

**Middle Class Dreams:  
India's One-Child Families**

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## **Middle Class Dreams: India's One-Child Families**

### **Abstract:**

While rapid fertility decline in India in the last two decades has received considerable attention, much of the discourse has focused on a decline in high parity births.

However, this paper finds that, almost hidden from the public gaze, a small segment of the Indian population has begun the transition to extremely low fertility. Among the urban middle classes, it is no longer unusual to find families stopping at one child, even when this child is a girl. Using data from the India Human Development Survey of 2004-2005, this paper examines the factors that may lead some families to stop at a single child. Better understanding of the correlates of this small but distinct segment of society also provides a window into the role of demographic behaviour in shaping the future of social inequality in a society undergoing rapid transition.

**Keywords:** India, Fertility, Middle Class, Demographic Transition

**Introduction:**

The continuing global decline in fertility in the 21<sup>st</sup> century has led to mixed reactions. In developing countries, where fertility still remains above replacement level for the most part, there is a sigh of relief as population growth begins to moderate. In industrial societies, where below replacement fertility is rapidly becoming the norm, fears of shrinking population dominate. As we look at these ongoing parallel transitions – the first demographic transition in developing countries, and the second demographic transition in industrialized countries – it is important to think about the relationship between the two. Unless we understand the forces that propel a nation from the first to the second demographic transition, it is difficult to foresee what might lie in the future for developing countries that are still struggling to complete the first demographic transition.

Two narratives describing each of the demographic transitions have been particularly influential (McNicoll 2009): (1) A narrative of the first demographic transition, in which fertility decline is associated with a movement from social regimes governed by kinship and family ties in which large families are beneficial, to social regimes in which social capital plays less of a role than human capital and parents choose to invest greater resources in fewer children; and (2) A narrative of the second demographic transition, in which fertility falls to below replacement levels in post-modern societies when childrearing becomes an impediment to personal fulfillment.

If one subscribed to this notion of a demographic rupture in the long march of human history, it would make very low fertility a highly unlikely phenomenon in a society like India that retains a strong family oriented culture even as it catapults into

a global economy.<sup>1</sup> However, are these two transitions really so distinct? Do we need one set of theories to explain the first demographic transition and another set to explain the second? The emergence of extremely low fertility in Italy and Spain – some of the most conservative nations of Europe -- has proven to be somewhat of an embarrassment for the theories that rely on a shift to post-modern values to explain low fertility (Chesnais 1996; Kertzer et al. 2009). In this paper we examine extremely low fertility in a small fraction of Indian society to see if its behaviour is better explained by the processes that describe the first demographic transition or those that describe the second.

### **Narratives of First and Second Demographic Transitions:**

Lesthaeghe and Neels (2002, P. 331), provide one of the most stylized distinctions between the first and the second demographic transitions based on the Western European experience. In this account, the first transition is associated with a preoccupation with basic material needs such as income, work conditions, housing, health, schooling and social security. Segregated gender roles, familistic social policies, ordered life course transitions, prudent marriage and dominance of a single family model govern this transition. In contrast, the second demographic transition is viewed as the rise of "higher order" needs including individual autonomy, self-actualisation, disengagement from civic and community oriented networks, rising symmetry in gender roles, female economic autonomy, flexible life course organisation, and multiple life styles and open future. Where embourgeoisement is viewed as the key value governing the first demographic transition, removing the shackles of bourgeois values to embrace a post-modern culture that emphasizes self

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<sup>1</sup> For an interesting discussion of the way in which Indian society resolves the conflicting demands of modernity and tradition, see (Derne 2003).

fulfillment is seen as the governing imperative of the second demographic transition (Lesthaeghe and Neels 2002).

This narrative would suggest that as countries begin to develop, the institutional support structure for high fertility begins to crumble and fertility drops to stabilize around the replacement level of 2 children per family. By breaking down social norms supporting large families, this reflects a triumph of economic forces over social forces. However, there is considerable social and psychological pressure to have at least two children (Morgan 2003). Moving below this threshold requires a cultural shift in which individualism and self actualization become dominant motives in a triumph of cultural forces over economic forces.

One of the reasons the demographic discourse on India has remained focused on the first demographic transition is because the family remains at the nucleus of Indian social organization and this cultural shift does not appear on the current horizon. For example, a variety of studies (see, for example, the papers in Uberoi, 1993) continue to document highly traditional gender roles, universal and relatively early marriage and strong son preference --- hardly the milieu in which selfhood triumphs over family. However, if the path to below replacement fertility is also paved not by a cultural shift but instead by familiar economic forces, this presumption of an end point of replacement level fertility may need to be reevaluated. In this paper, we attempt such a reevaluation by looking at the emergence of a subgroup of the Indian population that seems to exhibit very low fertility. To do this, we compare families with a single child with those with two or more children.

### **Prevalence of One-Child Families:**

Before we try to theorize about the reasons for an apparent increase in the popularity of the one child family in some segments of the population of India, we

need to establish that this is a real phenomenon and that it reflects a conscious and deliberate choice. The first question concerns the recency of the emergence of one child family. If we find that a small but significant proportion of the Indian population has always had a tendency to very low fertility, then our observation is not a sign of future trends in this family type but instead evidence of greater population heterogeneity than is expected for developing countries. At the moment, we tend to expect population heterogeneity in developing countries, but at the high fertility end; we assume that there is a floor below which fertility does not fall for any group in countries still to complete the first demographic transition. That this assumption is not really justified is certainly known from historical studies of very low fertility groups – the aristocracy in several parts of historical Europe for example (Johansson 1987). However, historians continue to quibble about whether this phenomenon represented deliberately low childbearing, or constraints on natural fertility through greater delayed marriage and non-marriage among these elite groups, or even low fecundity brought about by marriage patterns like the practice of inbreeding (on this last, see, for example, a recent book by Kuper, 2009).

Our data do not allow us to go far back in time on this question, but Table 1 which includes information on proportions of one child families according to maternal age from National Family Health Survey I, conducted in 1992-93 and National Family Health Survey III, conducted in 2005-06 offers a clue. This table shows proportion of women with at least one child who have exactly one child by age.

[Table 1 about here]

By focusing on women with at least one child, we take into account primary sterility. While some decline in proportions at higher parity may occur due to increase in age at first birth, the median age at first birth in India remains quite low, only about 20 years. Hence, for women in their 30s, this compositional effect would

vanish and the fact that the proportion of women ages 30-34 with one living child has increased from 6% to 9% with similar change observed for other ages is indicative of a rising trend towards one child families.

### **Motivation for a One-Child Family:**

What makes families restrict themselves to having a single child, particularly in a country where many women continue to have four or more children?<sup>2</sup> A better understanding of the characteristics of these families and their lifestyles may shed light on the competing narratives of low fertility discussed above. Much of the literature on fertility has tended to see low fertility as a response to external and internal constraints. However, in this paper we suggest that one should also see very low fertility as a response to new opportunities.

### ***Very Low Fertility as a Response to Constraints on Childbearing***

The literature on the first demographic transition has identified a variety of constraints on childbearing that may be especially relevant to the situation of the one child family. Three sets of constraints deserve particular attention here:

- (1) Children are an impediment to women's employment, particularly employment in the formal sector (Jaffe and Azumi 1960; Lloyd 1991; Mason and Palan 1981; Mason 1986). One way of managing this conflict is to restrict childbearing to a single child so that women can achieve socially valued motherhood goals, while at the same time managing the competing demands of a career (Gerson 1986).
- (2) Childbearing and childrearing can be expensive and consequently families must constantly trade off between a better lifestyle and larger families (Becker

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<sup>2</sup> NFHS-III documents that about half the women aged 40-44 have four or more children.

1993; Easterlin 1966). In a society with rising material aspirations, limiting family size may be one way of ensuring higher consumption.

(3) Childrearing demands on individuals may also curtail individual freedom reducing their ability to achieve personal growth and enjoy leisure time (Lesthaeghe and Surkyn 1986; Van de Kaa 2001; Presser 2001). These constraints are greater for women. A related argument suggests that in societies where gender and kinship systems create a structure in which the burdens of marriage and motherhood curtail women's freedom far more than that of men, women may have a greater incentive to reduce fertility (McDonald 2000).

