DEAREST DAUGHTERS:
CHANGING NORMS AROUND SON PREFERENCE IN INDIA

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Since the 1980s, India has been known for its skewed sex ratio at birth, that is, an excess of male births over female births, that is beyond the biological norm of 105 male per 100 female births. Elevated sex ratios imply that more families are ensuring they have a son, often at the cost of a daughter. Although recent figures of the sex ratio at birth are showing signs of decline, further exploration of the norms and practices associated with son preference will help us understand India's progress toward gender equality. In three analytic chapters, this dissertation examines the trends, patterns, and factors associated with a specific norm or practice supporting son preference and discusses the implications these have on the value of daughters in India. It analyzes nationally representative data from 1992 to 2019 from the India Demographic and Health Survey and the Longitudinal Aging Study in India.

The first analytic chapter finds that there has been a significant decline in son preference and a rise in gender-equitable preferences among all sub-populations. Demographic decomposition shows that the shifts in the expansion of women's education are associated with only a third of the decline in son preference; the other two-thirds can be attributed to changing social norms.

The preference for sons over daughters is associated with rigid patrilineal practices that discourage daughters from maintaining close and frequent contact with their natal family. The second analytic chapter explores the trends and regional patterns of the extent to which husbands

have the decision-making authority on their wives' visits to their natal families. The chapter finds that although there has been a rise in women's participation in this decision in most regions, the normative belief that husbands alone have this authority has been slower to decline in certain regions. Further, specific dimensions of the gender system, such as the acceptance of husband's use of violence against wives and the preference for sons, are associated with the belief that husbands have decision-making authority in visiting the wife's natal family.

The preference for sons over daughters is also associated with expectations of elderly care. In most patrilineal communities in India, sons and daughters-in-law are expected to offer financial and residential support to elderly parents. However, once financial comforts are taken care of, the gender composition of children may matter less for elderly parents. The third analytic chapter shows that after controlling for key variables, compared to elderly parents with only daughters, parents with only sons do not report significantly higher life satisfaction. However, parents with a mix of gender of children report significantly higher life satisfaction. Irrespective of level of economic well-being, the factors positively associated with life satisfaction are subjective socioeconomic status, self-rated health, and degree of spirituality. Depression and the experience of discrimination perceived due to age are negatively associated with life satisfaction.

The study brings the discursive focus on daughters. It suggests that gender-inequitable norms and practices need to be questioned by both women and men and that the narrative of healthy aging needs to disassociate the belief that sons are necessary for elderly well-being, to raise the value of daughters in India.

BIOGRAPHICAL SKETCH

Isha Bhatnagar graduated with a Master of Science in Development Sociology from Cornell University in 2018. At Cornell, she has been engaged as a First-Year Writing Instructor for the course *Gender Equality and Global Development* and as a Graduate Teaching Assistant for courses on global development, population dynamics, social science research methods, and sociology. Before starting her doctoral studies at Cornell University, Isha worked with the Population Council, New Delhi (2009-2015). As a Program Officer, she collaborated on formative, quasi-experimental, and program evaluation studies to address reproductive, maternal, and child health and nutrition to develop social and behavior change strategies in northern India. Her research has been published in peer-reviewed journals such as the *Studies in Family Planning*, *Indian Journal of Gender Studies*, *International Quarterly of Community Health Education*, and *Global Health: Science and Practice*.

Isha also holds a Bachelor of Science in Sociology (Honors) from Lady Shri Ram College, Delhi University (New Delhi), a Master of Arts in Sociology from Jawaharlal Nehru University (New Delhi), and a Postgraduate Diploma in Broadcast Journalism from the Indian Institute of Mass Communication (New Delhi).

In June 2023, Isha joined Equimundo: Center for Masculinities & Social Justice as a Senior Research Officer. In this role, she provides leadership and support in measuring the social and policy impact of couple engagement in health, violence prevention, and gendered socialization in multi-country settings.

To all those who support daughters, and value their contributions

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CHAPTER 1

INTRODUCTION

If you have a society where girls are systematically discriminated…that attitude of mind… that itself is very debilitating for society...[sic]. It is an attitudinal issue about giving all human beings the respect that they deserve, ideas of human rights and social equity depend on it…
- Amartya Sen[1]

Since the 1980s, India has been known for its skewed sex ratio at birth, that is, an excess of male births over female births, that is beyond the biological norm of 105 male per 100 female births (Bongaarts 2013, Sen 1990). As in India, sex ratios at birth also began worsening in South Korea and China at a similar time, then did so in the South Caucasus and Southeast Europe since the 1990s and have subsequently worsened in other Asian countries like Vietnam since the 2000s (Tafuro & Guilmoto 2020). This is the first time in human history that sex ratios at birth have been so elevated (Bongaarts 2013, Tafuro & Guilmoto 2020). Elevated sex ratios implies that a greater number of families are ensuring they have a son, often at the cost of a daughter. Hence, many daughters are not being given a chance to be conceived, born, or survive after birth and are 'missing' in these regions (Sen 1990). Amartya Sen brought this issue to global attention, and it continues to be important for human dignity and social equity.

Skewed sex ratios at birth are associated with a fertility squeeze, the cultural preference for sons, and advances in medical technology. Rapidly declining fertility often intensifies an existing preference for sons. In such contexts, the number of children desired falls more rapidly than the number of sons desired, and many families feel a stronger imperative to ensure they have at least one son (Das Gupta & Bhat 1997, Guilmoto 2016). In addition, medical advances make it possible for families to use sex-selective abortion and contraceptive technology to 'implement' their desired gender composition of children (Bongaarts 2013, Guilmoto 2009).

South Korea is the only known country where the sex ratio at birth has normalized after decades of discrimination against daughters, and where a norm of daughter preference has emerged (Chun & Das Gupta 2021, Tafuro & Guilmoto 2020). In other parts of Asia where son preference is also declining, new forms of parental preferences regarding the gender of their children or 'gender preferences' have also been on the rise. These include gender indifference in Taiwan and certain parts of China, and gender balance in Bangladesh (Asadullah et al. 2021, Fuse 2013, Lei 2013, Lin 2009). Evidence suggests that such change is possible with the diffusion of the norm of gender equality, women's education and employment, reduced dependence on agrarian systems that have traditionally required sons, expanded social security for the elderly, policy initiatives aimed at raising the value of daughters, and efforts made by the women's movement (Bongaarts 2013, Casterline 2001, Chung & Das Gupta 2007, den Boer & Hudson 2017). In India, while the sex ratios at birth are either plateauing or showing signs of decline in most regions, it is not yet clear whether the 'norm' of son preference is on the decline (Guilmoto & Rahm 2021, Tong 2022).

India has been progressing in closing the gender gap in basic capabilities, measured by human development indicators, such as education, health, and life expectancy, but the gender gap in power relations and normative expectations remains wide (UNDP 2020). An understanding of social norms is needed for ensuring equitable power relations between women and men, and for reducing the gap in normative expectations, such as between daughters and sons. In three analytic chapters, my dissertation investigates whether and if so, how the norms and practices associated with son preference have become equitable and the implications this has on the value of daughters. Each of the three chapters uses nationally representative data to

examine the trends, patterns, and factors associated with specific a norm or practice that supports son preference and discusses how changes in these can increase the value of daughters in India.

Chapter two examines the trends in parental gender preferences as one of the practices associated with son preference. I investigate the shifts in parental gender preferences over more than a quarter-century and the extent to which these shifts are associated with social norm change. I investigate whether son preference has declined at the behavioral level, at a time when the population composition has changed with socioeconomic development. This mechanical shift in the composition of the population can mask the changes resulting from shifts in behavior or social norms (Chung & Das Gupta 2007, Eloundou-Enyegue et al. 2021, Kaur et al. 2017).

I use five rounds of the India Demographic and Health Survey data (from 1992 to 2019) and find that there has been a significant decline in son preference and a rise in gender-equitable preferences among all sub-populations. Over time, smaller proportions of women report that they would prefer to have more sons than daughters, and this is observed across birth cohorts, in both rural and urban areas, among the poor and the rich, and among all education categories. Compared to changes in the composition of the population, two-thirds of this decline is attributed to social norm change. This implies that irreversible social norm change toward gender-equitable preferences may be underway. While education and frequent exposure to television have consistently been associated with gender-equitable preferences, recent data suggests that community norms supporting women's employment are also associated with increased odds of reporting gender-equitable preferences.

In India, however, the decline in the preference for sons and the rise in gender-equitable preferences is not enough to raise the value of having just daughters. I find that daughters tend to be appreciated as long as families have a son. A 'balance' of daughters and sons is the most

popular gender preference and has been on the rise. Overall, the percentage of families who prefer daughters has remained low over these decades, and most policy and media initiatives that have been put in place to raise the value of daughters do not challenge the practices that support the preference for sons (UNFPA & UNWomen 2014). For the value of daughters to increase in themselves, the norms and practices that keep son preference in place need to be challenged (Das Gupta et al. 2003, den Boer & Hudson 2017).

The roots of the preference for sons over daughters are found in the gender, family, and kinship systems. In India, patrilineal norms and practices are dominant (Das Gupta et al. 2003). Daughters in rigid patrilineal systems have markedly separate roles toward their natal family before and after marriage (Basu & Koolwal 2005, Bloom et al. 2001, Dyson & Moore 1983, Niraula & Morgan 1996). After marriage, the loyalty of daughters shifts to their family-in-law, and maintaining close and frequent contact with their natal family is discouraged. Visiting the natal family is 'seen' to solely benefit the married woman and divert her from her marital responsibilities. For the value of daughters to rise, the marked separation between daughters and their natal family needs to be broken.

In chapter three, I extend Deniz Kandiyoti's argument of the 'patriarchal bargain' that women navigate through patriarchy in a way such that it maximizes their security and autonomy within a set of constraints by arguing that married women's participation in the decision to visit their natal family is a form of 'patrilineal bargain' (Kandiyoti 1988). Either wives or husbands or both may believe that husbands have greater decision-making authority on visiting the wife's natal family, and they may also hold gender-inequitable attitudes in other domains of the gender system (Barker et al. 2010, Snow et al. 2013, DeRose & Ezeh 2010, Kishor & Subaiya 2008). In India, although patrilineal systems in the north, west, and central regions are known to be more

rigid than those in the east, northeast, and south, growing evidence shows that the gender system varies within these regions (Evans et al. 2022, Kishor & Gupta 2004, Singh et al. 2019). This suggests the need for state-wise analyses of the gender and family systems.

