

Like Daughter, Like Son?: Fertility Decline and the Transformation of Gender Systems in the Family

Keera Allendorf, PhD  
Assistant Professor  
Department of Sociology  
University of Illinois at Urbana-Champaign  
605 E. Springfield St.  
Champaign, IL 61820  
kallendo@illinois.edu

\*\*\*Draft\*\*\*  
July 2011

**ABSTRACT**

One key question for population research is whether fertility decline and control transform gender systems and empower women. This paper aims to contribute to answering this broad question by examining whether and how fertility decline may change the relative value and roles of daughters versus sons in their natal families. First, I outline theoretical pathways, suggesting that a key factor is the shift in the composition of households. As fertility declines, the proportion of households with children of only one gender increases, which may lead to greater gender symmetry between daughters and sons. Second, drawing on semi-structured interviews with 30 respondents, I explore how fertility decline may be transforming the relative value and roles of sons and daughters in practice in one Indian village. I also supplement the empirical analysis with secondary data on the larger region from the census and surveys.

## INTRODUCTION

In recent decades fertility has fallen around the world. In the early 1950s, the total fertility rate for the world population was almost five children per woman (United Nations 2011a). Nearly six decades later, fertility had declined by almost two and a half children to a rate of 2.52 in 2005-10. Fertility decline has been especially rapid among less developed regions, whose collective total fertility rate fell by nearly three and a half children from 6.07 in 1950-55 to 2.68 in 2005-10 (ibid). Much of the fertility decline in less developed regions has been achieved through an increase in contraceptive use. The percent of women of reproductive age in less developed regions using contraception rose from 9% in 1960 (PRB 2002) to 61% in 2009 (United Nations 2011b).

With the widespread decline of fertility, demographers have turned their attention from the determinants of fertility to the consequences of fertility decline, including impacts on age structure, economic growth, and social life. One aspect of social life that may be transformed by fertility decline is that of gender systems (Malhotra 2009; Mason 1997; Reher 2011). Following Mason (2001:161), I define a gender system as “a set of beliefs and norms, common practices, and associated sanctions through which the meaning of being male and female and the rights and obligations of males and females of different ages and social statuses are defined.” Several studies have examined the consequences of fertility decline and contraceptive use on women’s employment in Western countries (e.g. Bailey 2006; Bloom et al. 2009; Matysiak and Vignoli 2008). Beyond this work, however, the potential impact of fertility decline on gender systems has been largely overlooked. Thus, Malhotra (2009) contends that one key question for future population research is whether fertility decline and control transform gender systems and empower women.

This paper aims to contribute to answering this question by examining whether and how fertility decline and control may transform one aspect of gender systems within the family. Specifically, this paper explores how fertility decline may change the relative value and roles of daughters versus sons in

their natal families. I hypothesize that fertility decline and control will contribute to greater gender symmetry between daughters and sons and greater freedom for daughters especially. Drawing on Malhotra's (2009) framework and other literature, I first outline the theoretical reasons why fertility decline may lead to such transformations. Next, drawing on semi-structured interviews, I explore how fertility decline may be transforming the value and roles of sons and daughters in practice in one Indian village. I also supplement the empirical analysis with secondary data from the larger region to place the village within a broader context and provide additional evidence of change over time.

### **THEORETICAL BACKGROUND**

In her framework, Malhotra (2009) lays out three main pathways through which fertility decline may transform gender systems. The first two pathways focus on women's reproductive capacity as the fundamental motivation for the subjugation of women. First, Malhotra (2009) notes that fertility decline should reduce this fundamental motivation to control women because women's reproductive capacity becomes less valuable as large numbers of children become less desirable. Second, the ability to control fertility through the use of effective contraception separates sex from childbearing. As effective means of contraception become available women and their partners can increasingly engage in sex without fear that a pregnancy will result (Presser 2001). This separation of sex from childbearing should also reduce the underlying motivation to control women and their sexuality. Effective means of contraception should also empower women by allowing them to effectively control the timing of childbearing and, thus, the timing of their careers and education as well (Bailey 2006; Presser 2001).

The third pathway that Malhotra (2009) outlines points to a more mundane impact of fertility decline on women's daily lives. As fertility declines, women devote less time to bearing and rearing children and, thus, have more time to expand their roles beyond motherhood. As life expectancy rises, women also live longer past their reproductive years providing even more time. Others have also pointed to this pathway. Reher (2011) includes the smaller amount of time spent bearing and rearing

children contributing to a transformation of women's roles in his framework of how the demographic transition results in social and economic change. Similarly, the literature on women's employment in Western countries suggests that fertility decline increases women's employment because women are able to devote less time to bearing and rearing children (e.g. Englehardt et al. 2004; Bloom et al. 2009).

These pathways outlined by Malhotra (2009) present two main mechanisms that are relevant to the focus on sons and daughters in the family. First, the decline in the fundamental motivation to subjugate women should over the long term contribute to greater gender equality as a whole, which includes greater similarity in the roles of sons and daughters. Second, one common aspect of these pathways that is more immediately relevant to sons and daughters in the family is that of controlling women's sexuality. As Malhotra describes, taken together these pathways suggest that one main way in which fertility decline should impact gender systems is by increasing women's sexual freedom. In India and many other places, the sexuality of daughters is strictly controlled by ensuring that daughters have limited contact with men outside the family, do not engage in sex before marriage, and that when they do marry and have sex they do so with an approved husband. Thus, Malhotra's framework suggests that when fertility declines control over daughters' sexuality should also decline and young women should have more contact with men, more freedom to engage in relationships outside of marriage, and marry if and as they choose. More broadly, with fertility decline the importance of marriage in general as a context for sex and childbearing should decline (Reher 2011). When large numbers of children are no longer desirable and effective contraception is available, it is not necessary to limit sex to marriage or to marry to produce large numbers of children.

The focus on sons and daughters within the family further highlights additional pathways by which fertility decline could transform gender systems. The pathways outlined above focus on adult women who engage in childbearing. When placed within the family, the existing focus is, thus, largely on mothers. The focus here is on the children that are the products of fertility, rather than the mothers

producing fertility. When the focus is shifted from mothers to children, another pathway by which fertility decline may transform gender systems become apparent. Fertility decline fundamentally changes the composition of children within families. These changes in the composition of families may further contribute to the transformation of gender systems.

Most immediately, fertility decline results in a smaller number of children in families. Families shift from having five or more children on average in a pre-transition context to having only two fewer children on average in a post-transition context. As the average number of children in a family declines, the number and likelihood of children having siblings also declines. The gender composition of children also shifts. As fertility falls, the proportion of families with children of both genders also falls, while the proportions of families with only daughters and only sons increase (Figure 1). Guilmoto (2009) refers to this reduced probability of having a son with fewer births as the “fertility squeeze.” As shown in Figure 1, the probability of having children of both genders is 94% in a family of five children, but only 50% in a family of two children. Similarly, the probability of having only daughters rises from 3% in a family of five children to 24% in a family of two.

[Figure 1 about here]

The gender composition of surviving children in families found in actual populations will not always match those presented in Figure 1. Families manipulate the gender of their children through sex-selective abortion, stopping or continuing childbearing based on the gender of existing children, and consciously or unconsciously neglecting daughters (Arnold et al. 2002; Basu and De Jong 2010; Clark 2000). In turn, these manipulations elevate the proportion of families with sons above that of the biological norm (Bhat & Zavier 2003; Clark 2000) and result in masculine sex ratios (Guilmoto 2009). Despite such manipulations, however, the fertility squeeze will inexorably lead to substantial proportions of families that have children of only one gender, including those with only daughters.

In turn, these changes in the composition of families may lead to greater gender symmetry between sons and daughters. First, these shifts in composition should increase families' investment in daughters more than sons, resulting in greater equality of investments between sons and daughters. When families have smaller numbers of children, they have more resources available per child. So with fewer children families should be better able to meet the needs of all their children even in times of scarcity and the neglect of daughters should decline along with fertility decline. Further, studies of son preference consistently find that it is not daughters in general that are neglected or unwanted, but specifically higher birth order daughters. The majority of women do want one daughter and it is higher birth order daughters that are at a greater risk of poor health and mortality (Arnold et al. 1998; Mishra et al. 2004). In a low fertility context, the proportion of girls that are higher birth order daughters decreases. Thus, as fertility declines the proportion of girls that are wanted first daughters and that parents want to invest in should increase. Das Gupta and Bhat (1997) refer to this outcome as the "parity effect" of fertility decline.