### ***Very Low Fertility as a Response to New Opportunities***

In contrast to the above arguments where value of children diminishes compared to the value of other things such as consumption, leisure or labour force participation, an alternative argument would emphasize the same or even higher value of children but increasing aspirations *for* children, resulting in lower fertility. This argument emphasizes fertility limitation as a strategy for upwardly mobile families (Greenhalgh 1988). This notion, first advanced by Arsene Dumont (cited in Greenhalgh, 1988), has been subsequently reinforced by Kinsley Davis's notion of multiphasic response (Davis 1963) where inducements for upward mobility as well as threats of downward mobility may lead to fertility reduction. Arguably the best-known formulation of this notion was presented by Greenhalgh (1988) in the Chinese context where she argued that the opening up of mobility opportunities increased the desire to invest in children and reduced fertility. Her arguments, distinct from the classic neo-classical economic approaches to the trade-off between child quality and quantity, focus on the role of social and economic institutions in creating opportunities which can be exploited by parents to achieve social mobility.



While building on the classic child quality-quantity trade off articulated by new-home economics (Becker 1993; Schultz 1974), this argument provides a better handle on articulating changes in the calculus of childbearing. Parental aspirations for children and social mobility have existed through the ages. What accounts for the recent emergence of the one child family? Our contention is that in modern India, *implicit* policy (to use Johannson's 1986, characterization), in the form of economic policy in recent decades has much to do with the growing recourse to very low fertility that is the subject of this paper.

Two dimensions of the recent economic transformation are relevant for very low fertility as a route to social mobility. First, the growth of a new Indian middle class has a peculiar feature that is distinct from the growth of the middle classes in Europe and United States. The Western middle classes grew with an expansion of the salariat (Butler and Savage 1995). In contrast, the new Indian middle class is constrained by limited employment opportunities even as rewards to high skill jobs have increased tremendously (Desai and Das 2004). Increasing globalization has led to sharp increases in private sector salaries; the implementation of the Fifth and Sixth Pay Commission recommendations have also led to tremendous growth in government worker salaries. At the same time, employment opportunities have not kept pace with the educational growth, increasing the competition for scarce jobs.

The second phenomenon of interest is a growing public recognition of the poor quality of education given in a wide range of educational institutions. When barely 50% of the enrolled children are able to read (Pratham 2005), it is not surprising that parents seek alternatives to government schools. Private school enrollment and reliance on private tutoring have increased sharply in recent years (Kingdon 2007). These conditions may force upwardly mobile parents to restrict childbearing in order to invest in the education of a single child.

We now turn to the evidence in support of each of these possibilities in the context of the one child family in India.

### **Data and Measurement**

In order to understand the correlates of this emerging one child family, this paper analyses data from the India Human Development Survey of 2004-2005 (IHDS). This survey was organized by researchers from the University of Maryland and the National Council of Applied Economic Research, New Delhi (Desai et al. 2010). This is a nationally representative sample of 41,554 households containing interviews with 33,583 ever-married women aged 15-49. The sample is spread over 1503 villages and 971 urban blocks in 33 states and union territories. The only union territories excluded are Andaman-Nicobar and Lakshadweep. The analytical sample consists of 33,524 women with a complete fertility history. Unlike the National Family Health Surveys, the IHDS is not primarily a fertility survey but contains extensive data on income, employment, structure of family life and investments in children, allowing us to test some arguments about differences in family lifestyles in families with different fertility patterns.

Given our substantive interest in families that have voluntarily chosen to limit themselves to one child, we need to differentiate between families whose low fertility is deliberate and those whom we have caught at a juncture in life where their low fertility is an accident or a temporary phase and who may yet go on to have large families. Hence we divide our sample, consisting of women with at least one child, into four categories:

1. Families that have a single child and *appear* to have stopped having more children (5%).
2. Families with two children who *appear* to have stopped (18%).

3. Families with one or two children who are in the process of family building and may yet have another child or those whose childbearing is curtailed due to child mortality or unduly low due to marital disruption – those whom we call censored (24%). These people may stop at one or two children or may go on to have more children.
4. Families with three or more children – those we define as large families (53%).

The IHDS data show that for families with two or more children, over 90% have less than a 5-year gap between the first and second births. Hence we use 5 years as the cut-off to distinguish between families that are probably still in the process of childbearing and those that appear to have stopped. Moreover, we also acknowledge that spousal death/separation or child death may lead to involuntary low family size. Our data show that about 8 % of both one child as well as higher fertility families have experienced a child death. All such potentially higher fertility wanting families are included in the censored category. Descriptive statistics for these families are presented in Table 2.

[Table 2 about here]

Before presenting our results, however, it is important to establish the validity of our categorization of some families as deliberate one-child families rather than accidental ones. In order to do this, we need to be sure that these one child families are not an unfortunate outcome of families ending up with fewer children than they would like; that is, they do not represent an unmet need for fertility. Hence, we try to establish the wantedness of the one child family by asking a series of questions about its bio-demographic and social correlates.

Is this a tempo effect or a secondary infertility effect? Could it be that the one-child families have delayed the birth of the first child until it is too late to have a

second birth, given the age specific curve of fecundity? Table 2 shows that women who begin childbearing at after age 30 are far more likely to end up with a single child than women who begin childbearing early, lending some credence to declining fecundity and secondary sterility argument. However, as Table 3 documents, this group forms only 6% of the one-child families in the IHDS sample. The remaining 94% began childbearing well within their peak fecundity period and had an opportunity to go on to a second child if they so chose.

[Table 3 about here]

Relatedly, is this a parity specific tempo effect? That is, is our five year cut off merely too short a birth interval in today's world? IHDS data for the distribution of second birth intervals in our sample show that over 90% of the birth intervals fall within the 5 year cut off we use.

Responses to fertility preferences and contraceptive use remain subject to measurement error, particularly since the interview setting often precludes privacy. But a brief analysis of fertility preferences of women who have stopped at one child is instructive. About 73% of mothers with a single child said they did not want more children; 22% were sterilized. However, this decision remains contingent and about 27% said they may want another child at some point.

### **Characteristics of One-Child Families**

Table 2 provides some descriptive statistics on families at different parities. These descriptive statistics show that these one-child families are overwhelmingly concentrated among the more privileged sections of Indian society: urban, upper caste, and upper class. The relationships with maternal education and with metro city residence are particularly striking and already anticipate our later explanation for this phenomenon. Thus, for example, while one-child families account for barely 5% of Indian families, they form 13% of families living in metro cities. Most

interestingly, about 40% of the families who appear to have stopped at one child have stopped in spite of this child being a daughter.

A more interesting but also more ambiguous geographic distribution arises when we look at state level differences in the proportion of one-child families in Table 4. It appears that the highest levels of the one-child family exist in the Southern and Eastern (as well as the northeast) parts of the country. Lest one thinks this is merely a consequence of lower average fertility in the South, it is interesting to compare state total fertility rates with the proportion of one-child families. A low TFR in Table 4 does not automatically lead to a higher proportion of one-child families. Punjab and Himachal Pradesh both have TFRs below 2 but only 3% families seem to stop at one child. In contrast, Assam and West Bengal with TFRs of about 2.2 have 10-12% families who appear to have stopped at one child.

[Table 4 about here]

This underlines the need to better understand the context of the one-child family in India. An assumption that the very small family norm has merely first taken hold in those parts of the country that have already gone through the first demographic transition is too simplistic. Instead, it is important to examine the factors associated with low fertility. Below we look at each of the explanations for low fertility discussed above.

### **Constraints on Childbearing:**

We have noted three major themes that have been identified as constraining fertility. These are: (1) Incompatibility between women's employment and fertility; (2) Rising consumption aspirations; and, (3) Greater desire for personal fulfillment. Below we examine the relationship between these three forces and family size in contemporary India. While looking at the contemporaneous experiences of families does not necessarily allow us to examine motivations of individuals who chose

different fertility behaviors, it at least allows us to identify correlations between family size and outcomes of interest and offers some clue as to the relevance of some of these theoretical arguments to the Indian context.