Therefore, in chapter three, I explore the trends and state by state patterns of a specific dimension of the gender system that supports son preference, that is, decision-making authority on visiting wife's natal family. I specifically examine the 'normative belief' that husbands 'should' have a greater say in this decision, and the 'practice' of husbands as the 'usual' decision-makers. Using three rounds of the India Demographic and Health Survey couple data (from 2005 to 2019), I find that the decline in the normative belief has been slower compared to the decline in practice. In the 14 years examined, certain states have largely remained conservative in decision-making authority. These include Andhra Pradesh and Karnataka in the south, Jammu & Kashmir and Rajasthan in the north, Uttar Pradesh and Madhya Pradesh in the central region, and Bihar, Odisha, and West Bengal in the east.

In addition, the progress on different dimensions of the gender system has not been uniform for states that tend to be more equitable in their gender system. For instance, the preference for sons has slightly increased among women in Kerala in the south and among men in Kerala and in Meghalaya in the northeast. Hence, while certain dimensions of the gender system can improve, other dimensions can become more conservative. I further find that wife's justification for the use of violence by husband tends to cluster with conservative decision-making, particularly in Andhra Pradesh in the south, and in West Bengal in the east.

The findings also show that in some cases, improvement in practices is not associated with gender-equitable norms. For instance, although there is a rise in the proportion of couples who jointly decide to visit the wife's natal family, the norm supporting this practice has become less

equitable in several states. Since men are also the gatekeepers of gender-inequitable norms, progress toward gender equality requires husbands to hold gender-equitable attitudes (Barker et al. 2010, Haberland et al. 2021, Levtov et al. 2014). Often development programs aim to achieve greater gender equality by focusing on women's behavior and increasing their access to resources, for example, by increasing their age at marriage, improving access to financial resources, and building women's political participation, with little engagement of men as allies in this process. These efforts can appear as a threat to men's power (Krishnan et al. 2010, Sato et al. 2021). To raise the value of daughters, gender-inequitable norms and practices need to be questioned by both women and men. Further policies need to be strengthened based on our understanding of region-specific gender norms.

Maintaining contact with the natal family also increases the chances of intergenerational support between parents and married daughters, including when parents reach older ages. Studies in places where son preference has been strong, such as in China, Hong Kong, Japan, South Korea, and Taiwan show that politico-economic changes such as a universal pension system, a rising standard of living, gender-equitable norms, expansion of women's employment, and migration of children have reduced parental expectations from sons and daughters-in-law in old age (Chun & Das Gupta 2021, Ngoo et al. 2015, Xie & Zhu 2009, Yeung et al. 2018). In most patrilineal communities in India, sons and daughters-in-law are expected to take care of elderly parents, and daughters are discouraged from offering support to their own parents, unless a son is absent (Das Gupta et al. 2003). Further, it is widely believed that a satisfying old age is one spent with a married son and his wife, who in particular, provide financial support. Limited financial support can magnify distress in old age, particularly among those parents who do not have a son (Zhang & Harper 2022). Conversely, when financial comforts are taken care of, the gender

composition of children may not matter for elderly parents. Studies from other Asian communities suggest that in such situations, emotional needs often come to the foreground, and as a result, parents may be more accepting of married daughters stepping in to offer support (Bai 2017, Chun & Das Gupta 2021, Oh et al. 2017, Ngoo et al. 2015, Peng et al. 2019, Xie & Zhu 2009).

Chapter four examines whether having a son or children nearby, positively influence life satisfaction among elderly parents. Using the 2019 Longitudinal Aging Study in India, I show that life satisfaction is positively associated with having a mix of sons and daughters, suggesting that daughters are also important for elderly well-being. However, the gender of children is not the most critical predictor of life satisfaction among most economic groups. Among all economic groups, completion of high school, higher subjective socioeconomic status, self-rated health, and spiritual engagement are associated with higher life satisfaction. Further, depression and the experience of discrimination perceived due to age are negatively associated with life satisfaction. The findings suggest that the narrative of healthy aging needs to disassociate the belief that sons and their wives are necessary for elderly well-being since other factors are more critical to elderly well-being.

Contributions of this research

Collectively, these papers make three specific contributions to research. First, I draw attention to the study of social norms to understand son preference. I argue that norms are important indicators of behavioral practices and that a positive shift in norms indicates that progress toward gender equality is underway. I demonstrate the ways in which microlevel data from individual reports can be used to measure social norms and how we can attribute change to

social norms. Social norms are beliefs and practices that are shared across a group of people and held in place by social expectations (Bicchieri 2016, Cislaghi et al. 2019, Haberland et al. 2021). Social expectations include what one thinks is expected of them from their reference group and should be done by them. Norms guide people to behave in certain ways since they believe others do the same or believe that one should do so. There is a growing interest in studying (i) how norms are constructed, (ii) the ways in which they influence practice, and (iii) how inequitable norms can be transformed for community well-being.

Second, I examine three norms and practices that are associated with son preference. The three norms and practices I explore are the extent to which parental preferences of the gender of children are becoming equitable, decision-making authority to visit the wife's natal family, and the importance of sons for elderly life satisfaction. Although son preference is declining, several of the practices associated with it remain widely supported. Further, this decline in son preference is not associated with the rise of the value of daughters in themselves. Regional variation remains pronounced and more needs to be done for achieving gender equality throughout India.

Third, I put the discursive focus on daughters. Much of the prior research on son preference has focused on the patterns and impact of skewed sex ratios at birth. My research examines norms and practices associated with son preference in order to find what has the potential to raise the value of daughters. I argue that increasing the value of daughters requires understanding and addressing men's gender-related attitudes and bringing socioeconomic equality, particularly among older adults. My study supports the existing evidence that inequitable gender norms cannot be challenged without increasing couple communication and engaging men (Barker et al.

2010, Blanc 2001, Stycos et al. 1956) and guaranteeing a secure and comfortable life for all people (Das Gupta 2011, Inglehart et al. 2017, UNDP 2020).

Wider circulation

As papers, these chapters have been shared with the academic community and for public and policy discussion. An earlier version of Chapter 2 has been presented at the 2021 annual meeting of the Population Association of America. In its current form, it is now published in the *Studies in Family Planning* (June 2023). I have also discussed the policy implications of the findings in the podcast, 'All Things Policy' created by Takshashila Institution, Bengaluru, India (May 17, 2023). The podcast can be found here: https://omny.fm/shows/all-things-policy/gender-equitable-child-preferences. I was also invited to present the paper at a World Bank Group panel titled 'Fertility Preferences in South Asia: Economic Factors vs Social Norms' (June 8, 2023; Washington, DC).

An earlier version of Chapter 4 has been presented at the 2021 IUSSP International Population Conference. The findings and the papers will continue to be circulated in a variety of formats and revised for publication.

CHAPTER 2

A GIRL AND A BOY, ARE A BUNDLE OF JOY: A RISE IN GENDER-EQUITABLE FERTILITY PREFERENCES IN INDIA

Within the last decade, declining son preference in Asia has given rise to gender-equitable fertility preferences. These include daughter preference, gender indifference, and gender balance. Using five rounds of the India National Family Health Surveys (NFHS), I investigate the sources of the trends in shifting parental preferences of the gender of their children. Over more than a quarter-century period (1992-1993 to 2019-2021), I find a significant decline in son preference from 40 to 18 percent and an increase in gender-equitable preferences among most sub-populations. Multivariate analysis shows that for all survey years, education and frequent exposure to television significantly increase the odds of gender-equitable preferences. Community norms supporting women's employment are also associated with gender-equitable preferences, in the last decade. In addition, decomposition analysis shows that compared to changes in the composition of the population by level of education, social norm change accounts for two-thirds of the rise in gender-equitable preferences. These findings suggest that rising norms of gender equality have the potential to dismantle gender-biased preferences in India.

INTRODUCTION

In most parts of India, sex ratios at birth are either plateauing or showing distinct signs of decline, suggesting a decline in son preference (Guilmoto & Rahm 2021, Tong 2022). Across Asia, declining son preference is occurring alongside a rise in new forms of parental preferences regarding the gender of their children or 'gender preferences'. These include daughter preference in South Korea and Japan, gender indifference in Taiwan and certain parts of China, and gender

balance in Bangladesh (Asadullah et al. 2021, Chun & Das Gupta 2021, Fuse 2013, Lei 2013, Lin 2009). The decline in son preference in Asia is associated with the diffusion of the norm of gender equality, accompanying socioeconomic development, policy initiatives, and efforts made by the women's movement (Bongaarts 2013, Casterline 2001, Chung & Das Gupta 2007, den Boer & Hudson 2017). Socioeconomic development also changes the characteristics of the population. With socioeconomic development, a greater proportion of the population is likely to reside in urban areas and has more education and higher income. This mechanical shift in the characteristics of the population can mask the changes resulting from shifts in social norms (Chung & Das Gupta 2007, Eloundou-Enyegue et al. 2021, Kaur et al. 2017). For instance, while women with higher education are less likely to prefer sons, it does not necessarily follow that the normative preference for sons will decline with the rise in the proportion of the women with higher education. The normative preference for sons is likely to decline when all groups, irrespective of the level of education exhibit lower son preference. In this chapter, I provide evidence of a decline in the norm of son preference and a rise in the norm of gender-equitable preferences among women in India. I also investigate the sources and factors associated with this shift in preferences, using five rounds of the India Demographic Health Survey (DHS) from 1992-1993 to 2019-2021.

Son preference and daughter devaluation

In the 1990s, Amartya Sen brought global attention to son preference and its effects on daughter discrimination (Sen 1990). In India, although the sex ratio at birth continues to be above the biological norm of 105 boys per 100 girls, it has been on the decline (Tong 2022). The number of male births per 100 female births peaked at 113.6 in 2004 and is now at 108 boys per

100 girls (Kaur et al. 2017, Tong 2022). Although daughter discrimination is associated with excess mortality of girls, it is only in recent decades that the sex ratio at birth has been so masculinized (Bongaarts 2013, Das Gupta et al. 2003, Sen 1990). The literature shows that kinship, religious, and economic systems, together with demographic change, shape the value attached to daughters and sons (Desai & Temsah 2014, Nasir & Kalla 2006, Unnithan-Kumar 2010, Zaidi & Morgan 2016).