The reduction in the number of siblings may also provide a special boost for investments in girls' schooling more than boys'. Older sisters are often responsible for taking care of their younger siblings. Some families do not send daughters to school because they need them to stay home and take care of younger siblings. When daughters have no younger siblings or only one younger sibling there is less need to keep daughters at home and parents may be more likely to send them to school. Thus, Grant and Behrman (2010) speculate that fertility decline may have played an important role in reducing the global gender gap in schooling. In keeping with their suggestion, Ye and Wu (2011) find that the reduction in the number of siblings due to fertility decline did increase schooling among younger cohorts of girls in China.

The shift in the gender composition of families should also create additional pressures for gender symmetry between sons and daughters. Families with children of only one gender are less able

to make gendered distinctions. If a family has only sons or only daughters they cannot treat their own children differently from each other on the basis of gender. For example, if parents don't have a son, they can't give more food and resources to a son, rather than a daughter. Similarly, they can't send their sons to school, while keeping a daughter at home. They either have to send all their children to school or keep a son at home. Having children of only one gender may also encourage parents to treat children more gender symmetrically even when they are not forced to by circumstance. In particular, families with no sons may treat their daughters more like sons. For example, parents with only daughters could encourage all of their children to take on traditional feminine roles and be devoted wives and mothers, but, given that they have no son to succeed in the world, they may instead be more likely to encourage one or more of their daughters to take on high status occupations. Another example is the potential blurring of the gendering of religious rituals in the family. For example, Nepali Hindus celebrate *Bhai Tika*, a holiday in which sisters give their brothers a seven colored *tika* (a mark on the forehead), which is intended to help the brother live a long life. It is possible that eventually among families with only sons, brothers would give each other *tika* and among families with only daughters, sisters would give each other *tika*. Such gender neutral practices could also spread from families with children of only one gender to the rest of the population as they become more common and accepted.

Finally, the large proportion of families with only daughters that will eventually emerge after fertility decline will present a fundamental threat to the patrilineal family system, which underlies much of the gender system. Under the patrilineal, joint family system, men remain members of their natal families their entire lives, while women transfer their primary family membership from their natal family to that of their husband's family after marriage. This family membership is reflected in patrilocal residence with women often living with their in-laws after marriage. Under the joint family system, sons are expected to take care of their parents in old age, while daughters take of their parents-in-law in their capacity as daughters-in-law. The sons also inherit the family's property, while daughters do not.



Such a system worked in the past when fertility was high and nearly all families had at least one son. However, such a system will not work when the proportion of families without sons becomes substantial. Once families start having two children on average and these children reach adulthood, the gendered nature of this system must collapse. A substantial proportion of daughters will have to take care of their own parents, if not co-reside with them, or the elderly will have to be supported in some other manner, such as through government support. Traditional patrilineal inheritance practices will also no longer be viable. The substantial proportion of families without sons will have to pass family property on to daughters or leave family property to more distantly related men. Either way, the role of daughters and sons will become more similar, as daughters either become more like sons or sons lose an important dimension of their traditional role. In turn, this could further destabilize patrilocal residence and even the patrilineal system more broadly.

Above, I described pathways through which fertility decline may increase the freedom and well-being of daughters and increase gender symmetry between sons and daughters. Conversely, much of the literature on fertility decline and son preference emphasizes the negative effect of fertility decline on girls (Das Gupta and Bhat 1997; Guilmo 2009). Specifically, much of the literature describes how the fertility squeeze intensifies son preference and motivates families to discriminate more against girls in order to have a son within a smaller number of births. Thus, to put it simply, much of the previous literature suggests that fertility decline *reduces* gender equality and the well-being of girls, rather than increases it as I describe. These claims are not contradictory as they seem however. It is important to take note of the timing of these changes. These claims refer to different points in time during and after a fertility transition. At first, the fertility squeeze does present a strong incentive for families to engage in more sex-selective abortion and neglect of girls. However, when the fertility transition has been in place for several years, families with small numbers of children become common, and children in these

families reach adulthood. It is only at this later point in the transition that the processes I describe above should take affect and eventually overshadow the initial negative effects of the fertility squeeze.

There is already evidence of just such a shift in the effect of fertility decline on sex ratios. In South Korea, the sex ratio at birth rose steeply in the 1980s, due to the combined effects of the fertility squeeze and the greater availability of sex-selective abortion (Chung and Das Gupta 2007). Yet in the mid-1990s, it started steadily declining and began to normalize. Similarly, Das Gupta et al. (2009) suggest that India and China's masculine child sex ratios are also beginning to normalize. More broadly, Guilimoto (2009) suggests that this pattern of sex ratios rising and then returning to normal will be followed by all Asian countries. Under the initial pressure of the fertility squeeze and the availability of sex-selective abortion, sex ratios rise, but later in time they fall back down to normal levels. It should also be noted, however, that the masculinization of sex ratios at birth may be due largely, if not entirely, to the spread of prenatal sex-selection technologies, rather than an intensification of son preference under the fertility squeeze (Bhat and Zavier 2003). In both India (Bhat and Zavier 2003) and South Korea (Chung and Das Gupta 2007), son preference, as measured by whether women felt the need to give birth to a son and their ideal gender composition of children, decreased even as sex ratios became more masculine.

Social and economic change reduced son preference in both South Korea (Chung and Das Gupta 2007) and India (Bhat and Zavier 2003) and may well do so in other places. However, demographic factors should also play a role. Guilimoto (2009) suggests that the demographic impact of masculine sex ratios themselves should contribute to the normalization of sex ratios. He suggests that when the generations born under imbalanced sex ratios come of age, many men will not marry because of the shortage of women. In turn, a surplus of sons who never marry "is bound to disrupt traditional patriarchal arrangements" (Guilimoto 2009: 536). I agree that demographic factors will contribute to the

transformation of the gender system. However, as described above, I also point to the shift in the gender composition of families as another important demographic factor.

## **METHOD**

### **Site**

The empirical analysis draws largely on 30 semi-structured interviews collected in May 2010 that focused on people's perception of changes in family behaviors over time. The interviews were collected in the village of Pariwarbasti, which is located in the Kalimpong subdivision of Darjeeling District [1] in the state of West Bengal. (Pariwarbasti is a pseudonym.) The results also draw on earlier fieldwork carried out by the author in Pariwarbasti from September 2007 through May 2008. This earlier fieldwork focused on the quality of family relationships, family decision-making, and maternal and child health. It was during this earlier fieldwork that changes in family behaviors, as well as broader social and economic change, emerged as an important issue in Pariwarbasti, as it is many places.

Pariwarbasti is a village in the Eastern Himalayan foothills, located a few miles from the town of Kalimpong. The primary economic activity is agriculture, with rice, corn, and gladiolas comprising the main crops. Many Pariwarbasti residents own their own land or are tenants of landowners who live elsewhere. Many residents also work as daily laborers in agriculture and construction. It is also common for men to work in other parts of India, either temporarily migrating to cities in search of jobs or working as soldiers in the Indian army. In 2009, a small number of women also began migrating to work as domestic servants in Qatar.

The village contains a mix of castes and ethnic groups that are common in the rest of Darjeeling, Sikkim and Eastern Nepal. Ethnically, the village includes high caste Chetri-Bahun, several Tibeto-Burman groups – including Lepcha, Limbu, Gurung, Tamang, and Rai - and some Dalits. Lepchas and Limbus are the indigenous inhabitants of the area, while other groups migrated from Nepal in the late 1800s and early 1900s. It should also be noted that compared to high caste Chetri-Brahmans and other

Indians living in the plains, Tibeto-Burman groups customarily have more egalitarian gender relations. Collectively, people in the area describe themselves as Nepali and speak the Nepali language.[2] The village is primarily Hindu, but also includes Buddhists and Christians. Christian missionaries have been active in the area since 1865 when the territory came under British control.

### **Data Collection**

The sample of 30 respondents was stratified by gender and life course stage. The stratification was intended to include potential differences in views by family experiences and gender. Given the changes in family behaviors over time, stratifying the sample by life course stage also ensured representation of the potentially divergent experiences and views of younger and older villagers. The sample thus includes five people of each of the following six types: 1) Older married men who have one or more married children; 2) Older married women who have one or more married children; 3) Married men who have one or more children under age ten; 4) Married women who have one or more children under age ten; 5) Younger unmarried men; and 6) Younger unmarried women.