***Women's Workforce Participation and Childbearing:***

The New Home Economics literature has strongly emphasized the conflict between time demands for rearing children and women's labour force participation (Mincer 1962; Leibowitz 1974; Becker 1976), and cross-national regressions in Western societies through much of the late 20<sup>th</sup> century have tended to document a negative relationship between women's work and fertility. Moreover, as MacDonald (2004) notes, it may be precisely the greater gender equality of extra domestic life, whereby attractive jobs are now also available to women, coupled with the continuing domestic gender inequality that lumps them with primary responsibility for childcare as well that accounts for at least a part of women's reluctance to bear children in these societies. The debate about whether work leads to lower fertility or low fertility leads to increased labour force participation in industrial society has never been quite resolved (Lehrer and Nerlove 1986) but the negative correlation between women's labour force participation and fertility has been a well documented.

In developing countries, however, this relationship is far from clear. In a highly influential paper, Jaffe and Azumi (1963) highlighted the importance of considering the nature of work and suggested that employment in cottage industries or other flexible kinds of self-employment would not make a serious dent in fertility due to the compatibility between this type of work and fertility. Since then a number of studies have suggested that role incompatibility associated with work for pay rather than time demands on women is likely to be a greater impediment to fertility (Mason and Palan 1981; Lloyd 1991). Interestingly, even in the West, the recent onset of very low fertility in countries like Italy and Spain where female labour force

participation rates are low by European standards has called the strength of this relationship in question (Rindfuss, Guzzo, and Morgan 2003).

What can we infer from the Indian experience? Is low fertility in India associated with women's labour force participation, particularly participation in wage work where the incompatibility between mother and worker roles is the greatest? As some studies have noted (Gerson 1986) when faced with hard choices between work and motherhood, women may well choose to have a single child to satisfy their desire for children while limiting familial demands on their time.

The IHDS collected detailed data on women's and men's labour force participation including work in various sectors of the economy (Desai et al. 2010). Table 5 shows predicted probabilities from logistic regressions of family size on women's labour force participation, separately for all work (including work on family farm and in family business) and for wage work.<sup>3</sup> This regression controls for women's age, education, household income and place of residence. In order to address the endogeneity of income, family income in this analysis excludes women's wage income. The results, presented in Table 5 are intriguing. For all work, i.e. combining work on family farm, caring for livestock, work in family business and wage work, women with a single child are actually *less* likely to be employed than women with larger families. We don't suggest that having a single child *causes* low labour force participation, we simply point to the absence of expected negative association between women's labour force participation and fertility. Even when we

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<sup>3</sup> In this paper we consistently show predicted values from multiple regression or logistic regression for outcomes of interest. These regressions control for woman's education, place of residence, caste, household income and a dummy indicator for the state of residence. The results are predicted using STATA MARGINS command, holding all other variables at their mean value separately for urban and rural residents. Original regressions are presented in Appendix Tables 1-4.

restrict our focus to women engaged in wage work, where job conditions would place greater constraints on motherhood, we find few differences in women's labour force participation by family size

[Table 5 about here]

This suggests that it is unlikely that higher commitment to the work force is a motivating factor for women to have very low fertility. Note that had we found a relationship between one child family and women's labour force participation, we could still not have established the temporal supremacy of the work-family or family-work linkage. But the absence of this relationship suggests that role incompatibility is unlikely to be an important motivating factor in families restricting themselves to one child.

### ***Consumption Aspirations and Family Size***

While the literature linking income, consumption and child bearing emerged with the work of Becker (Becker 1976) and colleagues in what came to be known as Chicago-Columbia model (Pollak and Watkins 1993), for the current discussion it is the focus on the competition between childbearing and consumption based on relative income differences, first articulated by Easterlin (Easterlin 1966; Macunovich 1998) that is most relevant. Easterlin argued that for the same level of income, those who have higher consumption aspirations may be more likely to focus on material consumption at the expense of having a large family. Conversely those with high consumption aspirations may meet their consumption needs by curtailing fertility when faced with the prospect of low income generated by poor economic conditions.

This concept is intuitively appealing, and has sometimes been applied in the context of developing countries where rising consumerism is purported to be



associated with fertility. We know that higher income leads to more consumption and we also have some evidence that higher income is associated with family lifestyles conducive of low fertility. But in order to understand the role of consumerism in generating a children vs. consumption trade off, we must examine the relationship between fertility and consumption, holding income constant. The IHDS is unique in that it is one of the few surveys to collect both income and consumption data.

The IHDS collected detailed data on household assets and amenities including type of housing and ownership of various consumer durables. A consumption index based on these goods has been created by adding up 23 assets and amenities (for a further description, see Desai et al., 2010). Since one-child families are concentrated at the upper end of the income distribution, it is not surprising that one-child families have 9.7 assets (of a total of 23) while larger families have 7.8 assets. However, the theoretical argument hinges on comparing families at the same income level. The IHDS is unique in developing country surveys in collecting detailed income data from 56 sources of income including farming, livestock, business, wage labour, family and non-family transfers. The results are presented in Table 6. Table 6 focuses on two dependent variables: the ownership of all consumer durables and amenities (on a scale from 0 to 23) and the ownership of any large items only (car, air conditioner, credit card, refrigerator, washing machine and computer). The results shows that while smaller families have somewhat higher consumption, this effect is relatively small in magnitude.<sup>4</sup>

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<sup>4</sup> Note that less than 2% of the IHDS families indicated that their annual income is less than the money invested in farming. These are mostly families with orchards and other large farmers whose incomes are often biannual. For this analysis, their income is set to zero and

[Table 6 about here]

One would expect that holding income constant, households that have fewer children will invest more in amenities that make their lives easier. Table 6 shows that indeed, households with smaller families own somewhat larger number of assets and amenities. But the magnitude of this effect (additional 0.35 items on a scale that has a mean of 8.78) is very small. A comparison with the education effect will illustrate this point. Holding income and residence constant, households in which women have even one to four standards of education own about 0.9 additional assets more compared to those where women have no education and college education is associated with nearly 5 additional assets. So a difference of 0.4 between different family compositions is extremely small, although statistically significant. When we restrict our analysis to ownership of major assets, specifically refrigerator, washing machine, air conditioner, computer, and car, the difference between various family sizes is minuscule for rural areas and relatively small in size for urban areas. This suggests that small families, particularly one-child families are not substantially more consumption focused than larger families.

### ***Personal Aspirations and Family Size***

Competition from material consumption possibilities is of course not the only form of consumption constraint on high fertility. Indeed, when Blake (1968) sought to understand the relationship between income and family size, she focused on the non-monetary dimension of consumption (Blake 1968). In a superficially chatty but extremely insightful article, Nathan Keyfitz (1986) went in further detail about some

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a dummy variable indicating income of less than zero is included. These farmers are actually somewhat better off than other farmers as shown by the positive coefficient for this variable.

of the factors that might explain what he called the ‘family that does not reproduce itself’. Instead of focusing on the opportunity costs of children in the usual economic way and discussing things like wages foregone, he focused on the non-monetary attractiveness of other ways of spending one’s time and one’s money (Keyfitz 1986). He talked of the non-monetary but still crucial pleasures of leisure (eating out, holidays, television, all pursuits more or less incompatible with children) of course, but also of the world of work in the present day, where for the rich and educated it is not the monotony and onerousness of the assembly line that provides the wages but the social interactions and other comforts of the modern workplace that almost make the economic motive for work secondary (Keyfitz 1986).

This is not as tongue in cheek as it sounds. More recent, more empirically grounded elaborations of this broad hypothesis focus on the increased non-material opportunity costs of children as what Van de Kaa (2001) calls a ‘post-modern’ set of values have led to marriage and childbearing being but one of several ways of spending one’s time, energy and material resources. Our data set does not allow us to check in any direct way that the one child family represents the Indian counterpart of these changed values in the very low fertility (and even the childless) family in contemporary Western Europe but several lines of, frequently qualitative, enquiry suggest that this is not an implausible comparison.