The roots of the preference for sons over daughters is largely associated with a rigid patrilineal kinship system (Das Gupta et al. 2003). In such communities, sons are given more value because they are expected to contribute to the family's resources, continue the family name, carry out ceremonial rites and offer old-age support to parents (Das Gupta et al. 2003). In India, the higher value accorded to sons over daughters, in the north, west, and central regions, compared to the east and south, is often attributed to the 'north-south' divide (Dyson & Moore 1983, Karve 1993). In the kinship and gender systems in the 'northern' regions, sons and daughters-in-law are expected to support elderly parents, and help from daughters and sons-in-law is *strongly* discouraged. Adult daughters have noticeably distinct roles and expectations in their natal family compared to their conjugal family. From the mid-1980s to mid-2000, administrative states in the northern region had some of the most masculine sex ratios at birth. However, discrimination against daughters is also known to have spread to communities in the south (Basu 1999a, Diamond-Smith et al. 2008). Further, attitudes supporting traditional roles of sons are widespread in most regions of the country. In a national-level study, Evans et al. (2022) show that 51-61 percent of Indians in the three of the five southern states and Uttar Pradesh in the central region agree to the statement that *sons should have the primary responsibility of caring for elderly parents*. Similarly, more than 60 percent of respondents in states representing

each of the different regions of the country (the south, north, central, east, northeast, and west) feel that compared to daughters, *sons should have the responsibility to perform the last rites and burial rituals* of parents and that *sons should have greater rights to inheritance*. This suggests that although regions vary in their gender systems, the greater value attached to sons over daughters is found almost everywhere.

While son preference is found among most religions in India, the value attached to daughters varies. Barooah and Iyer (2004) argue, for example, that although Hindus and Muslims in India have similar levels of son preference, 'daughter aversion' is lower among Muslims since their religious tenets around marriage, dowry/bride wealth, and birth control make it more acceptable to have daughters. For instance, among Muslims, the costs of having daughters are somewhat recoverable, as parents of daughters/daughters are obligated to receive a *mahr* (dower) from the groom's family, promised at the time of marriage. Among Hindus, parents of daughters remain ritually inferior to parents of sons, bolstered by an increasing preference for hypergamy and dowry, including in regions where these were not customary (Basu 1999a, Diamond-Smith et al. 2008).

While daughters have been appreciated for emotional companionship and caregiving, the preference for sons has intensified with declining fertility (Arnold 2001, Diamond-Smith et al. 2008, Patel 2007). The total fertility rate in India has steadily declined from around six children per woman in the 1960s to two in 2020 (Guilmoto 2016, PRB 2020). As the number of children desired fell more rapidly than the number of sons desired, many couples felt a stronger imperative to ensure they had at least one son (Das Gupta & Bhat 1997, Guilmoto 2016). In addition, medical advances since the 1970s have made it possible for families to use sex-

selective abortion and contraceptive technology to 'implement' their desired gender composition of children (Bongaarts 2013, Guilmoto 2009).

The role of socioeconomic development in the decline in son preference

Socioeconomic development, with women's education and employment, urbanization, and a rise in the standard of living is typically associated with lower gender bias (Asadullah et al. 2021, Chun & Das Gupta 2021, Drèze & Murthi 2001, Klasen & Wink 2003, Sahoo & Nagarajan 2020). Compiling data from different parts of the world, Klasen and Wink (2003) find that women's education and labor force participation have had the biggest effect in reducing gender bias and improving sex ratios. Women's education and paid employment increase the chances of interacting with nonkin groups by which women receive new ideas and build social capital outside their family (Basu 2002, Behrman & Duvisac 2017, Sanyal 2009). Social capital further has the potential to increase women's self-efficacy and agency (Sanyal 2009). With education and paid employment, women are likely to have greater autonomy in defining their fertility goals and depend less on sons for social status and old-age support (Asadullah et al. 2021, Drèze & Murthi 2001, Mason 2001). Education and employment also increase women's exposure to ideas that support gender equality and the chances of benefiting from such ideas (Bolzendahl & Myers 2004, Drèze & Murthi 2001). Additionally, the spread of ideas supporting gender inequality weakens traditional gendered roles and offers less incentive for parents to prefer a specific gender of children to the other (Bolzendahl & Myers 2004, Tian & Morgan 2015).

Using 2005 India DHS data, Behrman and Duvisac (2017) find that there is a significant negative association between women's employment and son preference in cases where women's employment raises a family's income dramatically or shift women's status. In Bangladesh,

Asadullah et al. (2021) find that women's employment, especially in female-dominant industries has given rise to a preference for gender balance in place of son preference. Other studies in the Asian context also find that parents value their daughters more when they see that their daughters have the potential to earn money (Asadullah et al. 2021, Fong 2002, Clark 2016, Pandey & Bhatia 2017). Financially independent women have the ability to contribute and maintain close ties with their natal family even if they reside elsewhere (Childs et al. 2011, Fong 2002, Lin et al. 2003, Xie & Zhu 2009). This can also weaken elderly parents' reliance on sons (Chun & Das Gupta 2021, Oh et al. 2017, Xie & Zhu 2009).

Urbanization leads to reduced dependence on agrarian systems that have traditionally required sons (Chun & Das Gupta 2021, Klasen & Wink 2003). In addition, sons have greater mobility to migrate and live farther from elderly parents. As a result, parents may expect less from sons (Das Gupta et al. 2003, Patel 2020). In urban areas, elderly parents tend to have pensions and health insurance minimizing their dependence on sons for financial support (Chun & Das Gupta 2021, Xie & Zhu 2009). Studies from South Korea find that when parents require limited financial support, daughters are often the first choice for companionship and emotional support and care in old age (Chun & Das Gupta 2021, Oh et al. 2017). Further, with increasing access to smart phones, elderly parents can maintain regular contact with their children of all genders (Knodel 2014, Patel 2020). Evidence also demonstrates that when the standard of living rises, resources allocated to nutrition and healthcare are no longer scarce and can be distributed equally to all children, irrespective of gender (Kaur et al. 2017, Klasen & Wink 2003). Although wealthy and urban families have greater access to sex-selective abortion and are known to use it to have fewer children (of a desired gender composition) as an attempt to achieve higher social status, women's education and employment can offset the intensification of this gender bias

(Klasen & Wink 2003, Patel 2020). And women tend to have higher levels of education and employment in urban areas.

Kaur et al. (2017) show that the sex ratio at birth in India was the most masculinized in the mid-2000s when there was an increased share of the 'emerging middle class'. The emerging middle class consists of those people who have recently moved out of poverty or near-poverty and are first-time entrants into the middle class. These families have made gains in child survival and have the income to educate their children. A small family is valued as 'modern.' With social mobility, families 'Sanskritize' by emulating upper class and upper caste practices, which may not benefit their daughters. For instance, such families may restrict women's mobility since the movement of girls outside the home raises fears about the consequences to a family's honor, or they may prefer that daughters stay at home to avoid the drudgery of work (Chatterjee et al. 2018, Kaur et al. 2017). Since daughters may avoid engaging in productive work, their value in their family does not noticeably improve. As this group moves out of poverty, its members also gain greater physical and economic access to sex-selective abortion. Kaur et al. (2017) suggest that the sex ratio at birth and son preference will decline as the emerging middle class moves into the 'stable middle class.' Members of the stable middle class have more education, income, higher status jobs, social security, and social prestige. Educated mothers are generally interested in ensuring their daughters' future and well-being. Economic and social security such as pension in old age gives families a reason to support the education and economic independence of their daughters and to be less dependent on sons.

Although declining fertility has intensified son preference, smaller families are found to be less gender biased, suggesting that demographic shifts can reduce son preference (Allendorf 2020, Bhat & Zavier 2003, Basu & Desai 2016). Basu and Desai (2016) empirically demonstrate

how a family's desire for social mobility is associated with gender-equitable preferences among one-child middle-class families in India. These families make heavier material and emotional investments in their children irrespective of the gender of the child. Using nationally representative large-scale survey data from India, Allendorf (2020) finds that the gender composition of children influences parental expectations of old-age support. While women with sons expect them to provide support in old age, women with only daughters either expect old-age support from daughters or not from children at all. Hence, Allendorf posits that a substantial proportion of daughter-only families can undermine patrilineal customs that give importance to sons, calling it a 'gendered demographic dividend.' This is noteworthy since the percent of families with only daughters has significantly increased in 10 states in India. Further, daughter-only families are likely to rise as fertility decline increases the chances that a family will not have a son (Guilmoto 2009). Another study found that families were willing to compromise on dowry, accept residence with married daughters, and allow them to inherit property in regions with historically skewed sex ratios and consequently bride shortage in north India (Larsen & Kaur 2013). With increasing longevity, declining fertility and the continued value of 'jointness' of the family, children will assume greater responsibility to care for their elderly parents in Asian countries (Patel 2020, Yeung et al. 2018). The gender of children providing support will not matter. For instance, in South Korea and parts of China, daughters are providing as much or more support to elderly parents compared to sons (Lei 2013, Oh et al. 2017, Xie & Zhu 2009). Parents are also investing as much in daughters as sons since they expect old-age support from them (Fong 2002, Lin et al. 2003).

Changing social norms and population composition

The literature on reproductive health and social change conceptualizes social norms as practices or behaviors shared across a group of people, that are held in place by beliefs around social expectations (Bicchieri 2016, Costenbader et al. 2017). These expectations are constructed from one's reference group, which is usually a local network of people whose behavior matters to an individual. Social norms can be studied by asking people if they behave in certain ways since they believe others do the same (empirical expectations), or if people believe that members of their reference group feel a behavior should be done (normative expectations) (Bicchieri 2016). DHS data can be used to measure behavior at the community (or normative) level and observe its effects on a health or fertility-related outcome (Mackie et al. 2015, Singh et al. 2021, Storey & Kaggwa 2009). For instance, using India DHS data, Singh et al. (2021) find that lower community-level fertility is associated with increased odds of a male birth. Their study reiterates the powerful role that social norms play in an individual's behavior.

Norms are amendable to change through policies and laws, collective action, social movements, and with planned interventions (Heise et al. 2019). In the last few decades, the women's movement and state action have been vocal about discrimination against daughters, especially in Asia (den Boer & Hudson 2017, UNFPA & UNWomen 2014). In India, policy initiatives are being rolled out to create a supportive environment for parents to value daughters as much as sons (Jejeebhoy et al. 2015, Sekher 2012). Chung and Das Gupta (2007) use decomposition analysis to find the extent to which the decline in son preference in South Korea was due to social norm change. South Korea once had the worst sex ratios at birth in the 1990s, but those ratios began to return to normalcy after the mid-2000s (Chung & Das Gupta 2007, Tafuro & Guilmoto 2020). In the same period, the composition of the population also changed,

that is, the proportion of the population residing in urban areas, belonging to higher income groups, and completing higher levels of education also increased. While norms are likely to change with state policies and advocacy by women's groups, mechanical shifts in the composition of the population can mask the amount of change in people's attitudes and behavior. Hypothetically, if the population composition remains unchanged over a longer period of time but reported son preference declines, then shifts in parental preferences can be attributed to change in social norms or behavior. The authors found that social norm change contributed to a large proportion (73 percent) of the decline in stated son preference, compared to changes in the population composition, that is, with increases in education and urbanization (27 percent). Kaur et al. (2017) too analyze the role of changing population composition to the peak in the sex ratio at birth in India in 2004, using 'class' as a compositional variable.