Within each of these six groups of respondents I also included a mix of caste and education levels. Previous work has found differences in family behaviors and beliefs by caste and education (Ghimire et al. 2006; Niraula 1994). Thus, I included a mix of caste and education levels to help ensure that the full range of perceptions was sampled. In practice, this meant interviewing at least one high caste Chhetri-Bahun, one middle caste Tibeto-Burman, and one Dalit in each of the six stratified groups. Similarly, for education, I attempted to include at least one person with zero to four years of schooling, one with five to nine years, and one with ten or more years in each group. It was not always possible to meet these goals, however. Due to the high levels of education among youth and the correlation between marital status and education, I was unable to interview an unmarried person with less than nine years of education. It should also be noted that the village has relatively few Chetri-Bahuns and

even fewer Dalits. Thus, most of the respondents are members of Tibeto-Burman groups. The basic characteristics of the respondents are presented in Table 1.

[Table 1 about here]

Selecting respondents comprised a combination of purposive and snowball sampling. First, I interviewed respondents who I had previously interviewed during my earlier fieldwork in 2007-08 who fit the criteria for the sample (n=12). I chose to re-interview some people because I already had good rapport with them and detailed information on their own family histories and backgrounds. The original 2007-2008 sample included women who had a birth in the past year, their husbands, and their mothers-in-law. Thus, most of the respondents who were previously interviewed were in the group of respondents with a child under age ten. Second, for the remaining respondents (n=18), I interviewed people in the village that I was aware of from previously living in the village who fit the criteria and also asked previous respondents and other village residents if they knew of people in the village that fit the criteria.

In the interviews, I began by collecting basic characteristics about the respondents, if necessary, and then moved into the substantive focus on perceptions of changes in family behaviors over time. The substantive questions began by going through a list of family behaviors, including childbearing, choosing a spouse, supporting parents in old age, and many others and asking them to describe what these behaviors are like in the village today and then what they were like in the past, 20-25 years ago. If they said the behavior had changed, I asked why they think it is changing and how the change is affecting the lives of people in the village. For a small subset of behaviors, I also asked them what they think it will be like in the future and about their subjective evaluation of the changes: What do they like about the change? What do they not like about the change? And, why?

It should be noted that respondents' responses about what it was like in the village 20-25 years ago are best interpreted as their views of what it was like at an imprecise time in the recent past. In the

first few interviews, I attempted a third question anchored on the time around India's independence, roughly 50-60 years ago, which I asked just after the question on 20-25 years ago. However, with one or two exceptions, I found that respondents were not able to distinguish between these two time anchors in the past. It is also possible that the tedium of discussing three time periods for multiple family behaviors led to poor responses. Further, when asked the question on 20-25 years ago in reference to a particular behavior, respondents occasionally used their own anchors, referencing their parents' or grandparents' experiences for example.

### **Analysis**

After the interviews were transcribed into Nepali and translated into English by native Nepali speakers, I analyzed the transcripts by assigning codes to relevant text along four main domains. First, I coded the interviews descriptively according to family behaviors. Codes included, for example, arranged marriages, son preference, fertility, and pre-marital relationships. Second, the interviews were coded according to subjective evaluations, including good, bad, and neutral evaluations. These included the respondents' own evaluations, as well as the respondents' views of what other villagers thought. Third, causes of changes in family behaviors were descriptively coded as they emerged, including technology, foreign influence, Bollywood films, and economic changes. Fourth, the consequences of changes in family behaviors were descriptively coded as they emerged, including morality, social cohesion, and health. Throughout the coding process I also inductively coded other common themes that emerged in the interviews and were outside the four pre-determined domains. For example, these codes included family harmony, education, and alcohol use. Once the interviews were coded, I ran queries that examined how these codes intersected with each other. For example, to understand their views of the causes of fertility decline, I looked at text where codes for fertility and causes of change overlapped. I also examined how the codes were distributed according to education, life course stage, gender, and caste of the respondents.

I supplement the analysis of the interviews from Pariwarbasti with secondary data for Darjeeling, the states of West Bengal and Sikkim, and all India. The data sources include the Sample Registration System, Census, District Level Household Survey (DLHS), and National Family Health Survey (NFHS). I use secondary sources that derive estimates from these data, primary reports for these data sources, and my own calculations using the NFHS. These data are drawn on to provide corroboration of respondents' views and give a sense of the size and timing of the indicated changes when appropriate data are available. These secondary data also help to place Pariwarbasti within a broader regional and national context.

I use data from Sikkim because it is more similar to Darjeeling than the rest of the state of West Bengal. Apart from the Siliguri subdivision in the southern part of the district, Darjeeling is located in the hills and is inhabited primarily by Nepalis who speak Nepali. By contrast, the rest of West Bengal is geographically located in the plains and is inhabited by Bengalis who speak Bengali. These differences have given rise to a long standing statehood movement for Gorkhaland in Darjeeling. Sikkim, which is also located in the hills and borders Darjeeling to the north, is more culturally similar to Darjeeling than the rest of West Bengal. Like Darjeeling, most residents of Sikkim are Nepali and Nepali is the dominant language. In keeping with their ethnic ties, some women from Pariwarbasti and the rest of Darjeeling move to Sikkim after marriage. Conversely, some of the women that married into Pariwarbasti are from Sikkim. Further, some men from Pariwarbasti spend time working in Gangtok, the capital of Sikkim, which is a few hours' jeep ride away. A few men also work in other parts of West Bengal, but this appears to be much less common than working in Gangtok.

## RESULTS

Above, I described the pathways through which I hypothesize fertility decline will transform the relative value and roles of sons and daughters. Thus, I begin the description of results by describing respondents' impressions of fertility decline in Parwarbasti and establishing that the region has indeed experienced fertility decline. Next, I turn to potential changes in the gender system for sons and daughters in the family. The pathways described above point to potential changes in many areas. Below, I limit the analysis to four areas: son preference, education, marriage and pre-marital relationships, and support of parents in old age. For each of these areas, I describe the respondents' perceptions and experiences of change over time and, when possible, supplement the data from Pariwarbasti with census and survey data on the broader region.

### Fertility

In 2001, the total fertility rate in Darjeeling District was estimated to be 2.1 children per woman (Guilmoto and Rajan 2002). Thus, fertility in Darjeeling reached replacement level nearly a decade ago. More recent estimates of the total fertility rate at the district level are not available. However, fertility in West Bengal and Sikkim continued to decline in the last decade (Registrar General 2002; 2009). Thus, it is possible that in 2010, when the data presented here were collected, fertility was below the replacement level in Darjeeling.[3] Darjeeling's level of fertility is low when compared to India as a whole and its local region. According to Guilmoto and Rajan (2002), India's total fertility rate was 3.2 in 2001, West Bengal's was 2.6, and Sikkim's was 3.0 (Table 2).[4]

[Table 2 about here]

In keeping with Darjeeling's low fertility, contraceptive use is widespread in the district. In 2007-08, 72% of currently married women aged 15-49 were using contraception (IIPS 2010a: 107). Darjeeling's contraceptive use is comparable to the rest of West Bengal, with a rate of 72% in 2007-08 (ibid), and to Sikkim, with a rate of 70% (IIPS 2010b). These rates are all substantially higher than the



national level of 55% (ibid). Unmet need is correspondingly low in Darjeeling at 12% (IIPS 2010a: 116). The majority of unmet need is due to an unmet need for spacing. The mix of contraceptive methods in Darjeeling is typical for India as whole, with female sterilization being the dominant method. Of the women using contraception in 2007-08, 55% were sterilized, 26% were using modern spacing methods, and 20% were using traditional methods (ibid).

Estimates from previous years show that fertility has declined substantially in Darjeeling in recent decades (Table 2). According to estimates using census data (Registrar General 1997), Darjeeling's total fertility rate was 3.5 in 1991 and 4.2 in 1981 (Table 2). These estimates suggest that Darjeeling's total fertility rate dropped by nearly one and a half children from 1991 to 2001 and the smaller, but still impressive, 0.7 children from 1981 to 1991. However, drawing on both census and sample registration data, Bhat (1996) provides district level estimates for roughly the same period, which are substantially smaller than the other estimates. Specifically, he estimates that Darjeeling had total fertility rates of 3.6 in 1974-80 and 3.0 in 1984-1990. Despite the lack of consistent numbers, all of the estimates point to a substantial decline in Darjeeling's total fertility rate – on the order of 1.5 to 2.1 children per woman – in the last two decades of the twentieth century. Earlier estimates of Darjeeling's total fertility rate are unavailable. However, Guilmoto and Rajan (2001) estimate that fertility has fallen steadily in Darjeeling since at least 1951.