However, this parallel would have to be modified for Indian conditions, at least thus far. Even if they subscribe to these post-modern aspirations, the cultural imperative to marry and procreate is still too strong to be rejected outright. As Ansley Coale noted a long time ago, some cultures are inherently geared to universal marriage and universal childbearing (Coale 1973). That statement would appear to be still true in India – the data on which this paper is based record 99% of women

married at least once by the end of their reproductive lives, and record levels of childlessness that are still very close to those obtaining in societies where the only childlessness that exists is the result of involuntary infertility.

There is thus less room for the individualization and search for personal expression that characterize the second demographic transition in Europe (see, for example, Lesthaeghe and Sukryn, 1986; Van de Kaa, 2001). The pull of culture is still too strong. This imperative may therefore be accommodated by the single child being the way to pay one's dues to a society in which procreation is still central to existence and by couple aspirations compensating for the continuing difficulty of setting individual level goals, especially for women.

It is very likely that, in a segment of the population, the desire for the kind of marriage in which the conjugal dyad is primary, with the demands of extended family being subservient to this dyad was nurtured as early as in the late nineteenth century as the new western educated elites in the colonial Presidencies sought a reform of Hinduism through increasing emphasis on a form of companionate marriage (a continuing patriarchal form that historians call the 'new patriarchy' or "colonial modernity") in which the authority of family elders was replaced by the authority of the husband, albeit a loving husband who believed in educating his wife so that she was a true partner able to share his intellectual as well as emotional space without the mediation (or meddling) of these elders.

Walsh (2005) in her analysis of advice manuals aimed at Bengali women at the turn of the Century notes the pages upon pages of popular manuals devoted to teaching the upper class literate Bengali woman to become a real partner (again an unequal partner, but nevertheless in a partnership in which she displaced the older

members of her husband's family in his primary affections and interests). It is noteworthy that the marital bond is played up even more than the maternal bond in these manuals, childcare and upbringing often taught in terms of training servants to do these things with the right amount of discipline and hygiene.

This line of argument would suggest that a greater desire for leisure as well as greater intimacy in conjugal relationship might well motivate couples to have smaller families. These aspirations are difficult to measure within a survey and we make no claims that the results presented in this paper provide an exhaustive analysis of the possible linkages between leisure, conjugal intimacy and family size.

For example, the overwhelmingly urban concentration of the one child family in India is certainly compatible with the competing goods hypothesis – it is the cities, especially in the neo-liberal economy of the nineties onwards that provide the largest and most seductive non-material alternatives to children, alternatives moreover that require one to be unfettered by children if one is to really exploit them. On the other hand, the centrality of the marital unit as a motivating force for a single child is not supported by data. Prevalence of nuclear families among households with one, two or more children is about 50% in our sample. This contradicts the expectation that intergenerational relations are less central to family functioning in the single child household than they are in higher fertility homes.

IHDS contains information on a few indicators that are of potential interest here. Four indicators are analyzed in Table 7: (1) Hours of hours of television watching per day among women in the household; (2) Whether the respondent and her husband go out to watch films or to fairs and other festivals (with or without children) as a couple without other extended family members; (3) An index

measuring frequency of discussion between the couple about work and farm issues, politics and community events, and household expenditure; and, (4) Whether the respondent is able to visit her natal family at least once a month.

[Table 7 about here]

The results are intriguing. While education, income etc. have the expected relationship with these various indicators of personal freedom and expression, for virtually none of the outcomes studied, do women with one child have a substantially greater amount of freedom or greater degree of conjugal intimacy than women with larger families. For one marker, the index measuring frequency of discussion between the couple, women with a single child in fact have a *lower* level of couple communication, suggesting that children possibly form a topic of parental conversation and increase rather than decrease conjugal intimacy. While our markers of personal freedom are indeed superficial and may be subject to considerable measurement error, it is interesting that for none of these four markers do we see a large and substantial improvement in personal freedom with smaller families.

### **Low Fertility as a Route to Social Mobility**

#### ***Investments in Children***

Apart from aspirations for oneself, aspirations for children may play an important part in shaping fertility behavior. As noted by a variety of scholars (Greenhalgh 1988), a desire to invest in children and obtain family social mobility through these investments may prompt families to limit their families to a single child.

[Table 8 about here]

Table 8 shows the differences in total educational expenditure for 30,285 children ages 6-14. In these regressions, in addition to parental characteristics, we also control for child's gender, age and standard enrolled. Note that children who are not currently in school are dropped from this analysis, but with the sharp increase in school enrollment in the last decade, nearly 90% of the children aged 6-14 were enrolled in school in 2004-5 (Desai et al. 2010) and our sample remains large.

The results show a striking impact of family size on educational investments. Expenditures on children's education is higher by 40% in one-child families than in families with three or more children; two-child families fall in between. Children from one-child families are 1.56 times as likely to be in a private school as children from 3+ child families, while children from two child families are 1.4 times as likely to attend private school. Both of these relationships are significant at the 0.001 percent level. When we interact being a single child with the gender of this child, the relationship is even more intriguing (tables not reported here). Any negative impact of being a girl is limited to girls in 2+ child families; among one-child families parents do not distinguish between boys and girls.

The magnitude of the relationship between family size and investments in children pose a striking contrast with the other relationships reported earlier. While one and two child families increase their consumption marginally and families are somewhat more likely to engage in pleasure activities such as family outings, these relationships appear dwarfed in comparison to the large and statistically significant relationship between family size and investments in children.

It is not our intention to enter into the well-worn debate as to whether family size *causes* greater investments in children or vice versa (Cassen 1994; Johnson and Lee 1986). We seek to compare the life-styles of small and large families in India to see if these comparisons yield any insights into possible motivations that may affect Indian parents' family building strategies. In this context, the observation that the primary distinction between small and large families in India lies in investments in children's education is highly significant, a theme to which we return below.

### **Discussion:**

In this paper, we have theorized on two possible kinds of aspirations that exceed the reach of even the educated, urban, middle class family in India and the fertility response that follows. Somewhat simplistically, we have separated these two sets of aspirations by the immediate objects of these aspirations, although of course we do not mean to imply that these are two mutually exclusive ways of wanting; if anything, the two sets of aspirations reinforce one another. However, they may hold greater or smaller sway over different categories of very low fertility households.

In the first category are the aspirations for oneself, that is, the parental or fertility decision-making unit. These are those material and non-material desires for personal advancement and fulfillment, which are hampered by children. The second category includes aspirations for social mobility through the advancement of one's children. This requires resources and even for middle class families, larger families lead to a greater dilution of these resources.

In as much as our survey data lend themselves to examination of these competing motives, we find only a minor relationship between family size and markers of personal consumption or personal fulfillment. Instead, the central finding



seems to be that the emerging one child family in India, rather than placing a greater value on parental desires and freedoms, seems to focus even more on investing in this single child. This may well be a response to the neo-liberal economic policies of the last twenty years and the rising opportunities and aspirations that this economy has endangered in one section of the population – that which is predominantly urban or semi-urban, educated and able and willing to exploit the special offers of the new global marketplace.

Unfortunately willingness and ability is not the same thing. And so it is the brief of this paper that beyond a point, the new middle classes created by the economic reform of the last quarter century need to reformulate their strategies for successful entry into and mobility within the new economy. Otherwise, aspirations will constantly be beyond the grasp. One such strategy is the raising of highly qualified children, who are better groomed to thrive in this qualitatively new economic environment. But raising such highly qualified children is extremely expensive, and one way in which these costs can be met (there are other ways, some of them less savory, but we do not go into that here) is by having fewer and fewer (even as few as just one) but ever more qualified (and qualified not just educationally, but socially and emotionally as well) children who take over the task of fulfilling the ever more ambitious dreams of social and economic mobility in the middle classes.

As discussed in the last section, children in these still atypical but growing one-child families appear to be highly advantaged. They are heavily invested in. They (boys as well as girls) are more likely to be sent to private schools, more likely to attend English medium schools, more likely to be aided by private tuition to supplement school learning, than their peers from larger families. At the end of the

day, all these costs pay off, because children who attend private schools and obtain private tutoring also more proficient when tested for schooling outcomes – they perform somewhat better on all kinds of tests of reading, writing and ‘rithmetic’ (Desai et al. 2009). We do not have data to check if they are also more emotionally and socially proficient, but they are certainly more suited to take advantage of the new opportunities in the economy.