Earlier studies examining the trend in gender preferences find that sex ratios at birth and stated son preference are improving in most states in India (Aksan 2021, Barman & Sahoo 2021, Kumari & Goli 2022, Tong 2022). My study builds on these findings by expanding our understanding of the individual and community-level characteristics associated with gender-equitable preferences over the span of a quarter of a century. Further, I investigate how microlevel parental preferences regarding the gender of their children are associated with macrolevel shifts in social norms and population composition. I find that parental preferences of the gender of children are (a) becoming gender-equitable, by shifting away from son preference, and that (b) a large proportion of this shift can be attributed to changing social norms.

METHODS

Data and sample

I use data from five rounds of the India DHS, covering a period of 28 years (1992-1993 to 2019-2021). It is also known as the National Family Health Survey (NFHS). Successive nationally representative cross-sectional rounds of the NFHS allow for studying change in Indian households over time (Mackie et al. 2015). Each survey provides information on fertility, family planning, health, and demographic background. The samples are selected using multi-stage stratified sampling (IIPS & ICF 2017, IIPS & ICF 2021, IIPS & Macro International 1995, IIPS & ORC Macro 2000, IIPS & ORC Macro 2007). Data are collected during face-to-face interviews with household heads and women of reproductive age. The sample for the present analysis is currently married women in the age group of 15-49 whose ideal family size is at least one child. The first round had a lower age eligibility and included all those 13 and older; however, I omit those aged 13-14 from the analysis to ensure consistency in the sample. The sample is restricted to currently married women because nearly all fertility and decision-making around childbearing occur within marriage in India. Marriage is nearly universal, and the average age at marriage for women is around 21 years (Yeung et al. 2018). Pre-marital sex and cohabitation remain rare (Yeung et al. 2018).

Variables

Dependent variable: I use individual-level reports of ideal gender composition of children since the ideal gender composition of children takes a full range of preferences into account, including desire for children of any gender (Gaudin 2011). Demographic research has shown that such attitudinal measures are useful and valid for understanding a wide range of fertility

preferences, desires and social norms[2] (Casterline & Han 2017, Ghosh & Begum 2015). These are not always visible in behavior. For instance, in most instances, the desired sex ratio[3] is higher than the sex ratio at birth, indicating that sons are preferred even if couples do not put this preference into practice with sex-selective abortion or differential stopping behavior (Bongaarts 2013, Clark 2000, Guilmoto & Rahm 2021). In addition, since the gender of the first birth is largely biologically determined, it is difficult to ascertain how one's gender composition of living children is a reflection of social norms (Gaudin 2011).

The dependent variable is constructed from two questions in the survey measuring the ideal number of children and the gender of these children: (a) *if you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?* (b) *How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl?* The variable used in the analysis is the ratio of the number of children desired of each gender (daughter, son, it does not matter) to the ideal number of children or a *"*proportion of children desired of each gender to the ideal number of children" (Bhat & Zavier 2003, Gaudin 2011). Gaudin (2011) advances Bhat and Zavier's approach to calculating son preference by comparing the number of daughters and sons desired in one's family, instead of limiting it to the number of sons in one's ideal family size. Like Gaudin, I compare the proportion of daughters and sons desired, but also incorporate the number of children of either gender into the variable. Further, instead of constructing a continuous-level variable to measure degree of son preference as done in earlier studies, I create a categorical variable of 'gender preferences' to explore a range of preferences.

All women whose ideal number was one or more were assigned a gender preference. Women who held zero as the ideal number or non-numeric views cannot logically report a specific gender preference and were not included in the final analysis (Bhat & Zavier 2003, Clark 2000). I created four mutually exclusive categories of gender preferences: preference for daughters, preference for sons, gender balance (equal proportion of daughters and sons), and gender indifference (where the gender of the child is not of concern) (Fuse 2010). This variable was constructed in three steps. Firstly, women who desired an equal proportion of daughters and sons were assigned 'balance preference'. Secondly, I compared the proportions of daughters, sons and 'it does not matter' among the remaining respondents. Those who desired a greater proportion of daughters to sons/it does not matter were considered to have daughter preference, and vice versa. Among those who desired an equal proportion of children of a specific gender (daughter or son) and 'it does not matter' were assigned the preference of children of *that specific* gender. For instance, if a respondent desired two children of which she preferred one girl and was indifferent about the gender of the second child, was assigned 'daughter preference'. This underestimates instances in which respondents' express indifference in favor of a specific gender. Cases for which the proportion of 'it does not matter' was higher than of a specific gender were assigned 'gender indifference' (Bhat & Zavier 2003, Fuse 2010).

Predictor variables: I control for birth cohort, geographic region, religion, place of residence level of education, frequency of watching television, women's employment norms, fertility norms, and future want of children by gender composition of living children. In cases where variables are measured differently among the surveys, I take steps to ensure comparability. Birth cohort, together with survey year (as a period measure of time) demonstrate the effect of

normative change (Glenn 2005). For instance, among women born in the same birth cohort, if a higher proportion report gender-equitable preferences in a recent survey year compared to an earlier period in time that would reflect that norms have changed. That would suggest that attitudes have become gender-equitable among those in the same age group and exposed to similar politico-historical events and public discourse questioning son preference (UNFPA & UNWomen 2014). I use 10-year birth cohorts (Glenn 2005). Since women aged 15-49 were interviewed in the period of 1992-1993 to 2019-2021, the ten-year birth cohorts vary from '1954 or earlier' to '1994 or later.' The most recent birth cohort common to all five surveys is 1975 - 1984 and serves as the reference category.

Geographic region and religion are used as indicators of the broad kinship system and culture. The Indian states and union territories[4] have been classified into six geographic regions: north, central, east, northeast, west, and south (IIPS & ICF 2017). 'Central' is taken as the reference category since it includes high fertility states (more than 3 children per woman) that are currently witnessing a fertility decline (IIPS & ICF 2021). Since the desired number of children tends to fall faster than the desired number of sons, existing son preference is unlikely to have fallen in these states, compared to other regions where fertility began to decline earlier (Das Gupta & Bhat 1997, Guilmoto 2016). Over the last decades, additional administrative regions have either been created in the country or added in the sampling frame[5]. I used DHS manuals specific to each survey year to ensure that all administrative regions are classified into the appropriate geographical region for that year (IIPS & ICF 2017). In terms of religion, Hindus are the most numerous religious group, followed by Muslims, Christians, Sikhs, and others.

Place of residence is a broad indicator for socioeconomic development. Place of residence is a categorical variable with two levels: urban and rural. Standard of living is also used to gauge

socioeconomic development and could have potentially contributed to this research. However, since this variable was not measured at all in NFHS-1 and was not measured consistently across the other surveys[6] it is not used for multivariate analysis.

Women's education is four-category variable measured by level of education completed: (a) not educated or completed less than grade 5 (b) primary (completed grades 5 to 11), (c) secondary (completed grade 12), and (d) higher (completed any type of college education). Although the question on frequency of watching television was asked differently across the surveys[7], all women were asked if they watch television at least once a week (compared to less or more than that). For the analysis, I created a dichotomous variable to capture if women do not watch TV at all or less than once a week (=0) or if they watch it at least once a week or more (=1).

I create three normative or community-level variables. Community-level variables are constructed from combined responses of women residing in the same primary sampling unit (PSU)[8] (Aksan 2021, Costenbader et al. 2017, Kaggwa et al. 2008, Singh et al. 2021, Storey & Kaggwa 2009). The first two community-level variables measure women's employment[9] norms. Of these, the first captures the proportion of women employed in any sector[10] (at the community-level), and the second variable captures the proportion of women employed in the professional sector, that is, in technical, managerial and clerical work (at the community-level) (Behrman & Duvisac 2017). Previous studies suggest disaggregating women's work by sector of employment since not all forms of employment are associated with a shift in women's status and attitudes toward gender equality (Basu 2002, Behrman & Duvisac 2017, Bolzendahl & Myers 2004, Chatterjee et al. 2018, Sanyal 2009). Further, it considers women as a heterogenous group in terms of the decisions they/their families make in order to engage in paid work or not. Since the

correlation between these two normative variables of women's employment is weak, both variables are used in the same model (r=0.17, 2019-2021 data).

Community-level family size is calculated as the non-self mean number of children (including current pregnancy) per woman for each PSU (Aksan 2021, Singh et al. 2021, Storey & Kaggwa 2009). To avoid overlap of individual-level and community-level fertility, I removed the index woman's response when calculating the community-level fertility (Kaggwa et al. 2008, Storey & Kaggwa 2009). Individual-level fertility has been used to create the gender parity variable, used in the same model. Lastly, since the gender composition of one's living children can influence a respondent's ideal gender composition, I control for desire for more children by gender-parity composition (Casterline & Han 2017, Jayaraman et al. 2009). If women do not desire more children, we can assume that they accept or have achieved the number of daughters and sons they desired. Desire for more children is measured as a dichotomous variable. As discussed earlier, the desire to have at least one son plays a strong role in shaping fertility preferences than the desire to have at least one daughter; because of which I construct the variable of gender-parity composition from the number of living children and living sons. Women are categorized as 'x, y', in which x is the number of living children and y is the number of living sons, separately for up to two children. All women with 3 or more children are merged into a 'higher parity' group. For the multivariate analysis, the response of '2 children, 0 sons and desires more' serves as the reference category. These families are possibly desiring more children in order to have a son (Clark 2000).

NFHS-4 and NFHS-5 did not have any responses coded as 'missing' for the variables used in this chapter. The percent of missing values ranged than 0.1 percent to 1.2 percent in NFHS-1 to NFHS-3. Around 0.1 percent or fewer cases were also missing on the ideal number of children

(and subsequently on gender preferences of these children) in the first three surveys. This includes the response 'don't know.' NFHS-2 and NFHS-3 had around 0.1 percent missing responses on religion. Around 0.3 percent of responses were missing on education level in NFHS-1, as were a handful of cases in NFHS-2 and NFHS-3. Around 0.1 percent of responses were missing for frequency of watching television in each of the first three surveys. 0.2 percent of observations were missing on women's employment in NFHS-1. In the tables, NA is mentioned where a category of a variable is not available in a specific dataset. Cases with missing values were dropped (listwise deletion) for the multivariate analysis.

