 14, No. 4, pp. 431- 453.

Woolcock, Michael and Deepa Narayan. 2000. "Social Capital: Implications for Development Theory, Research, and Policy". *World Bank Research Observer* 15(August): 225-49.

Putnam, Robert D. 2000. *Bowling Alone: The Collapse and Revival of American Community.* New York: Simon & Schuster.