This observation has important implications for fertility theories that have assumed a floor of two child families for the first demographic transition. The life style of the one-child families that we document is an extension of the life style of two child families. Both are more likely to invest in children’s education than larger families but parents of a single child are even more invested in this child than families with two-children. This suggests that one need not look towards the emergence of post-modern aspirations and ideologies for below-replacement families in developing countries. Motives underlying the first demographic transition do not respect the arbitrary floor of a TFR of 2 that we demographers have set up and may well propel families into having a single child.

We are left with an important but not easily answered question. Do these one child families represent what Livi Bacci (1973) called the ‘forerunners’ of fertility decline in the rest of the population? That is, is this an idea that will catch on? Or do these families instead reflect a growing heterogeneity in the Indian population, with eventual average fertility being a balance of childbearing among these heavily motivated families and fertility in the remaining bulk of the population that lacks the capacity to dream big dreams and is also hampered by cultural and institutional constraints on such dramatic fertility decline? Such heterogeneity would be

analogous to the heterogeneity of career and fertility preferences underlying average low TFRs in western countries today (Hakim).

Reading the popular as well as intellectual discourse on the growing economic disparities in the country, one is tempted to focus on the second explanation above. That is, one is tempted to think of these one child families as a movement towards greater population heterogeneity. However, there is also the large historical and contemporary literature on the rapidity with which new behavioral norms can spread in a population even among those who have little to gain from subscribing to these norms. One of the important routes through which such new norms spread is rising literacy and education and, given the amount of attention and investment the country is finally putting into expanding, monitoring and improving the access to education, perhaps, the one child family too will not seem as farfetched a mass behavioral change that it still seems to us today.

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**Table 1: Proportion of Women with at exactly one living child by Women's Age**

| <b>Age</b>                                     | <b>NFHS-1<br/>(1992-93)</b> | <b>NFHS-III<br/>(2005-06)</b> |
|--|-----------------------------|-------------------------------|
| 20-24  | 0.36                        | 0.41                          |
| 25-29  | 0.13                        | 0.17                          |
| 30-34  | 0.06                        | 0.09                          |
| 35-39  | 0.04                        | 0.06                          |
| 40-44  | 0.03                        | 0.05                          |
| 45-49  | 0.03                        | 0.04                          |
| Median Age at First Birth for women aged 15-49 | 19.6                        | 20                            |

Source: Calculated from published reports of National Family Health Surveys I and III

**Table 2: Distribution of Different Socio Economic Groups by Family Size**

|                                   | <b>One Child</b> | <b>Two Children</b> | <b>Censored</b> | <b>3 or more Children</b> |
|-----------------------------------|------------------|---------------------|-----------------|---------------------------|
| <b>Woman's Age</b>                |                  |                     |                 |                           |
| 20-24                             | 3                | 2                   | 82              | 13                        |
| 25-29                             | 6                | 13                  | 42              | 39                        |
| 30-34                             | 7                | 24                  | 15              | 54                        |
| 35-39                             | 5                | 23                  | 7               | 65                        |
| 40-45                             | 5                | 20                  | 6               | 70                        |
| 45-49                             | 5                | 18                  | 5               | 72                        |
| <b>Years since Marriage</b>       |                  |                     |                 |                           |
| Less than 5                       | 1                | 0                   | 98              | 1                         |
| 6-8                               | 8                | 3                   | 76              | 14                        |
| 9+                                | 5                | 21                  | 12              | 62                        |
| <b>Age at First Birth</b>         |                  |                     |                 |                           |
| 15-19                             | 4                | 16                  | 18              | 62                        |
| 20-24                             | 6                | 19                  | 29              | 47                        |
| 25-29                             | 11               | 22                  | 34              | 33                        |
| 30-34                             | 20               | 15                  | 37              | 27                        |
| 35-39                             | 15               | 10                  | 63              | 12                        |
| 40-45                             | 45               | 0                   | 55              | 0                         |
| <b>Woman's Education</b>          |                  |                     |                 |                           |
| None                              | 3                | 12                  | 18              | 66                        |
| 1-4 Class                         | 5                | 19                  | 21              | 55                        |
| 5-9 Class                         | 6                | 20                  | 28              | 46                        |
| 10-11 Class                       | 7                | 28                  | 33              | 31                        |
| 12 & come College                 | 12               | 27                  | 44              | 17                        |
| College Graduate                  | 16               | 29                  | 43              | 12                        |
| Missing Data                      | 4                | 6                   | 22              | 68                        |
| <b>Place of Residence</b>         |                  |                     |                 |                           |
| Metro Area                        | 13               | 25                  | 25              | 37                        |
| Other Urban                       | 6                | 21                  | 27              | 45                        |
| Developed Villages                | 5                | 19                  | 24              | 53                        |
| Less Dev. Villages                | 4                | 13                  | 23              | 60                        |
| <b>Household Income Quintiles</b> |                  |                     |                 |                           |
| Less than 1000 Rs.                | 4                | 16                  | 20              | 59                        |
| Poorest                           | 5                | 14                  | 25              | 57                        |
| 2nd Quintile                      | 4                | 15                  | 24              | 57                        |
| 3rd Quintile                      | 4                | 16                  | 24              | 56                        |
| 4th Quintile                      | 6                | 19                  | 24              | 52                        |
| Richest                           | 8                | 24                  | 25              | 42                        |
| <b>Total</b>                      | <b>5</b>         | <b>18</b>           | <b>24</b>       | <b>53</b>                 |



**Table 3: Distribution of Family Size Across Socio-Economic Groups**

|                                   | One Child | Two Children | Censored | 3 or more Children | All |
|-----------------------------------|-----------|--------------|----------|--------------------|-----|
| <b>Woman's Age</b>                |           |              |          |                    |     |
| 20-24                             | 7         | 1            | 41       | 3                  | 12  |
| 25-29                             | 21        | 14           | 33       | 14                 | 19  |
| 30-34                             | 27        | 28           | 13       | 21                 | 20  |
| 35-39                             | 22        | 27           | 7        | 26                 | 21  |
| 40-45                             | 18        | 23           | 5        | 28                 | 21  |
| 45-49                             | 6         | 6            | 1        | 9                  | 6   |
| Total                             | 100       | 100          | 100      | 100                | 100 |
| <b>Years since Marriage</b>       |           |              |          |                    |     |
| Less than 5                       | 1         | 0            | 24       | 0                  | 6   |
| 6-8                               | 14        | 1            | 31       | 2                  | 10  |
| 9+                                | 85        | 99           | 42       | 97                 | 84  |
| Total                             | 100       | 100          | 100      | 100                | 100 |
| <b>Age at First Birth</b>         |           |              |          |                    |     |
| 15-19                             | 35        | 46           | 39       | 59                 | 50  |
| 20-24                             | 41        | 42           | 47       | 35                 | 39  |
| 25-29                             | 18        | 11           | 12       | 5                  | 9   |
| 30-34                             | 5         | 1            | 2        | 1                  | 1   |
| 35-39                             | 1         | 0            | 1        | 0                  | 0   |
| 40-45                             | 0         | 0            | 0        | 0                  | 0   |
| Total                             | 100       | 100          | 100      | 100                | 100 |
| <b>Woman's Education</b>          |           |              |          |                    |     |
| None                              | 31        | 33           | 35       | 59                 | 47  |
| 1-4 Class                         | 7         | 9            | 7        | 8                  | 8   |
| 5-9 Class                         | 28        | 31           | 31       | 24                 | 27  |
| 10-11 Class                       | 12        | 14           | 12       | 5                  | 9   |
| 12 & come College                 | 9         | 6            | 7        | 1                  | 4   |
| College Graduate                  | 12        | 7            | 7        | 1                  | 4   |
| Missing Data                      | 1         | 1            | 1        | 2                  | 1   |
| Total                             | 100       | 100          | 100      | 100                | 100 |
| <b>Place of Residence</b>         |           |              |          |                    |     |
| Metro Area                        | 18        | 11           | 8        | 5                  | 8   |
| Other Urban                       | 25        | 26           | 24       | 19                 | 22  |
| Developed Villages                | 29        | 36           | 33       | 34                 | 34  |
| Less Dev. Villages                | 28        | 27           | 35       | 42                 | 37  |
| Total                             | 100       | 100          | 100      | 100                | 100 |
| <b>Household Income Quintiles</b> |           |              |          |                    |     |
| Less than 1000 Rs.                | 2         | 2            | 2        | 2                  | 2   |
| Poorest                           | 15        | 14           | 18       | 19                 | 17  |
| 2nd Quintile                      | 14        | 17           | 20       | 21                 | 20  |
| 3rd Quintile                      | 16        | 18           | 20       | 21                 | 20  |
| 4th Quintile                      | 22        | 21           | 20       | 20                 | 20  |
| Richest                           | 32        | 27           | 21       | 16                 | 20  |
| Total                             | 100       | 100          | 100      | 100                | 100 |