Analytical strategy

All data shown here are weighted at the national level. The weights have been normalized so the total number of weighted cases equals the total number of unweighted cases. I use the 'svyset' command in Stata to adjust my estimates and standard errors to the stratified, multi-stage cluster sampling design used by the NFHS for each survey round. The analysis is done in five steps. First, I explore the trend in gender preferences to see if there has been a decline in son preference and an emergence in new types of gender preferences. I use *z*-tests to check if there has been a statistically significant shift in these preferences between the first and recent survey years. I merge daughter preference, balance preference, and indifference into a single category of 'gender-equitable preferences' as it is not associated with gender bias[11] (Andersson et al. 2006, Fuse 2010, Tian & Morgan 2015). I compare 'gender-equitable preferences' with son preference for rest of the analyses.

Second, using bivariate analyses I assess (a) whether there have been statistically significant changes in gender preferences within sub-groups of the population and (b) which

independent factors are significantly associated with variation in gender preferences. In addition to *z*-tests, I use chi-square tests to measure the significance of the association between the gender preferences and the independent variables. Third, I model separate multivariate logistic regressions for each survey year to identify which individual and community-level factors are most associated with gender-equitable preferences.

Fourth, I identify those population composition variables that have made the greatest shift over time. To do this, I calculate and compare the percent change in each sub-group of the population between the first and latest survey year. Lastly, I use demographic decomposition to identify the sources of long-term change in gender preferences. Decomposition methods help identify the extent to which changes in the composition of the population contribute to change at the national level and isolate the amount of change that cannot be attributed to shifts in the weights of different sub-groups of the population (Eloundou-Enyegue et al. 2021). Based on steps two to four, I find that education is significantly and consistently associated with gender-equitable preferences. Further, gains in education have been the most dramatic. Hence, the shift in the composition of women by level of education has a relatively higher potential to contribute to change in gender preferences. After accounting for the amount of decline explained by the expansion of women's education, we are left with a portion of the decline that has occurred among all women irrespective of completed level of education. This broad-based change in behavior can be attributed to social norms (Chung & Das Gupta 2007, Eloundou-Enyegue et al. 2021).

I decompose the contribution of changes in population composition and changes in social norms to the shift in gender preferences. At any point in time, gender-equitable preferences (Y_t) at the national level are a function of the gender-equitable preferences (y_j) in each educational

level, *j*: no schooling, primary, secondary and higher, weighted by the size of the population at each level of education (w_j) (Eloundou-Enyegue et al. 2021). This can be expressed as:

$$Y_{t=\ \Sigma\overline{y_j}} \sum y_{jt*} w_{jt}$$

A rise in gender-equitable preferences can be broken down into two components as shown in the equation below. The first part of the equation reflects the compositional effect, or the contribution made by changes in the size of the population by level of education. The second source of change reflects change in the behavior of the sub-groups (Eloundou- Enyegue et al. 2021).

$$Y_{t1} = \Sigma\overline{y_j} * \Delta w_j + \Sigma\overline{w_j} * \Delta y$$

FINDINGS

Fertility preferences over the years: Four major findings are visible over the survey years. First, between 1992-1993 and 2019-2021, there has been a significant decline in the actual and ideal number of children (Table 2.1). The mean number of living children declined from 2.7 to around 2.2 and the mean ideal number of children declined from 2.9 to 2.3 ($p<0.001$, two-sample z-test between 1992-1993 and 2019-2021). Second, the mean ideal number of children has remained higher than the mean number of living children for all survey years, except in 2005-2006. Third, between 1992-1993 and 2015-2016, a growing proportion of women reported the desire for no children or only one child. However, these trends have slightly declined after 2015-2016 and remain low. In 2019-2021, only 3 percent of women reported an ideal family of zero children and 6 percent reported an ideal family of one child. Taking gender-parity composition into account for future desire for more children shows that broadly, those with one child desire

more children, irrespective of the gender of the child. For instance, 6.4 percent women and 6.9 percent women with one daughter or one son, respectively, desire more children.

Table 2.1. Gender composition of children and preferences among currently married women, India 1992-2019

	NFHS-1 1992-93	NFHS-2 1998-99	NFHS-3 2005-06	NFHS-4 2015-16	NFHS-5 2019-21
Mean number of living children***	2.65	2.61	2.52	2.20	2.17
Desire for (more) children***	41.9	36.3	29.6	32.0	29.9
Gender-parity composition and future want of children					
No children and wants more***	12.6	11.7	10.5	9.7	9.0
No children and does not want more	0.4	0.3	0.5	0.6	0.5
1 child, 0 sons, wants more	6.7	5.9	5.5	6.5	6.4
1 child, 0 sons, does not want more***	1.4	1.7	2.2	2.4	2.4
1 child, 1 son, wants more	6.9	6.2	5.5	6.9	6.9
1 child, 1 son, does not want more***	1.9	2.5	3.7	4.2	4.5
2 children, 0 sons, wants more***	2.5	2.2	1.7	1.9	1.9
2 children, 0 sons, does not want more***	1.6	2.0	2.8	3.7	3.5
2 children, 1 son, wants more***	3.6	3.1	1.7	2.2	1.9
2 children, 1 son, does want more***	7.7	10.0	13.0	17.0	19.1
2 children, 2 sons, wants more***	1.8	1.3	0.9	1.1	1.0
2 children, 2 sons, does not want more***	4.7	6.3	7.5	9.3	10.1
Three or more children, wants more***	7.9	6.0	3.8	3.7	2.8
Three or more children, does not want***	40.4	40.9	40.8	30.8	30.1
Mean ideal number of children	2.87	2.65	2.40	2.34	2.29
Ideal number of children^:					
Zero***	0.0	0.1	0.8	3.8	2.7
One child***	3.1	4.3	6.4	6.1	6.0
Two children***	37.0	47.1	57.9	63.4	66.6
Three***	29.1	25.1	21.9	17.7	16.5
More than three***	21.0	16.8	11.0	9.1	8.3
Non-numeric/don't know***	9.7	6.5	2.0	0.0	0.5
Proportion of women desiring:					
At least one daughter	84.6	80.4	77.6	84.4	84.1
At least one son***	90.1	85.3	81.7	87.9	86.8
At least one child of any gender	13.4	16.2	19.2	12.5	13.6
Gender preference					
Gender-equitable ***	59.7	67.5	75.1	79.4	82.1
Son***	40.3	32.5	24.9	20.6	17.8
Number of observations (weighted)	*75,791*	*79,149*	*85,378*	*82,412*	*74,989*

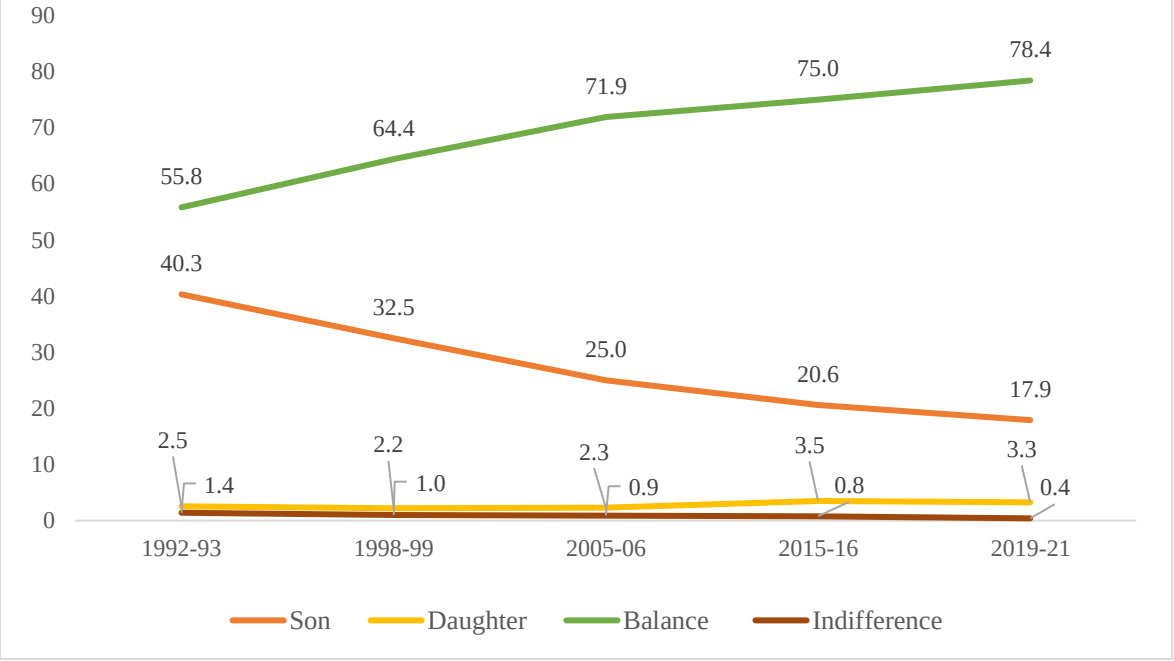
Note: ^The total N is higher since it includes all women and is not restricted to the analytical sample. Z-tests have been used to test the statistical significance of the differences in the proportions between years 1992-93 and 2019-21, *p<0.05, ** p<0.01, *** p<0.001.

Fourth, the attitudes of those with two children of the same gender show that gender bias exists. For instance, 3.5 percent and 10.1 percent women with only two daughters or only two

sons, respectively, do not desire more children. A fifth of the families have a balance of daughters and sons and do not desire more. If the birth of the first child is biologically determined and largely not tampered with, then it appears that families are making an effort to achieve balance or have at least a son, either with differential stopping behavior or a conscious elimination of daughters (Clark 2000, Gaudin 2011).

***Trends in gender preferences*:** Across time, balanced preference has been the most popular parental preference, and has continued to rise. Figure 2.1 shows that the percent of respondents reporting an equal proportion of daughters and sons (balance preference) has risen from 55.8 percent in 1992-1993 to 78.4 percent in 2019-2021. In the same time period, son preference has declined from 40 percent to 18 percent. However, the decline in son preference has been greater than the rise in balance preference. While son preference declined by 56 percent, balance preference rose by 41 percent ($p<0.001$, two-sample z-test). Daughter preference remains low (around 3 percent). While it rose slightly between 1998-1999 to 2015-2016, the preference for daughters over sons or any gender has declined after that. Gender indifference or the preference for children of any gender compared to a specific gender remains unpopular, as expressed by less than one percent of women in the last 28 years. This is corroborated by the fact that 84 percent would like to have at least one daughter in their ideal family, and 87 percent would like to have at least one son (Table 2.1).