Residents of Pariwarbasti are well aware of fertility decline in the region. All 30 respondents said that people have fewer children today than they did in the past. When asked how many children couples have these days, seven said one or two children, thirteen respondents replied two, and ten said generally two to three and, in a couple of cases, up to a maximum of four or five. Coincidentally, if their responses are averaged it comes to 2.1 – the 2001 estimate for the Darjeeling total fertility rate. When asked how many children women used to have in the past, roughly 20-25 years ago, the range of responses was much larger – ranging from four to five on the low end to twelve to thirteen on the high

end. These numbers cannot be drawn on to make an inference about the beliefs of a larger population, but they do suggest that awareness of fertility decline in Pariwarbasti is widespread across age, gender, and education level.

In keeping with low levels of fertility, contraception appears to be available and widely used by married women in Pariwarbasti. During my previous fieldwork, it was not uncommon for women to note that they had gotten the “operation” or planned on doing so. (They used the English word operation to refer to sterilization.) IUDs and birth control pills are also available free of charge in the village sub-health center. However, pills are only given out one package at a time and, thus, may have been cumbersome to use on a regular basis. IUDs, pills, and other forms of contraception are also available for purchase in pharmacies in Kalimpong.

I believe, however, that contraception is difficult for unmarried women to access. During my previous fieldwork, I spent many weeks observing people in the health center and never saw an unmarried woman get contraception there. Women had to walk into the health center relatively publicly and ask for pills or an IUD. Not only would other people in the health center see them, but neighbors would ask them why they were going to the health center. An unmarried woman would not want to publicly declare that she had a need for contraception. Indeed, it appeared that even some young married women found the process difficult. Thus, I suspect that if they use it at all, unmarried women must purchase contraception in Kalimpong. It may also be difficult for them to walk into a pharmacy in Kalimpong and ask for contraception there and it further adds the complication of needing money. These observations along with what appears to be a high rate of premarital pregnancy, which I discuss below, suggest that it is not common for unmarried women to use contraception.

### **Son Preference**

In Pariwarbasti, respondents suggested that son preference is non-existent or rare these days.[5] When asked about the value of sons versus daughters these days, 22 respondents said that

daughters are equal to sons, three respondents said daughters are preferred, and only one said sons are preferred.[6] The following quote from a 59 year old man is typical of the respondents' statements that boys and girls are equal: "They are treated equally in our village. Girls are given equal value to boys. There is no discrimination." Two respondents also contrasted the equality of sons and daughters in Pariwarbasti to inequality among other Indian groups – namely Muslims and Bengalis. For example, the man just quoted continued, "We Nepalis treat them equally. In other castes, like in Muslim communities, there is discrimination, but it is decreasing these days."

The three respondents who said daughters are preferred, as well as comments made with others in informal conversations, explained daughter preference among some by noting that sons demand more material goods from parents, use drugs and alcohol, and can no longer be depended on in old age, while daughters don't engage in such behaviors and love their parents more. For example, a 26 year old married woman noted that "parents prefer daughters these days because sons are violent. They are aggressive towards their parents sometimes."

The majority of respondents suggested that the relatively equal valuation of sons and daughters presents a shift from the past. Sixteen of the 22 respondents that were asked about son preference in the past noted that boys were preferred in the past. As another 26 year old married woman described, "According to our grandparents, there was a culture of liking sons. If they produced many sons, they were happier. They hoped to produce a son. ... It's said in Nepali that girls are for holding another's house. It means they [girls] belong to others and they have to work there. So these are the reasons girls were disliked. ... [But,] it's not like that now. People have changed their concept. Daughters can do better than a son these days." Interestingly, of the remaining six respondents who said there had not been a change over time, all of them said sons and daughters had been equal in the past, as well as the present. This belief may reflect in part the greater equality between sons and daughters among Nepalis compared to other Indian groups.

Data from the National Family Health Survey (NFHS) were used to examine whether there is evidence of a decline in son preference in the larger population of Nepali speaking women residing in Sikkim and West Bengal. The NFHS asked women of reproductive age about the ideal number of boys, girls, and children of either sex in 1998-99 and again in 2006.[7] These two survey waves allow for an examination of whether period effects and/or cohort replacement may be leading to a decline in son preference over time among the larger population. In other words, son preference within the population may be changing because people of all ages are changing their beliefs over time and/or because older cohorts die and are replaced by younger cohorts with less son preference. The NFHS does not provide evidence of a period effect for the roughly seven years between the two waves. Women born in 1949-69 and 1970-79 did not have significantly different preferences for the ideal gender composition of children between 1992-93 and 2006 (results not shown).

[Figure 2 about here]

The NFHS does suggest, however, that cohort replacement may be leading to a decline in son preference or, more precisely, a rise in gender indifference. Figure 2 presents women's preferences for the ideal gender composition of children by birth cohort. Women's preferences for the ideal gender composition of children were divided into four mutually exclusive categories: wanting more girls, wanting an equal number of boys and girls, wanting more boys, and indifferent. As shown in Figure 2, son preference is significantly higher among the oldest cohort. 22% of women born in 1949-69 said it is ideal to have more sons than daughters, while 15% of women born in the 1970s and 1980s said so. Most striking, however, is the steady increase in indifference about the gender composition of children among younger cohorts. The percent of women that were indifferent rose from 15% of women born in 1949-69 to 20% among those born in 1970-79 and then to 26% among the 1980-91 birth cohort. Interestingly, the rise in gender indifference between the two younger cohorts is due to a decline in the preference for an equal number of sons and daughters. Although the majority of women in the

youngest cohort still say it is ideal to have one daughter and one son. Contrary to the views of some respondents from Pariwarbasti, however, there is no evidence of an increase in daughter preference. The percent of women who said it is ideal to have more daughters than sons hovered consistently around 4% in all three cohorts.

## **Education**

In Pariwarbasti, educating children is an extremely important goal for parents. In 2007-08, I asked people what their hopes were for the future and nearly everyone said that giving their children a good education was their main goal. Countless casual conversation with parents also often turned to the stresses and aspirations of educating their children. Education presents substantial costs to parents, including both direct costs and opportunity costs. The government provides free Nepali-medium schooling up to class eight in Pariwarbasti, but parents must still pay for uniforms and textbooks and give up their children's labor at home. Further, nearly everyone I spoke with wanted to send their children to private English-medium schools. There was one small English-medium school in the village for elementary school children, but in Kalimpong there are several English-medium schools. Wealthier families paid to send their children to English-medium schools in Kalimpong, sometimes incurring not only substantial tuition costs, but also transportation or hostel costs.

Educational attainment and the value of education appear to have increased dramatically over time for both genders in Pariwarbasti. However, it also appears that it is increasing faster for girls, resulting in a decline in the gender gap. Older women in the village did not attend school at all or went at most for a couple of years. Instead, their parents kept them at home to look after younger siblings and help with work around the home and in the fields. As one 38 year old woman described:

“When I asked to go to school, my father told me, ‘Why do you need to write a letter? You are going to another’s house.’ ... My brothers were educated, my younger sisters got some level of

education, class 5, class 6, but I could not even write my name. ... I had to do all the village work and look after all the cows and goats.”

Thus, I had difficulty finding even one woman in the oldest life course stage with ten years of schooling to interview. Conversely, today’s generation of daughters attend school for several years. In fact, as noted above, I could not find an unmarried woman with less than nine years of education to interview. (However, part of my trouble was due to the fact that girls usually stop their education when they marry. So, the young women with low levels of education are married.) By contrast, the differences among cohorts of men did not seem as large as those among women. Unlike the older women, most of the older men in the village had at least a few years of education. My impression is that there is little to no difference in parents sending sons and daughters to school these days. However, boys may stay in school longer because girls marry at a younger age and usually leave school if they marry.

Respondents were very aware of changes in education over time. As one 51 year old man remarked, “In the past, daughters weren’t given education. Only the sons were given education. At our time also, education wasn’t for daughters. Our sisters didn’t get a chance to read. Daughters weren’t important, but these days education is needed for both sons and daughters.” Similarly, a young married woman said, “In the past people didn’t send their daughters to school. They used to send only their sons to school. They used to think that daughters would work at home and the sons would go to school, but this old concept is not there now.”