**Table 4: Distribution of Different Socio Economic Groups by Family Size**

|                    | Distribution of IHDS Sample(+) |              |           |                    | TFR         |
|--------------------|--------------------------------|--------------|-----------|--------------------|-------------|
|                    | One Child                      | Two Children | Censored  | 3 or more Children | NFHS-III    |
| Jammu & Kashmir    | 1                              | 11           | 17        | 72                 | 2.38        |
| Himachal Pradesh   | 3                              | 23           | 25        | 48                 | 1.94        |
| Uttarakhand        | 1                              | 10           | 22        | 67                 | 2.55        |
| Punjab             | 3                              | 21           | 24        | 51                 | 1.99        |
| Haryana            | 3                              | 18           | 23        | 56                 | 2.69        |
| Delhi              | 8                              | 26           | 17        | 49                 | 2.13        |
| Uttar Pradesh      | 3                              | 7            | 24        | 67                 | 3.82        |
| Bihar              | 1                              | 5            | 21        | 73                 | 4.00        |
| Jharkhand          | 3                              | 10           | 25        | 61                 | 3.31        |
| Rajasthan          | 4                              | 10           | 23        | 64                 | 3.21        |
| Chhattisgarh       | 5                              | 10           | 27        | 57                 | 2.62        |
| Madhya Pradesh     | 3                              | 12           | 22        | 63                 | 3.12        |
| Northeast          | 8                              | 18           | 26        | 48                 | *           |
| Assam              | 10                             | 24           | 17        | 48                 | 2.42        |
| West Bengal        | 12                             | 22           | 22        | 44                 | 2.27        |
| Orissa             | 4                              | 16           | 26        | 54                 | 2.37        |
| Gujarat            | 6                              | 23           | 25        | 47                 | 2.42        |
| Maharashtra, Goa** | 4                              | 19           | 26        | 51                 | 2.11        |
| Andhra Pradesh     | 7                              | 24           | 27        | 42                 | 1.79        |
| Karnataka          | 7                              | 23           | 26        | 45                 | 2.07        |
| Kerala             | 8                              | 41           | 27        | 24                 | 1.93        |
| Tamil Nadu         | 7                              | 28           | 27        | 38                 | 1.80        |
| <b>All India</b>   | <b>5</b>                       | <b>18</b>    | <b>24</b> | <b>53</b>          | <b>2.68</b> |

Note: \* NFHS-III TFR for different states in North East is in the range of 2-3 (+) Limited to women ages 15-49 with at least one child.

\*\* NFHS-III TFR for Goa is 1.8.

**Table 5: Predicted Probability of Women's Employment By Family Size**

|   | Rural    | Urban    |
|---|----------|----------|
| <b>Predicted Probability of Any Work for Mothers</b>  |          |          |
| 3 or More Children                                    | 0.739    | 0.235    |
| One Child   | 0.655 ** | 0.171 ** |
| Two Children  | 0.709    | 0.209    |
| Censored with 1 or 2 children                         | 0.661 ** | 0.174 ** |
| <b>Predicted Probability of Wage Work for Mothers</b> |          |          |
| 3 or More Children                                    | 0.227    | 0.095    |
| One Child   | 0.227    | 0.095    |
| Two Children  | 0.220    | 0.092    |
| Censored with 1 or 2 children                         | 0.222    | 0.092    |

Note: \*\* P <= 0.05 Compared to families with 3 or more children.

Predicted Values from Logistic Regressions Controlling for Mother's Age, Education, Caste/Religion, Household Income excluding mother's wages, and Place and State of Residence Due to sample size constraints regressions combine urban and rural samples, but predicted values are calculated holding background variables at their urban and rural means separately. Full regression in Appendix Table 1.

**Table 6: Predicted Consumption Behavior for Families at the Same Income Level**

|  | <b>Rural</b> | <b>Urban</b> |
|--|--------------|--------------|
| <b>Predicted Asset Ownership</b>                               |              |              |
| 3 or More Children   | 6.718        | 11.223       |
| One Child  | 7.039 **     | 11.544 **    |
| Two Children   | 7.148 **     | 11.653 **    |
| Censored with 1 or 2 children                                  | 6.777        | 11.282       |
| <b>Predicted Probability of Owning at least one large item</b> |              |              |
| 3 or More Children   | 0.013        | 0.228        |
| One Child  | 0.018        | 0.285 **     |
| Two Children   | 0.018        | 0.283 **     |
| Censored with 1 or 2 children                                  | 0.015        | 0.252        |

Note: Predicted Values from Logistic Regressions Controlling for Mother's Age, Education, Caste/Religion, Household Income and Place and State of Residence. Full regression in Appendix Table 2.

**Table 7: Predicted Leisure and Gender Related Outcomes by Family Size**

|   | <b>Rural</b> | <b>Urban</b> |
|---|--------------|--------------|
| <b>Predicted Hours of TV Watching for Women (+)</b> |              |              |
| 3 or More Children                                  | 1.020        | 2.243        |
| One Child   | 1.083        | 2.306        |
| Two Children  | 1.036        | 2.258        |
| Censored with 1 or 2 children                       | 1.020        | 2.242        |
| <b>Frequent Visits to the Natal Family</b>          |              |              |
| 3 or More Children                                  | 0.160        | 0.175        |
| One Child   | 0.165        | 0.182        |
| Two Children  | 0.157        | 0.172        |
| Censored with 1 or 2 children                       | 0.199 **     | 0.217 **     |
| <b>Index of Couple Communication</b>                |              |              |
| 3 or More Children                                  | 3.530        | 3.699        |
| One Child   | 3.363 **     | 3.531 **     |
| Two Children  | 3.515        | 3.684        |
| Censored with 1 or 2 children                       | 3.190 **     | 3.359 **     |
| <b>Probability of Going on a Family Outing</b>      |              |              |
| 3 or More Children                                  | 0.424        | 0.679        |
| One Child   | 0.458 **     | 0.708        |
| Two Children  | 0.475 **     | 0.722 **     |
| Censored with 1 or 2 children                       | 0.421        | 0.676        |

Note: Predicted Values from Logistic Regressions Controlling for Mother's Age, Education, Caste/Religion, Household Income and Place and State of Residence. Full regression in Appendix Table 3.

**Table 8: Predicted Investments in Children by Family Size**

|   | <b>Rural</b> | <b>Urban</b> |
|---|--------------|--------------|
| <b>Predicted Annual Expenditure on Children's Education (in Rupees)</b> |              |              |
| 3 or More Children  | 377          | 1059         |
| One Child   | 528 **       | 1484 **      |
| Two Children  | 480 **       | 1349 **      |
| Censored with 1 or 2 children   | 465 **       | 1306 **      |
| <b>Predicted Probability of Children Attending Private School</b>       |              |              |
| 3 or More Children  | 0.127        | 0.468        |
| One Child   | 0.186 **     | 0.580 **     |
| Two Children  | 0.172 **     | 0.556 **     |
| Censored with 1 or 2 children   | 0.191 **     | 0.588 **     |

Note: Predicted Values from Logistic Regressions Controlling for child's age, sex, standard, Mother's education, Caste/Religion, Household Income and Place and State of Residence. Full regression in Appendix Table 4.