Figure 2.1. Trends in gender preferences among currently married women, 1992-93 to 2019-2021, India



***Rise in gender-equitable preferences across most groups*:** Between 1992-1993 to 2019-2021, the proportion of women holding gender-equitable preferences has steadily risen among most sub-populations (Table 2.2). This is found among residents in the north, central, east, northeast, and west and among Hindus, Muslims, and Sikhs. Women in both urban and rural regions report a rise in gender-equitable preferences. All wealth categories show a rise in gender-equitable preferences. Gender-equitable preferences have risen among those with no education or with only primary education. Irrespective of the gender composition of children, that is, an equal number of daughters and sons, or more daughters or more sons, the proportion of women holding gender-equitable preferences has also risen among all these groups. It is notable that among women born in the same cohort, a greater proportion report gender-equitable preferences at each point in time. This suggests social norm change. For instance, among those women born between 1965 and 1974, the proportion reporting gender-equitable preferences in 1992-1993 was 61

percent; while in 1998-1999 it was 69 percent and it rose to 74-75 percent in next two survey rounds. In 2019-2021, 76 percent women born in the same period of 1965-1974 hold gender-equitable preferences.

However, between 2005-2006 to 2015-2016, the proportion reporting gender-equitable preferences declined among those residing in the south ($p<0.001$, two-sample *z*-test), among Christians ($p<0.001$, two-sample *z*-test), among those with secondary education ($p<0.01$, two-sample *z*-test) or higher education ($p<0.001$, two-sample *z*-test) and among those employed in the technical/managerial/clerical sectors ($p<0.001$, two-sample *z*-test). This could be due to a rise in a preference for one-child families, which constrains preference toward a specific gender, including daughter preference.

Table 2.2. Background characteristics of women holding gender-equitable preferences, India 1992-2019

	NFHS-1 1992-93	NFHS-2 1998-99	NFHS-3 2005-06	NFHS-4 2015-16	NFHS-5 2019-21
Total percent	**59.7**	**67.5**	**75.1**	**79.4**	**82.1**
Birth cohort					
1954 or before	57.4	63.9	NA	NA	NA
1955- 1964	59.7	65.9	71.3	NA	NA
1965- 1974	61.0	68.6	74.1	75.0	76.0
1975-1984	59.6	68.9	77.8	77.9	80.5
1985- 1994	NA	NA	75.8	82.3	83.7
1994 and later	NA	NA	NA	85.1	86.5
Region					
South	78.0	86.1	90.0	85.5	89.7
North	51.4	62.8	71.9	83.0	84.7
Central	46.1	51.2	63.4	69.6	75.0
East	55.5	65.0	70.8	73.6	76.9
Northeast	59.9	65.2	74.2	80.8	84.2
West	65.2	72.8	81.3	87.6	88.5
Religion					
Hindu	59.2	67.1	75.2	79.6	82.5
Muslim	58.6	66.2	70.5	75.1	78.0
Christian	77.9	80.1	87.0	85.4	86.2
Sikh	55.6	71.8	80.8	88.1	90.8
Other	67.1	75.8	80.8	88.6	86.0
Place of residence					
Urban	72.2	78.3	84.0	84.6	87.2
Rural	55.1	63.6	71.0	76.7	79.8
Standard of living^					

Poorer	NA	61.8	65.8	70.6	75.8
Middle	NA	66.5	74.8	81.1	83.1
Richer	NA	78.4	83.7	85.7	87.7
Age					
15-29	60.1	69.1	77.5	83.4	85.7
30-39	59.0	66.8	74.1	78.4	81.8
40-49	57.7	64.6	71.3	74.8	77.9
Highest educational level					
No education	51.0	57.6	64.8	67.7	70.7
Primary	65.1	70.2	76.8	77.9	79.0
Secondary	75.5	79.9	85.9	85.4	87.3
Higher	87.1	88.5	92.5	90.2	91.2
Frequency of watching TV					
At least once a week	73.0	77.4	83.4	84.2	86.9
Women's employment					
Not employed	59.8	68.4	77.3	80.2	82.0
Technical/managerial/clerical	87.0	86.9	90.1	86.1	89.1
Sales/services	74.9	74.5	80.5	80.9	86.0
Agricultural/manual	57.1	64.1	69.6	75.8	81.0
Gender composition of living children					
Equal number of daughters and sons	66.9	74.0	81.9	87.4	89.5
More daughters than sons	65.2	71.6	77.4	81.8	83.0
More sons than daughters	49.1	58.8	67.3	70.1	74.5
Number of observations (weighted)	*45,242*	*53,447*	*64,073*	*65,438*	*61,581*

Note: This variable of gender-equitable preferences includes balance preference, daughter preference and gender indifference. ^ The top and bottom two quintiles have been merged for ease in comparison between survey rounds.

Factors associated with gender-equitable preferences: Table 2.3 presents the logistic regression results after controlling for key background characteristics for each year. Results from the 2019-2021 dataset show that birth cohort no longer significantly influences preferences for the gender composition of children, as it did in the early 1990s into the mid- 2000s. It is possible that fertility preferences have become more homogenous and birth cohorts are less distinct in their preferences.

Residence in the south, north, northeast, and west is associated with higher odds of holding gender-equitable preferences compared to residence in the central region for all survey years.

Over time, two changes in the relationship between geographical region and gender preferences are notable. One is that the odds of holding gender-equitable preferences with residence in the south (compared to the central region) has declined with time, and the second is that the effect of residence in the east lost its significance in the last two survey years. In 2019-2021, compared to Hindus, Muslims and Christians are less likely to hold gender-equitable preferences which was not the case earlier. Further, Sikhs are significantly more likely to hold gender-equitable preferences than Hindus (odds ratio 1.6, $p<0.001$).

Residence in urban areas is associated with significantly higher odds of gender-equitable preferences for most survey years. Each level of education significantly increases the odds of gender-equitable preferences compared to no education. However, the odds among those who have attained higher education have declined with time. Frequent exposure to television is associated with significantly increased odds of gender-equitable preferences compared to frequency of watching TV less than a week. This is found for all survey years. While community-level women's employment in any sector is significantly associated with gender-equitable preferences in the last decade (or in the last two survey rounds), engagement in the professional sector has not been significantly associated with gender-equitable preferences for any survey year.

In communities where a larger family size is the norm, the chances of gender-equitable preferences is lower for all survey years. In the two most recent surveys, the data indicate that the odds of gender-equitable preferences are highest when a family has one daughter and one son and does not desire additional children ($p<0.001$). Earlier survey rounds also show significant positive coefficients for this sub-group of women. Following this, compared to families with two daughters who desire more children, those who have two daughters and do not desire children

are 2.81 times more likely to hold gender-equitable preferences ($p<0.001$) in NFHS-5, and those who have one daughter and do not desire more children are 1.77 times likely to hold gender-equitable preferences. Women who have one child of any gender but desire more children are 1.9 to 2.0 times likely to have gender-equitable preferences ($p<0.001$). This suggests that the presence of at least one daughter (irrespective of desire for more children) increases the odds of holding gender-equitable preferences, compared to having a son.

Table 2.3. Odds ratios from logistic regression analysis of gender-equitable preferences with key background characteristics, India 1992-2019

	NFHS-1 1992-93	NFHS-2 1998-99	NFHS-3 2005-06	NFHS-4 2015-16	NFHS-5 2019-21
Birth cohort					
1954 or earlier	1.22**	1.04	NA	NA	NA
1955 to 1964	1.22**	1.09*	0.88***	NA	NA
1965 to 1974	1.15*	1.33***	0.97	0.99	0.91*
1975 to 1984 (ref.)					
1985 to 1994	NA	NA	0.79***	1.04	0.97
1994 or later	NA	NA	NA	1.02	0.90
Region					
Central (ref.)					
South	3.19***	4.35***	2.73***	1.24***	1.58***
North	1.04	1.33***	1.03*	1.63***	1.47***
East	1.32***	1.71***	1.15*	1.05	1.05
Northeast	1.57***	1.62***	1.06	1.41***	1.40***
West	1.66***	1.86***	1.44***	1.87***	1.72***
Religion					
Hindu (ref.)					
Muslim	1.04	1.08	1.03	1.01	0.99
Christian	1.32**	0.98	1.25*	1.08	0.97
Sikh	1.02	1.25***	1.21*	1.18	1.61***
Other	1.09	1.29*	1.22	1.63**	1.04
Place of residence					
Rural (ref.)					
Urban	1.37***	1.28***	1.25***	1.05	1.14**
Level of education					
No education (ref.)					
Primary	1.33***	1.34***	1.29***	1.24***	1.24***
Secondary	1.79***	1.71***	1.77***	1.51***	1.57***
Higher	3.01***	2.73***	2.57***	1.84***	1.81***
Frequency of watching TV in a week					
No/Less than once a week (ref.)					
At least once a week	1.33***	1.32***	1.25***	1.43***	1.22***
Community-level women's employment	1.54**	1.32	0.93	1.19**	1.26**
Community-level women's employment in technical/clerical sectors	11.8	3.12	0.86	0.74	0.70
Community-level family size	0.80**	0.91	0.72***	0.73***	0.75***
Desire for (more) children by gender-parity					
0 children* desire children	0.98	1.03	1.24*	1.49***	1.75***
0 children* no desire for children	1.25	1.21	1.41	1.32	0.76
1 child, 0 sons* desire more	0.97	1.18*	1.28*	2.10***	2.04***
1 child, 0 sons* no desire for more	3.12***	2.39***	2.41***	2.30***	1.77**
1 child, 1 son* desire more	0.75***	0.89	1.09	1.60***	1.87***
1 child, 1 son* no desire for more	0.90	0.70***	0.61***	0.53***	0.49***
2 children, 0 sons desire more (ref.)*					
2 children, 0 sons* no desire for more	1.51**	3.10***	2.82***	3.47***	2.81***
2 children, 1 son* desire more	0.31***	0.32***	0.28***	0.47***	0.47***
2 children, 1 son* no desire for more	2.26***	2.36***	2.14***	3.74***	3.63***

2 children, 2 sons* desire more	0.29***	0.25***	0.20***	0.32***	0.36***
2 children, 2 sons* no desire for more	0.72***	0.94	0.81	0.90	1.12
Higher parity* desire more	0.64***	0.63***	0.61***	0.59***	0.58***
Higher parity* no desire for more	0.52***	0.56***	0.58***	0.60***	0.54***
Number of observations (weighted)	*75,557*	*79,053*	*85,269*	*82,412*	*74,989*

Note: Ref.= reference category. *p<0.05, ** p<0.01, *** p<0.001.