Data from the National Family Health Survey show both a rise in educational attainment and the narrowing of the gender gap for younger cohorts residing in neighboring Sikkim. This pattern suggests that Pariwarbasti’s experience is not unique to the region. Figure 2 presents the average years of schooling by gender and the difference between men and women’s average years of schooling for individuals age 18 and above living in Sikkim in 1998-99 and 2006.[8] Men born before 1950 have 2.7 years of schooling on average, while men born in the 1960s have 6.6 years, and men born in the 1980s

have 7.3 years. Women's average schooling also increases among younger cohorts, but starts out at a lower level. Women born before 1950 have 0.7 years of schooling on average, those born in the 1960s have 3.7 years, and women born in the 1980s have 6.5 years. The difference between men and women starts at 2.0 years of schooling for those born before 1950, rises to 2.8 years for those born in the 1960s, and then narrows to 0.9 years for those born in the 1980s.

[Figure 3 about here]

### **Marriage and Pre-marital Relationships**

Most marriages that took place in the recent past in Pariwarbasti were arranged by parents and other relatives. The boy's family would approach the girl's family, the parents would come to an agreement, the girl was asked for her consent, and the couple was married. Often the couple did not know each other before they married or knew each other very little, although the boy may have played a role in choosing the girl. For example, as one 52 year old, Limbu woman stated when describing her own arranged marriage at age 15, "Well, in the earlier times it used to be like that, whomever the parents would get for us we had to marry that person." [9] A 68 year old, Limbu woman provides an example of one of these earlier arranged marriages in which she did not know her husband, "My grandfather arranged it. ... They arranged it all in four days and my own father gave my hands to them. I stayed here [after the marriage in my marital home] and went through a lot of pain. If I had remembered my parents' house, I couldn't have stayed in this house. I thought I shouldn't remember the joy of my parents' house. My brother cried while giving my hands to them."

Today, however, the common way to marry is for young couples to elope without the knowledge and consent of their parents. All 30 respondents spoke of this change in marriage practices and described how elopements have become the norm today. In Pariwarbasti these marriages are referred to in English as "love marriages" and in Nepali as *keti bagyo* (literally, the girl ran away). In these marriages, the girl runs away from her family home to the boy's home without her parents'

knowledge or both the boy and girl run away to a friend or other relative's home without any of their parents' knowing. Usually, after a few days of living together they inform their parents, return to the boy's home if necessary, and formally marry later on.

Unfortunately, there are no survey data available on how marriages take place in Darjeeling. However, this change can be seen, on a very small and unrepresentative scale, among the marriage experiences of the respondents. As seen in Table 1, half of the married people eloped, eight of them had arranged marriages in which their families chose their spouses, and two of them asked their parents to arrange a marriage with the person of their choice. Of those who had arranged marriages, or had the consent of their parents, the average age is 51. Of those who eloped, the average age is a younger 36. This trend towards elopements appears to have started many years ago, although arranged marriages still take place. There are young people in the village, including one 27 year old respondent, who recently had arranged marriages. Conversely, some members of the older generations did elope, including two respondents – one 69 year old, Limbu man and a 51 year old, Chetri man. A similar rise in young people participating in choosing their spouses over time has also been found in surveys from Nepal (Ghimire et al. 2006; Niraula 1994).

These elopements are often preceded by pre-marital relationships between young people. Openly dating is still not acceptable in the village. Thus, young people often keep such relationships a secret, especially from their parents. However, young men and women are allowed to mix relatively freely in the village and I knew of two families in which boyfriends and girlfriends openly visited each other's homes. One 48 year old woman contrasted the freedom of unmarried daughters today with a stricter environment when she was young:

“Our parents did not allow us to go to friend's houses. They did not allow us to speak much or to go out. Now that has changed. We were not allowed to make boyfriends or bring them home.



Now it is not like that. Today, boys and girls become friends, go out, and visit each other's houses."

These pre-marital relationships sometimes include pre-marital sex. During my time in Pariwarbasti I attended a handful of weddings, in most cases the bride was pregnant or had already had a child. A few of the young women in my sample from 2007-08 had also had a child before marriage. They eloped and started living with their husband when they were pregnant, but did not formally marry until after the child was born for religious reasons.[10] These observations led me to suspect that pre-marital pregnancies are relatively common in Pariwarbasti. When asked about pre-marital pregnancies in 2010, respondents stated nearly uniformly that pre-marital pregnancies are increasing and, according to a few respondents, even widespread. As one 21 year old woman described, "[Young women] didn't even get a chance to see their husbands before marriage before. But nowadays, mostly the girls become pregnant before their marriage. As soon as they marry, they give birth to their child." Only four respondents said that young women do not become pregnant before marriage these days and these respondents were all members of the older generation.

Two respondents suggested, of their own accord, that the availability of contraception and abortion is directly facilitating pre-marital sex in the village. One young unmarried man suggested that premarital sex has increased because contraception reduced the fear of pregnancy: "Now, [premarital pregnancies] are increasing because in the past there were not modern techniques. In the past they used to fear to have sexual relations. There was not such preventive means that are found now. But now, due to the use of preventive means, the boys and girls aren't afraid to have sexual relations. They think if by mistake they have a pregnancy they will have an abortion." Similarly, the other respondent, a 55 year old woman, noted that, "The girls these days are very clever. Even if they are pregnant, they go to hospitals themselves for abortion. In the past, we didn't have this knowledge. There are many cases of abortions and the girls look as fresh as before, but I think it's not good to do so." As noted above,

however, I believe that not that many unmarried girls are actually using contraception. The many visible pregnancies suggest that abortion is probably not common either.

While unmarried youth have greater sexual freedom than in the past, it is often not viewed as morally acceptable for young women. If an unmarried woman becomes pregnant and marries, the village seems to tolerate the situation with equanimity. Certainly, she will be the topic of gossip for some time, but any elopement gives rise to at least some gossip. If she does not marry, however, she bears the brunt of society's displeasure. As the 21 year old woman quoted above went on to describe, "When she is pregnant if she is left by her boyfriend what can she do? If she is accepted [by her boyfriend], it's all right. Otherwise, she will be condemned. Everyone criticizes her. This is an asocial act. We talk about and criticize such incidents. ... The girls are insulted a lot. Boys are not criticized in the way the girls are. The physical changes are seen in girls, not in boys." A few respondents also noted that in the worse cases some girls have committed suicide. As a 24 year old man described, "In this case, most of them get married as soon as possible. They don't tell others. They run away and get married, but some boys aren't ready to marry the girl. In this situation, we can see some girl's commit suicide and a few live their life struggling with society. Society does not see it as a good practice."

### **Parental Support in Old Age**

Once parents are older it is customary for a son and his wife to care for them. Thus, unlike sons, daughters do not support their own parents in old age, but instead are expected to care for their parents-in-law in their role as daughters-in-law. There are indications that this custom may be eroding in strength in Pariwarbast however. Thirteen of the respondents said that daughters play more of a role in taking care of their parents in old age than in the past, while nine respondents said that the norm of sons taking of parents is the same as it was in the past. (Of the remaining respondents, five said they didn't know what it was like in the past and three didn't answer or weren't asked the question.)

The thirteen respondents who said daughters are taking more of an active role in taking care of parents often emphasized the quality of support that daughters give their parents. As described above in the case of son preference, they attributed daughter's high quality care to loving their parents more than sons. For example, as one 38 year old man described, "Yes, [a daughter] does [take care of her parents] better than a son. Here also we can see some daughters who are looking after their old parents. They are keeping them in a better condition than sons." Similarly, a 51 year old man noted, "Yes, many [daughters take care of their parents]. More than a son. The sons have forgotten their parents. It is the daughters who look after them well." They also contrasted daughters caring for parents these days with the custom of parents not being able to accept support from daughters in the past. For example, a 21 year old woman noted, "In the past, [daughters] didn't use to do that. At that time a kind of condition was there in which the parents used to think that they shouldn't eat at their daughter's house, they shouldn't take the wealth of their daughters."

The ten respondents who said that there was not a change, emphasized the continued customary obligation of women to their in-laws. For example, as one 24 year old man said, "Some [daughters] are interested in looking after their parents, but most of them can't do it despite their interest. They have to take care of their families. The situation is not favorable. She should give first priority to her parents-in-law because her real home is the home of her parents-in-law." Interestingly, however, a couple of these respondents also noted that when there is not a son, daughters do care for their parents. As one 27 year old man noted, "If no sons are there and only daughters are there and the parents are older than [daughters] look after their parents. But generally [daughters] look after their husband and mother-in-law and father-in-law more than their own parents."