**Appendix Table 1: Effect of Family size on Women's Employment,  
Results from Logistic Regression**

|   | Any Work              |      | Work for Pay |      |
|---|-----------------------|------|--------------|------|
|   | Including Family Farm |      |              |      |
|   | Odds Ratio            | SE   | Odds Ratio   | SE   |
| <b>Family size (3 or more children omitted)</b>             |                       |      |              |      |
| One Child   | 0.67 **               | 0.06 | 1.00         | 0.09 |
| Two Children  | 0.86 *                | 0.05 | 0.96         | 0.06 |
| Censored with 1 or 2 Children                               | 0.69 **               | 0.04 | 0.97         | 0.07 |
| <b>Age of the Mother (Under 25 omitted)</b>                 |                       |      |              |      |
| 26-29   | 1.45 **               | 0.11 | 1.51 **      | 0.13 |
| 30-34   | 2.22 **               | 0.18 | 2.05 **      | 0.18 |
| 35-39   | 2.53 **               | 0.21 | 2.36 **      | 0.22 |
| 40-44   | 2.32 **               | 0.20 | 2.00 **      | 0.19 |
| 45-49   | 2.14 **               | 0.24 | 2.04 **      | 0.25 |
| <b>Maternal Education (None Omitted)</b>                    |                       |      |              |      |
| 1-4 Std.  | 0.74 **               | 0.06 | 0.63 **      | 0.05 |
| 5-9 Std.  | 0.58 **               | 0.03 | 0.43 **      | 0.03 |
| 10-11 Std.  | 0.51 **               | 0.04 | 0.35 **      | 0.03 |
| 12 th or some college                                       | 0.67 **               | 0.08 | 0.81         | 0.12 |
| College Graduate  | 0.92                  | 0.09 | 1.72 **      | 0.20 |
| Missing   | 1.36                  | 0.21 | 0.78         | 0.16 |
| <b>Caste/Religion (Forward Caste Hindu Omitted)</b>         |                       |      |              |      |
| Other Backward Classes (Middle castes)                      | 1.39 **               | 0.08 | 1.51 **      | 0.10 |
| Scheduled Caste   | 1.24 **               | 0.08 | 2.92 **      | 0.21 |
| Scheduled Tribe   | 2.31 **               | 0.22 | 3.52 **      | 0.32 |
| Muslim  | 0.77 **               | 0.06 | 0.97         | 0.09 |
| Christian, Jain, Sikh and others                            | 1.39 **               | 0.16 | 1.34         | 0.22 |
| <b>Place of Residence (Metro City Omitted)</b>              |                       |      |              |      |
| Small-Med. Cities   | 1.66 **               | 0.13 | 1.31 **      | 0.13 |
| Developed Villages  | 7.05 **               | 0.60 | 1.92 **      | 0.19 |
| Less Developed Villages                                     | 10.02 **              | 0.84 | 2.12 **      | 0.22 |
| <b>Other Family Income (Excluding women's own earnings)</b> |                       |      |              |      |
| Log of family Income  | 0.68 **               | 0.02 | 0.53 **      | 0.02 |
| Negative Family Income                                      | 0.06 **               | 0.02 | 0.00 **      | 0.00 |
| Constant  | 19.68 **              | 7.16 | 12.68 **     | 5.68 |
| Log Likelihood Ratio (df 45)                                | 4715                  |      |              |      |
| N   | 30487                 |      |              |      |

Note: \*\* p <= 0.01 \* p <= 0.05 Regressions include dummy variables for state of residence.  
Sample=Ever married women age 15-49 with at least one child.

Appendix Table 2: Effect of Family Size on Household Consumption

|   | No. of Assets Owned |      | Ownership of any Major Asset<br>(car, refrigerator, AC, computer or credit card) |       |
|---|---------------------|------|--|-------|
|   | OLS Coeff.          | SE   | Odds Ratio   | SE    |
| <b>Family size (3 or more children omitted)</b>     |                     |      |  |       |
| One Child   | 0.32 **             | 0.09 | 0.30 **  | 0.11  |
| Two Children  | 0.43 **             | 0.06 | 0.29 **  | 0.07  |
| Censored with 1 or 2 Children                       | 0.06                | 0.06 | 0.13   | 0.08  |
| <b>Age of the Mother (Under 25 omitted)</b>         |                     |      |  |       |
| 26-29   | 0.07                | 0.07 | 0.24 *   | 0.11  |
| 30-34   | 0.22 **             | 0.08 | 0.50 **  | 0.11  |
| 35-39   | 0.49 **             | 0.08 | 0.67 **  | 0.12  |
| 40-44   | 0.70 **             | 0.08 | 0.82 **  | 0.12  |
| 45-49   | 1.07 **             | 0.11 | 0.99 **  | 0.15  |
| <b>Maternal Education (None Omitted)</b>            |                     |      |  |       |
| 1-4 Std.  | 0.83 **             | 0.08 | 0.80 **  | 0.11  |
| 5-9 Std.  | 1.76 **             | 0.06 | 0.99 **  | 0.07  |
| 10-11 Std.  | 3.14 **             | 0.08 | 1.70 **  | 0.09  |
| 12 th or some college                               | 3.88 **             | 0.11 | 2.14 **  | 0.10  |
| College Graduate                                    | 4.87 **             | 0.11 | 2.56 **  | 0.11  |
| Missing   | -0.21               | 0.16 | 0.23   | 0.25  |
| <b>Caste/Religion (Forward Caste Hindu Omitted)</b> |                     |      |  |       |
| Other Backward Classes (Middle castes)              | -0.54 **            | 0.06 | -0.35 **   | 0.06  |
| Scheduled Caste                                     | -1.21 **            | 0.06 | -0.59 **   | 0.08  |
| Scheduled Tribe                                     | -1.62 **            | 0.09 | -0.74 **   | 0.15  |
| Muslim  | -0.51 **            | 0.07 | -0.09  | 0.08  |
| Christian, Jain, Sikh and others                    | 0.13                | 0.14 | 0.11   | 0.12  |
| <b>Place of Residence (Metro City Omitted)</b>      |                     |      |  |       |
| Small-Med. Cities                                   | -0.19 *             | 0.08 | -0.52 **   | 0.09  |
| Developed Villages                                  | -1.80 **            | 0.09 | -1.50 **   | 0.10  |
| Less Developed Villages                             | -2.29 **            | 0.09 | -1.96 **   | 0.12  |
| <b>Family Income</b>                                |                     |      |  |       |
| Log of family Income                                | 1.42 **             | 0.03 | 1.24 **  | 0.04  |
| Negative Family Income                              | 14.35 **            | 0.37 | 13.63 **   | 0.51  |
| Constant  | -6.45               | 0.42 | -15.14   | 0.53  |
| R Square  | 0.6301              |      |  |       |
| Log Likelihood (df 45)                              |                     |      |  | 4324  |
| N   | 30487               |      |  | 30487 |

Note: \*\* p <= 0.01 \* p <= 0.05 Regressions include dummy variables for state of residence.  
Sample=Ever married women age 15-49 with at least one child.