***Changes in population composition*:** Compared to changes in the composition of population-level characteristics, women's education has made substantive gains (Appendix A1). Between 1992-1993 and 2019-2021, the proportion of women with no education declined by 54 percent and those with only a primary education declined by 18 percent. The percent of women completing secondary education more than doubled and those with higher education expanded by more than 2.5 times. This increase in education coincided with another notable shift, the rise in women's employment in the technical/managerial/clerical sectors. Although this form of employment remains low, it has steadily increased from less than one percent in 1992-1993 to three percent 2019-2021.

Contribution of population composition and social norms to changing gender preferences: Table 2.4 presents the results from demographic decomposition using level of education as the compositional factor. I use women's education as a compositional variable since it made such profound gains in the last two decades compared to other compositional variables. The analyses focused respectively on trends in son preference (topmost block of rows) and gender-equitable preferences (bottommost block). Horizontally, the table can be viewed as four panels. The left panel shows the different levels of education (or sub-populations). The next panel shows the proportion of women reporting the specific gender preference and the composition of women in each education category for the first and fifth survey years (the longest time frame available, of 28 years). The next panel shows the portion of total change due to changes in the composition and normative behavior of each education category. The right most panel depicts the share of the

contribution made by each education category to the total shift in each gender preference. Between 1992-1993 and 2019-2021, the proportion of women reporting son preference declined by 22 percent (from 40 to 18 percent). Shifts in the composition by educational attainment account for 34 percent of the total change while normative changes in behavior account for 66 percent. In the same period, gender-equitable preferences rose from 60 to 82 percent. As gender-equitable preferences are the inverse of son preference, changes in composition by educational attainment and behavior contribute the same amount: 34 percent and 66 percent, respectively.

Table 2.4. Decomposition of change in each type of gender preference by changes in educational attainment and behavior change between 1992-93 to 2019-2021, India

	Percent				Percent contributed by the attributes of these educational categories to this effect		
	NFHS-1 1992-93		NFHS-5 2019-21				
Type of gender preference and level of education	**Proportion reporting the specific gender preference by educational level**	**Proportion of women by education level**	**Proportion reporting the specific gender preference by educational level**	**Proportion of women by education level**	**Composition**	**Behavior**	**Total effect**
Son preference							
No education	0.49	0.59	0.29	0.27	59.32	40.68	**93%**
Primary	0.35	0.17	0.21	0.14	28.20	71.80	**13%**
Secondary	0.25	0.20	0.13	0.46	564.99	-464.99	**-4%**
Higher	0.13	0.04	0.09	0.13	151.81	-51.81	**-3%**
Total	*0.40*		*0.18*		*-0.075*	*-0.149*	***-0.22***
					33.59%	**66.41%**	
Gender-equitable preferences							
No education	0.51	0.59	0.71	0.27	179.15	-79.15	**-48%**
Primary	0.65	0.17	0.79	0.14	22559.82	-22459.82	**-0%**
Secondary	0.76	0.20	0.88	0.46	84.17	15.83	**110%**
Higher	0.87	0.04	0.91	0.13	96.01	3.99	**38%**
Total	*0.60*		*0.82*		*-0.075*	*-0.149*	***0.22***
					33.59%	**66.41%**	

Looking at the rightmost panel, the results indicate that different education categories played varying roles in this shift. The group that contributed most to the decline in son preference were women with 'no education' (93 percent of the total). This contribution has been made by similar measures of a compositional effect (i.e., this group becoming a smaller proportion of the national population) and a behavioral effect (i.e., this group itself becoming less likely to express son preference). The bottom block of Table 2.4 shows similar analyses for the shift towards gender-equitable preferences. In this case, the most influential groups were women with higher levels of schooling, including those with secondary education (110%) and those with higher education (38%). The individual contribution of these better educated groups is largely compositional than behavioral.

DISCUSSION

In most regions in the world, parents have a preference for children of specific genders. This is also true in India. In the last three decades, gender indifference has consistently remained less than one percent, implying that a preference of children of specific genders is part of the cultural fabric in the country. Globally, gender indifference is preferred in very few regions, such as in Turkey, Egypt, and Taiwan (Fuse 2010, Lin 2009). It would be worth exploring how parental expectations from daughters and sons are constructed in these regions, and how in certain cases, the attitudes of parents have shifted from son preference to gender indifference within a patrilineal system.

I offer a sociological explanation by showing how microlevel shifts in parental preferences of the gender of children can be attributed to macrolevel shifts in social norms favoring gender equality. Demographic decomposition shows that compared to compositional change, social norm change accounts for two-thirds of the rise in gender-equitable preferences. I find an

irreversible rise in gender-equitable preferences among most sub-population by birth cohort, geographical region, and religion. Gender-equitable preferences have also risen in both urban and rural areas, among the rich and the poor, and among all those with primary and less education. Irrespective of the gender composition of living children and birth cohort, a greater proportion of women report gender-equitable preferences with time. Multivariate analysis shows that for all survey years, education and frequent exposure to television significantly increase the odds of gender-equitable preferences.

While residence in the south, north, northeast, and west is associated with higher odds of holding gender-equitable preferences compared to residence in the central region for all survey years, the effect of residence in the east loses its significance in the last two survey years compared to the previous years. This could be associated with the fact that some states in the east are similar to the central states in their fertility trends, while other states have been on a different trajectory. For instance, the patterns of the total fertility rates (TFR) of the eastern states of Bihar and Jharkhand have been similar to that of central states of Uttar Pradesh and Madhya Pradesh. In 2005-2006, these states had a TFR of 3 or more, that has fallen to around 2 in 2019-2021 (IIPS & ICF 2021). However, The TFR of eastern states of Odisha and West Bengal were around 2.3 in 2005-2006 and has fallen to around 1.6 to 1.8 in 2019-2021 (IIPS & ICF 2021). Another explanation is provided by Ghosh and Keshri (2020), who postulate that for most states in the central and eastern regions, limited economic and educational opportunities make it more desirable for families to have two sons. One son can migrate to better-off regions to increase the family's income while the other can stay back to provide old-age support, resulting in less-equitable preferences.

In the last decade, community norms supporting women's employment have also been associated with gender-equitable preferences, although norms supportive of women's employment in the professional sector (technical/clerical work) have not. This is similar to Behrman & Duvisac's (2017) analysis of women's employment in India. The authors suggest that education and employment are positively associated with a belief in gender equality, particularly when they significantly change women's economic status in the family. They also find that women's employment in the professional sector is not associated with stated son preference and suggest that this could be because employment in this sector does not significantly transform the financial well-being of families. Women engaged in the professional sector tend to come from families that are socio-economically well-off.

In most regions in Asia where son preference has declined, it has given way to either daughter preference or gender balance preference (Asadullah et al. 2021, Chun & Das Gupta 2021, Fuse 2013). In India, a balance of daughters and sons is now the most common preference, as reported by 79 percent of women. In neighboring Bangladesh, reports of balance preference are even higher. The ideal number of daughters and sons has been converging since the 1990s and are almost identical, while for India, the mean ideal number of sons tends to be higher than the mean ideal number of daughters (Asadullah et al. 2021). Gender balance can only be attained when families prefer an even number of children or at least two-children (Behrman & Duvisac 2017, Kaur et al. 2017). In the Indian context, the preference for a one-child family has been rising, although it slightly declined after 2015-2016. If families prefer one child, then they are likely to report a preference for either a son or daughter (since the gender indifference preference is low). I find that among women who prefer one child, there has been a rise in the preference for daughters. For instance, between 2005-2006 to 2015-2016, daughter preference increased from

3.3 percent to 7.6 percent in the south (4.5 percent points), from 6.8 percent to 7.2 percent among Christians (0.4 percent points) and from 3.6 percent to 6.1 percent among those engaged in technical/managerial/clerical work (2.5 percent points). However, son preference also rose among these groups and by the same or higher percent points, that is, by 4.5 percent points in the south, 1.6 percent points among Christians, and 4.1 percent points among those engaged in technical/managerial/clerical work[12]. Although a one-child family is not likely to become the norm in India in the coming decades (Casterline & Gietel-Basten 2018), the percentage of those who prefer daughters or a balance of genders, or who do not hold a gender preference for their children is likely to continue to increase.

I find that the preference for daughters has fluctuated in the last few decades. While it rose slightly from the late 1990s, it began to decline after 2015-16. A few initiatives in India are attempting to increase the symmetry between daughters and sons after marriage. For instance, daughters have been granted the right to inherit property with the amendment of the Hindu Succession Act 2005 and, daughters are mandated the same legal responsibility to care for elderly parents as are sons, under the Maintenance and Welfare of Parents and Senior Citizens Act 2007 (UNFPA & UNWomen 2014). Further, in the last decade, representations of the value of daughters have expanded, and at times have become 'hyper-visible' in mass media and public discourse (Chaudhuri 2017, Jejeebhoy et al. 2015, Sahu 2018, Sekher 2012). Sahu (2018) finds that from the late 2000s, Hindi language soap operas have shifted their focus from daughters-in-law (*bahu*) to daughters (*beti*). Sahu calls this a paradigmatic shift. A few studies suggest that parents are more accepting of married daughters for old-age support (Larsen & Kaur 2013, Patel 2020, Shah 2014). In Nepal, Brunson (2010), has found that although ideological and religious explanations for desiring a son are fading, the idea of lineage and multigenerational support from

sons remains strong. Hence, even when women value daughters as much as sons, they are unable to escape the norm that daughters cannot care for their families after marriage. den Boer and Hudson (2017) argue that for value of daughters to increase in themselves, the value attached to sons needs to be challenged. But balance preference suggests that daughters are appreciated as long as families have a son and much more needs to be done for families to prefer daughters irrespective of the desire for a son. An in-depth study of the ways in which families with daughters negotiate son preference and the factors associated with the rise in daughter preference among certain groups, such as in the south, among Christians, and among those engaged in professional (technical/managerial/clerical) work could provide a piece to this puzzle. However, since the sample of women with daughter preference was comparatively small, I could not examine those factors that differentiate women with the preference for daughters from those with a preference for sons or with a preference for balance.

The study has a few limitations. Firstly, while attitudes and behavior are correlated, a causal claim about the relationship between stated son preference and actual behavior cannot be made. While I find that women with 'one daughter and one son' have the highest odds of reporting gender-equitable preferences in 2019-2021, it is difficult to ascertain if this preference is shaped by the gender composition of their children (or post hoc rationalization), or if their fertility preferences become actualized in their gender composition of their children. While belief in gender-equality need not reflect egalitarian behavior, it can be argued that it has the potential to initiate behavior change. In India, the states with some of the worst sex ratios at birth in past years have shown considerable improvement, such as Punjab and Haryana. Further analysis should be done to identify the reasons behind this improvement (Tong 2022). At the same time, other studies suggest that people are underreporting son preference and resorting to sex selective

abortion (Kumari & Goli 2022). Secondly, although the six-category variable of region is used to control for broad cultural patterns (IIPS & ICF 2021, Singh et al. 2021), it masks the cultural and socioeconomic similarities between states in different regions, and the differences between states within the same region (Evans et al. 2022). Future research might examine the dissonance between support for traditional roles of sons and improved sex ratios among these groups in different parts of the country[13].