## **DISCUSSION AND CONCLUSION**

I hypothesized that fertility decline transforms the relative value and roles of sons and daughters. The decline in the value of large numbers of children and the effective means of fertility

control that underlie fertility decline should lead to greater freedom of daughters. Further, the rise in the proportion of families with children of only one gender, particularly those with only daughters, should create pressures for greater gender symmetry between sons and daughters. To examine these hypotheses I explored the perceptions and experiences of changes over time in family behaviors in Pariwarbasti and, when possible, used data from censuses and surveys to provide further evidence of change over time and the relevance of Pariwarbasti's experience to a larger area.

The results clearly demonstrate that fertility declined to low levels in the area and that fertility control is widespread among married women. There is also convincing evidence of changes in the relative value and treatment of sons and daughters. These changes are largely consistent with the hypothesized effects of fertility decline. The results suggest that Pariwarbasti and perhaps the surrounding area are moving toward greater gender symmetry between sons and daughters over time. Son preference appears to be declining with people increasingly equally valuing daughters and becoming indifferent to the gender of children. The gender gap in education is also closing. Parents are increasingly just as likely to send their daughters to school as they are to send their sons. Finally, daughters may be taking on more of the traditional role of sons by caring for their parents in old age. The evidence on this last point on parental support is less compelling than the other areas, however, since there is no secondary data to back up this trend. Further, there were a substantial number of respondents who believed that daughters are not becoming more like sons in this respect. However, intriguingly, even among those who said it is not changing said that daughters do take care of parents when they have no brothers – a situation that will increase over time.

The results also point to the greater freedom of unmarried daughters, which is consistent with fertility declining reducing the motivation to control women's sexuality. Parents, as well as the community at large, are increasingly allowing boys and girls to freely interact with each other. Young men and women are also increasingly engaging in pre-marital relationships, although these relationships

are still disapproved of by parents, especially for daughters. Greater sexual freedom can also be seen in the tolerance of the community towards pre-marital pregnancies when the couple marries. However, the community is not tolerant of pregnant women remaining unmarried. Thus, while daughter's freedom, including their sexual freedom, has increased over time their sexuality is still controlled in many ways and they pay a greater price than their partners if they become pregnant and don't marry. Thus, this trend also points to greater, but far from complete, gender symmetry for sons and daughters.

Overall, there is convincing evidence that fertility decline occurred in Parwarbasti and the broader area, and that the gender system has also changed over time. Demonstrating both of these points is necessary, but insufficient for showing that fertility declines contributed to the changes in the gender system. It is also necessary to show that fertility decline made a unique causal contribution to changes in the gender system. With these data, however, it is impossible to determine what unique causal role, if any, fertility decline played in the changes in the gender system. The only direct evidence that fertility decline played a unique causal role came from the two respondents who said that young people are increasingly engaging in pre-marital sex because contraception and abortion allow them to do so with less fear of becoming pregnant. These comments are remarkably consistent with the pathway of fertility control increasing women's sexual freedom by separating sex from childbearing. Although, since unmarried women do not appear to actually be using contraception in abortion in very large numbers, it may be that the existence of fertility control has made people think they can have sex without fearing pregnancy even when that's not actually the case.

The lack of compelling evidence that fertility decline played a unique role in contributing to the changes in the gender system is further compounded by the many other factors that are also working to transform gender systems. Respondents themselves said that the many changes in family behaviors were caused by the spread of cell phones and televisions, Bollywood movies, foreign influence, economic changes, and educational expansion. Scholarly research also shows that these social and

economic changes do reduce son preference and arranged marriages and lead to other changes in family behaviors (Barber and Axinn 2004; Ghimire et al. 2006; Chung and Das Gupta 2007; Bhat and Zavier 2004). Thus, a fundamental limitation of this paper is that it does not provide convincing evidence that fertility decline did provide a unique contribution to transforming the gender system. Providing convincing evidence of a unique causal role will be difficult, however, and require multi-level data collected in multiple places and times (Mason 1997).

Despite this fundamental limitation, this paper makes an important contribution to answering the question of whether and how fertility decline and control transform gender systems and empower women. First, by focusing on sons and daughters in the family, it makes a theoretical contribution by describing how changes in the composition of families may be an important pathway of change. In particular, the substantial proportion of families with only daughters that will arise in a post-transition context may present a fundamental threat to patrilineal family systems that underlie gender systems in many places. Second, by using semi-structured interviews, this paper provides a concrete sense of how people in one place experienced and perceived changes in fertility and the gender system.

## ENDNOTES

1. Darjeeling is also the name of the city that is the district headquarters and the name of one of the four subdivisions in the district. I use Darjeeling to refer to the district as a whole, unless otherwise noted.
2. In this context, the term Nepali refers to an ethnic and cultural identity, rather than citizens of the nation of Nepal. It is comparable to Bengali or Punjabi. Gorkha is an alternative term that has been promoted by political leaders in Darjeeling to distinguish Nepalis living in India from those living in Nepal. However, the term Gorkha, or Gurkha, is also used to refer to Nepali soldiers from both Nepal and India that serve in the Indian and British armies. Gorkha is also the name of a district in Nepal. I use the term Nepali because it is commonly used by people in Pariwarbasti.
3. Further support for the probability of Darjeeling having below replacement fertility in 2010 comes from the comparison with Sikkim. According to the National Family Health Survey of 2005-06, Sikkim, with a total fertility rate of 2.02, is one of seven states in India to have below replacement fertility (IIPS and Macro International 2008: 5). Estimates consistently suggest that Darjeeling has lower fertility than Sikkim (Table 2).
4. Estimates of the total fertility rate for India differ by source among the National Family Health Survey, Sample Registration System, and the Census.
5. It should be noted, however, that son preference was probably never as strong or ingrained in Pariwarbasti as it is in other areas in northern India, such as the Punjab.
6. Not all of respondents answered questions on son preference because I started asking it after data collection had already begun.

7. The first wave of the NFHS was collected in 1992-93. However, this wave did not collect data in Sikkim. Thus, unfortunately, the first wave of the NFHS does not have a sufficient sample of women from the area to analyze.
8. The NFHS data I presented on women's ideal preferences for the number and gender composition of children came from the individual interview with women aged 15-49, which includes information on the language in which the interview took place. Thus, I limited the sample to Nepali speakers living in Sikkim and West Bengal. The NFHS data on education refers to all household members and comes from the household interview, which does not include information on the interview language. Thus, I was unable to identify which households were Nepali speakers. Bengali is the common language in West Bengal, while Nepali is the common language in Sikkim. So, I limited the education sample to households in Sikkim.
9. I point out the castes of the women – Limbu in both cases – to make the point that it was not just Chetri-Bahun who had arranged marriages in the past. Tibeo-Burman groups also were practicing arranged marriages. Similarly, today Chetri-Bahun, as well as all other castes, are commonly eloping.
10. Hindus believe that if a man marries a woman that is pregnant with a female fetus, he is marrying the child as well as the mother when he places the *sindur* and *pote* on the bride during the ceremony. *Sindur* is a red powder placed in the part of a bride's hair by the groom during the wedding ceremony and worn after marriage by women as a symbol of their married status. *Pote* is a necklace placed around the bride's neck by the groom during the ceremony. Villagers told me that some Buddhists also do not marry when the woman is pregnant out of deference to the Hindu tradition.



## REFERENCES

- Arnold, F., M.K. Choe, and T.K. Roy. 1998. "Son Preference, the Family-Building Process and Child Mortality in India." *Population Studies-a Journal of Demography* 52(3):301-315.
- Arnold, F., S. Kishor, and T.K. Roy. 2002. "Sex-Selective Abortions in India." *Population and Development Review* 28(4):759-+.
- Bailey, M.J. 2006. "More Power to the Pill: The Impact of Contraceptive Freedom on Women's Life Cycle Labor Supply." *Quarterly Journal of Economics* 121(1):289-320.
- Barber, J.S. and W.G. Axinn. 2004. "New Ideas and Fertility Limitation: The Role of Mass Media." *Journal of Marriage and the Family* 66(5):1180-1200.
- Basu, D. and R. De Jong. 2010. "Son Targeting Fertility Behavior: Some Consequences and Determinants." *Demography* 47(2):521-536.
- Bhaskar, V. 2011. "Sex Selection and Gender Balance." *American Economic Journal-Microeconomics* 3(2):252-253.
- Bhat, P.N.M. 1996. "Contours of Fertility Decline in India: A District-Level Study Based on the 1991 Census." Pp. 96-177 in *Population Policy and Reproductive Health*, edited by K. Srinivasan. New Delhi: Hindustan Publishing Corporation.
- Bhat, P.N.M. and A.J.F. Zavier. 2003. "Fertility Decline and Gender Bias in Northern India." *Demography* 40(4):637-657.
- Bloom, D.E., D. Canning, G. Fink, and J.E. Finlay. 2009. "Fertility, Female Labor Force Participation, and the Demographic Dividend." *Journal of Economic Growth* 14(2):79-101.
- Chung, W.J. and M. Das Gupta. 2007. "The Decline of Son Preference in South Korea: The Roles of Development and Public Policy." *Population and Development Review* 33(4):757-+.
- Clark, S. 2000. "Son Preference and Sex Composition of Children: Evidence from India." *Demography* 37(1):95-108.