Appendix Table 3: Effect of Family Size on Women's Autonomy and Leisure

|   | Hours of Watching TV |      | Visit Natal Family Monthly |      | Couple Communication Index |    |      | Go on Family Outings |      |
|---|----------------------|------|----------------------------|------|----------------------------|----|------|----------------------|------|
|   | OLS Coeff.           | SE   | Odds Ratio                 | SE   | OLS Coeff.                 |    | SE   | Odds Ratio           | SE   |
| <b>Family size (3 or more children omitted)</b>     |                      |      |                            |      |                            |    |      |                      |      |
| One Child   | 0.06                 | 0.05 | 1.04                       | 0.10 | -0.17                      | ** | 0.05 | 1.15                 | 0.10 |
| Two Children  | 0.02                 | 0.04 | 0.98                       | 0.06 | -0.02                      |    | 0.04 | 1.23                 | **   |
| Censored with 1 or 2 Children                       | 0.00                 | 0.03 | 1.30                       | **   | 0.08                       |    | 0.05 | 0.99                 | 0.06 |
| <b>Age of the Mother (Under 25 omitted)</b>         |                      |      |                            |      |                            |    |      |                      |      |
| 26-29   | 0.04                 | 0.04 | 1.05                       | 0.08 | -0.02                      |    | 0.05 | 0.92                 | 0.06 |
| 30-34   | 0.03                 | 0.04 | 0.87                       | 0.07 | -0.02                      |    | 0.05 | 0.89                 | 0.06 |
| 35-39   | 0.07                 | 0.04 | 0.84                       | 0.08 | -0.06                      |    | 0.06 | 0.72                 | **   |
| 40-44   | 0.10                 | *    | 0.91                       | 0.08 | -0.01                      |    | 0.06 | 0.64                 | **   |
| 45-49   | 0.15                 | *    | 0.79                       | 0.10 | 0.08                       |    | 0.07 | 0.57                 | **   |
| <b>Maternal Education (None Omitted)</b>            |                      |      |                            |      |                            |    |      |                      |      |
| 1-4 Std.  | 0.19                 | **   | 1.13                       | 0.09 | 0.14                       | ** | 0.05 | 1.32                 | **   |
| 5-9 Std.  | 0.46                 | **   | 1.04                       | 0.06 | 0.29                       | ** | 0.04 | 1.59                 | **   |
| 10-11 Std.  | 0.60                 | **   | 0.99                       | 0.07 | 0.55                       | ** | 0.04 | 2.45                 | **   |
| 12 th or some college                               | 0.61                 | **   | 1.26                       | *    | 0.77                       | ** | 0.07 | 3.64                 | **   |
| College Graduate                                    | 0.56                 | **   | 1.31                       | **   | 0.93                       | ** | 0.06 | 6.41                 | **   |
| Missing   | -0.14                | *    | 0.83                       | 0.13 | -0.04                      |    | 0.13 | 0.73                 | *    |
| <b>Caste/Religion (Forward Caste Hindu Omitted)</b> |                      |      |                            |      |                            |    |      |                      |      |
| Other Backward Classes (Middle castes)              | -0.05                |      | 1.05                       | 0.06 | -0.04                      |    | 0.04 | 0.87                 | *    |
| Scheduled Caste                                     | -0.21                | **   | 1.13                       | 0.08 | -0.19                      | ** | 0.04 | 0.92                 | 0.05 |
| Scheduled Tribe                                     | -0.33                | **   | 1.39                       | **   | 0.14                       |    | 0.07 | 0.90                 | 0.07 |
| Muslim  | -0.21                | **   | 2.12                       | **   | 0.15                       |    | 0.05 | 0.57                 | **   |
| Christian, Jain, Sikh and others                    | -0.09                |      | 1.44                       | **   | 0.16                       |    | 0.07 | 1.02                 | 0.10 |
| <b>Place of Residence (Metro City Omitted)</b>      |                      |      |                            |      |                            |    |      |                      |      |
| Small-Med. Cities                                   | 0.12                 | **   | 1.86                       | **   | 0.15                       |    | 0.05 | 0.60                 | **   |
| Developed Villages                                  | -0.48                | **   | 1.61                       | **   | 0.15                       |    | 0.05 | 0.39                 | **   |
| Less Developed Villages                             | -0.70                | **   | 1.46                       | **   | 0.13                       |    | 0.05 | 0.43                 | **   |
| <b>Family Income</b>                                |                      |      |                            |      |                            |    |      |                      |      |
| Log of family Income                                | 0.31                 | **   | 0.91                       | **   | 0.02                       |    | 0.02 | 1.22                 | **   |
| Negative Family Income                              | 3.15                 | **   | 0.58                       | 0.19 | 0.92                       | ** | 0.21 | 6.53                 | **   |
| Constant  | -1.96                | **   | 1.19                       | 0.42 | 1.95                       | ** | 0.23 | 0.36                 | **   |
| R Square  | 0.3368               |      |                            |      | 0.1977                     |    |      |                      |      |
| Log Likelihood (df 45)                              |                      |      | 1676.9                     |      |                            |    |      | 2913.67              |      |
| N   | 29832                |      | 29449                      |      | 29741                      |    |      | 30330                |      |

Note: \*\* p <= 0.01 \* p <= 0.05 Regressions include dummy variables for state of residence.

Sample=Ever married women age 15-49 with at least one child.

**Appendix Table 4: Effect of Family Size on Expenditure on Children's Education**

|   | Log of Total Educational Expenditure |    |      | Enrollment in Private School |    |       |
|---|--------------------------------------|----|------|------------------------------|----|-------|
|   | OLS Coeff.                           |    | SE   | Odds Ratio                   |    | SE    |
| <b>Family size (3 or more children omitted)</b>     |                                      |    |      |                              |    |       |
| One Child   | 0.34                                 | ** | 0.07 | 1.57                         | ** | 0.17  |
| Two Children  | 0.24                                 | ** | 0.03 | 1.43                         | ** | 0.08  |
| Censored with 1 or 2 Children                       | 0.21                                 | ** | 0.06 | 1.62                         | ** | 0.14  |
| Female Child  | -0.14                                | ** | 0.02 | 0.78                         | ** | 0.03  |
| Age of child in years                               | 0.03                                 | ** | 0.01 | 1.07                         | ** | 0.02  |
| Standard attended by child                          | 0.12                                 | ** | 0.01 | 0.89                         | ** | 0.01  |
| <b>Maternal Education (None Omitted)</b>            |                                      |    |      |                              |    |       |
| 1-4 Std.  | 0.11                                 | *  | 0.04 | 1.28                         | ** | 0.11  |
| 5-9 Std.  | 0.37                                 | ** | 0.03 | 2.12                         | ** | 0.11  |
| 10-11 Std.  | 0.71                                 | ** | 0.04 | 4.01                         | ** | 0.31  |
| 12 th or some college                               | 0.89                                 | ** | 0.05 | 3.64                         | ** | 0.40  |
| College Graduate                                    | 1.20                                 | ** | 0.06 | 5.35                         | ** | 0.63  |
| Missing   | -0.06                                |    | 0.06 | 1.18                         |    | 0.16  |
| <b>Caste/Religion (Forward Caste Hindu Omitted)</b> |                                      |    |      |                              |    |       |
| Other Backward Classes (Middle castes)              | -0.08                                | ** | 0.03 | 0.88                         | *  | 0.05  |
| Scheduled Caste                                     | -0.26                                | ** | 0.03 | 0.59                         | ** | 0.04  |
| Scheduled Tribe                                     | -0.43                                | ** | 0.05 | 0.80                         | *  | 0.09  |
| Muslim  | -0.28                                | ** | 0.03 | 1.00                         |    | 0.07  |
| Christian, Jain, Sikh and others                    | 0.08                                 |    | 0.05 | 1.58                         | ** | 0.20  |
| <b>Place of Residence (Metro City Omitted)</b>      |                                      |    |      |                              |    |       |
| Small-Med. Cities                                   | -0.51                                | ** | 0.05 | 0.77                         | ** | 0.06  |
| Developed Villages                                  | -0.96                                | ** | 0.05 | 0.29                         | ** | 0.03  |
| Less Developed Villages                             | -1.25                                | ** | 0.05 | 0.17                         | ** | 0.02  |
| <b>Family Income</b>                                |                                      |    |      |                              |    |       |
| Log of family Income                                | 0.19                                 | ** | 0.01 | 1.48                         | ** | 0.04  |
| Negative Family Income                              | 2.10                                 | ** | 0.16 | 75.41                        | ** | 25.84 |
| Constant  | 5.31                                 | ** | 0.19 | 0.05                         | ** | 0.02  |
| R-Square  | 0.3458                               |    |      |                              |    |       |
| Chi Statistic (DF 43)                               |                                      |    |      | 3724.33                      |    |       |
| N   | 30285                                |    |      | 30286                        |    |       |

Note: \*\* p <= 0.01 \* p <= 0.05 Regressions include dummy variables for state of residence.  
Sample=Children Ages 6-14 of ever-married women ages 15-49.