- Das Gupta, M. and P.N.M. Bhat. 1997. "Fertility Decline and Increased Manifestation of Sex Bias in India." *Population Studies* 51(3):307-315.
- Das Gupta, M., W.J. Chung, and S.Z. Li. 2009. "Evidence for an Incipient Decline in Numbers of Missing Girls in China and India." *Population and Development Review* 35(2):401-+.
- Engelhardt, H., T. Kogel, and A. Prskawetz. 2004. "Fertility and Women's Employment Reconsidered: A Macro-Level Time-Series Analysis for Developed Countries, 1960-2000." *Population Studies-a Journal of Demography* 58(1):109-120.
- Grant, M.J. and J.R. Behrman. 2010. "Gender Gaps in Educational Attainment in Less Developed Countries." *Population and Development Review* 36(1):71-+.
- Guilmoto, C.Z. 2008. "Economic, Social and Spatial Dimensions of India's Excess of Masculinity." *Population* 63(1):93-122.
- Guilmoto, C.Z. 2009. "The Sex Ratio Transition in Asia." *Population and Development Review* 35(3):519-+.
- Guilmoto, C.Z. and S.I. Rajan. 2001. "Spatial Patterns of Fertility Transition in Indian Districts." *Population and Development Review* 27(4):713-738.
- International Institute for Population (IIPS). 2010a. *District Level Household and Facility Survey (DLHS-3), 2007-08: India - West Bengal*. Mumbai: IIPS.
- International Institute for Population (IIPS). 2010b. *District Level Household and Facility Survey (DLHS -3): India*. Mumbai: IIPS.
- Malhotra, A. 2009. "Remobilizing the Gender and Fertility Connection: The Case for Examining the Impact of Fertility Control and Fertility Decline on Gender Equality." Paper presented at the Meeting of the International Union for the Scientific Study of Population. September 28. Marrakech.

- Mason, K.O. 1997. "Gender and Demographic Change: What Do We Know?" Pp. 158-182 in *The Continuing Demographic Transition*, edited by G.W. Jones, R.M. Douglas, J.C. Caldwell, and R.M. D'Souza. Oxford: Clarendon Press.
- Mason, K.O. 2001. "Gender and Family Systems in the Fertility Transition." *Population and Development Review* 27:160-176.
- Matysiak, A. and D. Vignoli. 2008. "Fertility and Women's Employment: A Meta-Analysis." *European Journal of Population-Revue Europeenne De Demographie* 24(4):363-384.
- Mishra, V., T.K. Roy, and R.D. Retherford. 2004. "Sex Differentials in Childhood Feeding, Health Care, and Nutritional Status in India." *Population and Development Review* 30(2):269-+.
- Niraula, B.B. 1994. "Marriage Changes in the Central Nepali Hills." *Journal of Asian and African Studies* 29(1-2):91-109.
- Population Reference Bureau (PRB). 2002. *Family Planning Worldwide: 2002 Data Sheet*. Washington, DC: PRB.
- Presser, H.B. 2001. "Comment: A Gender Perspective for Understanding Low Fertility in Post-Transitional Societies." *Population and Development Review* 27:177-183.
- Registrar General [India]. 1997. *District Level Estimates of Fertility and Child Mortality for 1991 and Their Inter Relations with Other Variables*. New Delhi: Registrar General, India.
- Registrar General [India]. 2002. "Sample Registration System Bulletin." Pp. 2. New Delhi: Registrar Gender, India.
- Registrar General [India]. 2009. "Sample Registration System Bulletin." Pp. 1. New Delhi: Registrar Gender, India.
- Reher, D.S. 2011. "Economic and Social Implications of the Demographic Transition." *Population and Development Review* 37:11-33.

United Nations. 2011a. *World Population Prospects, the 2010 Revision*. New York: Population Division, United Nations.

United Nations. 2011b. *World Contraceptive Use 2010*. New York: Population Division, United Nations.

Ye, H. and X. Wu. 2011. "Fertility Decline and Educational Inequality in China." Paper presented at the Annual Meeting of the Population Association of America. April 1. Washington, DC.

Figure 1. The probability of having only daughter(s), only son(s), and both daughter(s) and son(s) by the number of children. The calculation of these probabilities assumes that the sex ratio at birth is at the biological norm and that couples do not stop childbearing based on the gender of existing children. It also does not take into account mortality, including gender differentials in mortality.

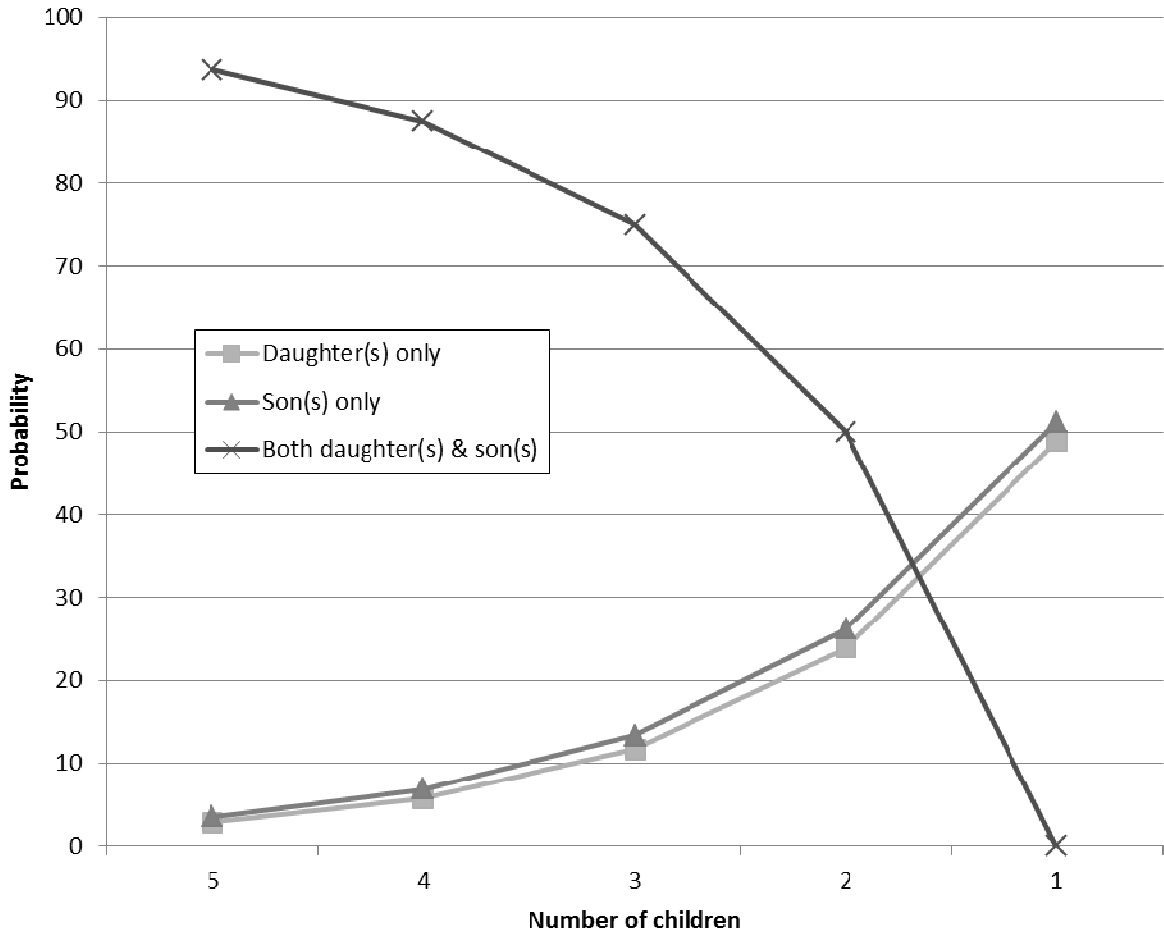


Table 1. Characteristics of respondents (n=30).

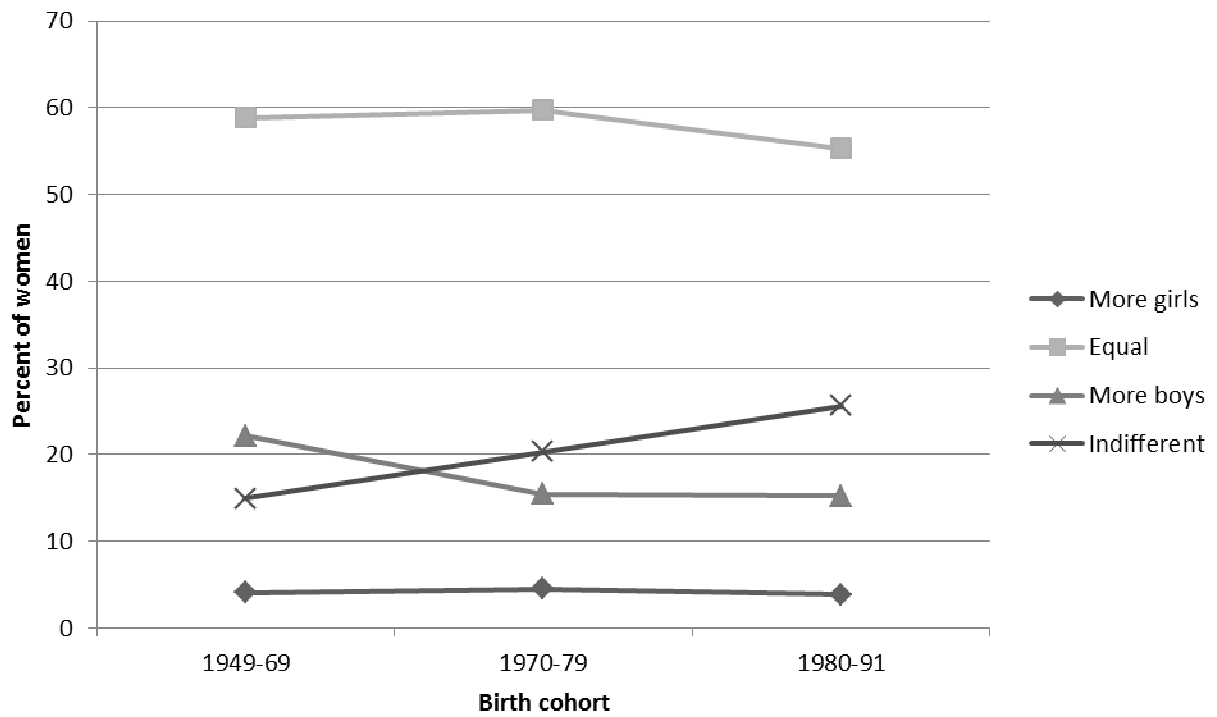
	Number
Gender	
Women	15
Men	15
Life course stage	
Unmarried	10
Married with child <10	10
Married with married child	10
Education	
0-4 years	7
5-9 years	7
10+ years	16
Caste/Ethnic Group	
Bahun-Chhetri	7
Tibeto-Burman	18
Dalit	5
Religion	
Hindu	25
Buddhist	3
Christian	2
Age	
20-24	10
25-49	11
50-69	9
Marriage type	
Arranged	8
Parents consented	2
Eloped	10
Unmarried	10

Table 2. Total fertility rates for Darjeeling, West Bengal, Sikkim, and all India.

	Darjeeling	West Bengal	Sikkim	India
2001	2.1 <sup>a</sup>	2.6 <sup>a</sup>	3.0 <sup>a</sup>	3.2 <sup>a</sup>
1991	3.5 <sup>b</sup>	3.6 <sup>b</sup>	4.9 <sup>b</sup>	4.3 <sup>b</sup>
1984-1990	3.0 <sup>c</sup>	3.6 <sup>c</sup>	4.3 <sup>c</sup>	4.1 <sup>c</sup>
1981	4.2 <sup>b</sup>	4.3 <sup>b</sup>	5.8 <sup>b</sup>	4.9 <sup>b</sup>
1974-1980	3.6 <sup>c</sup>	4.0 <sup>c</sup>	5.4 <sup>c</sup>	4.9 <sup>c</sup>

<sup>a</sup>(Guilmoto and Rajan 2002); <sup>b</sup>(Registrar General 1997); <sup>c</sup>(Bhat 1996);

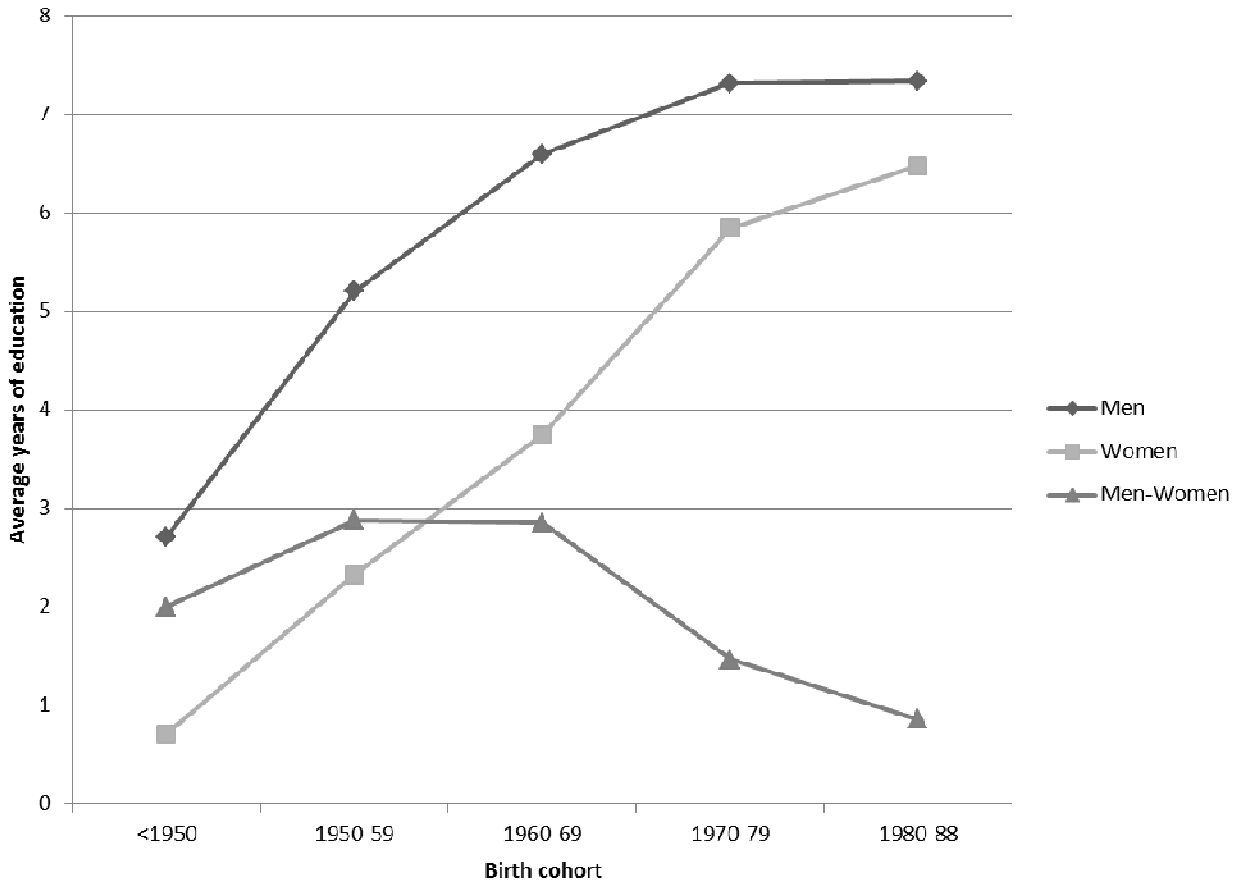
Figure 2. The ideal gender composition of children by birth cohort among ever married, Nepali speaking women aged 15-49 living in Sikkim or West Bengal in 1998-99 and 2006 (n=1,957).



Source: Authors calculations using National Family Health Surveys 1998-99 and 2005-06.



Figure 3. Average years of schooling by gender and the difference between men's and women's average schooling by birth cohort among individuals aged 18 and above living in Sikkim in 1998-99 and 2006 (n=9,559).



Source: Authors calculations using National Family Health Surveys 1998-99 and 2005-06.