CHAPTER 3

THE PATTERNS OF PATRILINEAL BARGAIN: NORMS AND PRACTICES AROUND HUSBAND'S DECISION-MAKING AUTHORITY IN INDIA

Close connection with the natal family is beneficial for married women's well-being. It also has the potential to increase the value of daughters in contexts where son preference is strong. In South Asia, married women are often expected to minimize their ties with their natal family upon marriage and may have limited participation in this decision. In this chapter, I analyze the trends and regional patterns in decision-making authority to visit the wife's natal family in India. Using three rounds of the India Demographic and Health Survey couple data (2005-2019), I find that the decline in the normative belief that husbands 'should' have a larger say in this decision has been slower compared to the decline in the practice of husbands as the 'usual' decision-makers. In the 14 years covered in this study, certain states have largely remained inequitable in terms of decision-making authority, such as Andhra Pradesh and Karnataka in the south, Jammu & Kashmir and Rajasthan in the north, Uttar Pradesh and Madhya Pradesh in the central region, and Bihar, Odisha, and West Bengal in the east. States such as Delhi, Himachal Pradesh, Goa, and Kerala tend to be more equitable in their gender system, although this progress has been uneven and, in some cases, stalled. Logistic regression analysis shows that the odds of reporting an inequitable normative belief are significantly higher when husbands prefer sons. In comparison, the odds of reporting an inequitable practice are considerably higher when wives justify the use of violence by husbands. The study warrants the need to address gender-inequitable attitudes among men as much as women and to use our understanding of region-specific gender norms to strengthen policy.

INTRODUCTION

For married women, maintaining a close connection with natal kin is beneficial for their health and well-being (Basu & Koolwal 2005, Bloom et al. 2001, Matthews et al. 2005, Raman et al. 2014). However, women in patrilineal communities in South Asia are often expected to minimize their ties with their natal kin upon marriage (Dyson & Moore 1983, Niraula & Morgan 1996, Das Gupta 2009). In such communities, visiting the natal family is seen as diverting a woman from her marital responsibilities and is especially contentious. How much married women can maintain contact with their natal family depends on the extent to which they can participate in this decision. Among certain couples, women may have limited participation in this decision, and spouses may accept that husbands have greater authority over this decision (Blanc 2001, DeRose & Ezeh 2010, Kishor & Subaiya 2008). The belief and practice of husbands having decision-making authority on visiting wife's natal family is shaped within the larger context of the gender system and cultural norms (Kishor & Gupta 2004, Mason 2001, Singh et al. 2019). Gender norms may not support women's authority over this decision to visit their natal family.

This chapter examines the trends and regional patterns of spouses' participation in this decision. These changes also reflect the variations and changes in the gender system. Using three rounds of the India Demographic and Health Survey couple data (2005-2019), I ask (a) has the norm and practice shifted away from husbands having the decision-making authority on visiting wife's family toward greater participation of women in this decision? (b) How do regions differ in the prevalence and shift in this norm and practice? (c) Is the husband's normative decision-making authority held in combination with other gender-inequitable norms/practices? And (d) how do regions vary in this combination of the dimensions of the gender system? The chapter

suggests which dimensions of the gender system and which regions require scholarly and policy attention to increase married women's participation in deciding to visit their natal family.

Gender norms

India is one of the most gender-inequitable societies globally, and progress toward gender equality has not been uniform within the country (Levtov et al. 2014, UNDP 2020). Hence, there is growing interest in finding ways to transform gender norms to achieve gender equality (Weber et al. 2019). Gender-equitable norms are associated with greater economic and physical security, expansion of women's education and labor force participation, exposure to modern ideas and feminist discourse and policy action (Bolzendahl & Myers 2004, Das Gupta 2009, Inglehart et al. 2017, Jayachandran 2015). Normative change fosters behavioral change or a change in practice (Fishbein & Ajzen 2010). The norms of the gender system or the expectations of appropriate roles and behaviors for women and men are socially constructed, largely in favor of men (Barker et al. 2010, Malhotra et al. 2002, Mason 2001). Hence, gender norms reproduce inequalities between the genders[14]. Gender norms are constructed by an individual's perception of what others in their reference group do or expect the individual to do (Cislaghi et al. 2019, Chung & Rimal 2016, Fishbein & Ajzen 2010, Mackie et al. 2015). At the microlevel, the belief concerning what 'should' or ought to be done or the 'injunctive norm' shapes an individual's personal beliefs (Chung & Rimal 2016, Mackie et al. 2015).

Some gender norms are held more strongly than others. For instance, studies using the 'Gender Equitable Men' (GEM) Scale find that partners in union can report equitable attitudes toward gender roles and behavior on certain subdimensions and inequitable attitudes on other subdimensions (Haberland et al. 2021, Levtov et al. 2014). For instance, in a study from South

Africa, while women and men were not found to support the idea that men have to be 'tough' and avoid seeking care for themselves, they were likely to agree with the statement that women should be the 'primary' caretakers of the family (Haberland et al. 2021). Attitudes justifying men's use of violence and control over women and those supporting men as decision-makers were also inequitable. Another analysis of men's attitudes in middle and lower-income countries finds that compared to men in other countries, men in India endorsed the least equitable normative beliefs on different dimensions of the gender system, such as on father's involvement in child care (Levtov et al. 2014).

Hence, the gender system is multidimensional. Using India's DHS data, Kishor & Gupta (2004) measure three domains of women's empowerment, that is, *'indicators'* of empowerment like participation in decision-making, access to and control over resources, and freedom of movement, plus '*sources'* of empowerment such as women's education, meaningful employment, and exposure to mass media, along with the '*context*' of empowerment, or household characteristics that support women's empowerment such as later age at marriage and closeness with natal family after marriage. The authors find that in terms of the 'indicators' of empowerment, such as women's participation in household decision-making and authority to visit their natal family, states such as Mizoram and Arunachal Pradesh (in the northeast) are more equitable compared to other states. However, states such as Delhi (in the north), Kerala (in the south), and Goa (in the west) rank higher in women's education, employment, and access to the media or the 'sources' of empowerment. Equitable practice in one dimension may or may not be associated with equitable practice in another. Further, progress made in one dimension of the gender system need not be associated with improvement in another. For instance, married women's employment and increased access to microcredit can at times be associated with

increases in intimate partner violence perpetrated by husbands (Krishnan et al. 2010, Sato et al. 2021). Husbands may see their authority being challenged with wife's economic empowerment.

The kinship and gender systems

Since the 1980s, India has struggled to address strong son preference. In parts of Asia, the decline in son preference has been associated with a rise in gender-equitable norms and practices that no longer support son preference (Bongaarts 2013, Chun & Das Gupta 2021). A practice supporting son preference in South Asia is the marked separation of married women from their natal kin in rigid patrilineal kinship systems (Dyson & Moore 1983, Niraula & Morgan 1996, Das Gupta 2009). In these systems, a daughter is culturally constructed as a *parayi* (not belonging to her natal family but to her marital family) and accorded lower value than sons (Dyson & Moore 1983, Karve 1993). While kinship and cultural systems in the north, west, and central regions of India have been associated with the stronger son preference and the lower value of daughters compared to the east, northeast, and south, growing evidence suggests that traditional expectations from married daughters and sons can vary within regions and overlap among regions (Evans et al. 2022, Kishor & Gupta 2004, Singh et al. 2019). For instance, a recent study found that in the states in the south, the belief that it is the son's responsibility to care for elderly parents varied from 27 percent in Kerala and Tamil Nadu to 61 percent in Telangana, Karnataka, and Andhra Pradesh. In the northern and western states, these percentages ranged from 23 percent in Punjab and Delhi to 51 percent in Uttar Pradesh and Gujarat (Evans et al. 2022).

Kinship systems influence gender norms (Dyson & Moore 1983, Karve 1993). Comparing the spousal age gap in 28 countries, Casterline et al. (1986) find that kinship patterns

characterized by patrilineal and patrilocal practices have noticeably larger age gaps between spouses compared to regions where bilateral kinship systems are dominant. Countries where the spousal age difference is small also tend to be characterized by higher girls' participation in school and women's agency. Hence it is hypothesized that a smaller spousal age gap is associated with gender-equitable norms. Another instance in which kinship systems are associated with gender norms is women's and husbands' perceptions of gender roles. Husbands and wives who identify with traditional ideals of masculine and feminine roles in marriage are likely to accept that it is the right of husbands to regulate the behavior of wives and justify intimate partner violence (Barker et al. 2010, Mishra et al. 2014, Snow et al. 2013). They are likely to accept that men should have more power and agree that husbands have the authority to be the final decision-makers in the marital household (Blanc 2001, DeRose & Ezeh 2010, Kishor & Subaiya 2008).

In contexts where wives are economically dependent on their husbands and other family members, they would be less likely to participate in decisions that affect themselves. As wives, they may be dependent on their husbands or parents-in-law or elder sister(s)-in-law for accessing and using money or controlling large assets since these are traditionally held by men and elders in the family (Blanc 2001, Jejeebhoy & Sathar 2001, Kishor & Subaiya 2008, Snow et al. 2013). Evidence also suggests that spouses may give or take power in marital decisions (Bussolo et al. 2021). Wives may report that they participate in making a specific decision, but their husbands may not report their wife's participation in the same decision, implying that wives 'take power.' In a cross-cultural analysis of South Asian countries, Bussolo et al. (2021) find that 'taking power' or women's recognition of their contribution to decision-making is positively associated with lower violence and improved health outcomes.

Gender-equitable attitudes and norms are associated with healthier practices or behavior (Fishbein & Ajzen 2010, Levtov et al. 2014). In a multi-country study, Levtov et al. (2014) find that young boys who see their fathers participate in household chores or share decision-making with their mothers are likely to hold progressive attitudes. In contrast, boys who witness their fathers use violence against their mothers are more likely to agree that men have the legitimate power and right to decide about their wife's life. Using multi-country DHS data from Africa, Snow et al. (2013) find that men with gender-equitable attitudes have lower ideal family size than men with conservative attitudes toward gender roles. They also find that men hold qualitatively different attitudes toward masculinity. Basu (1999b) also shows that in India, certain groups of men endorse gender-progressive attitudes and are likely to practice gender-equitable behavior compared to other men (Basu 1999b, Snow et al. 2013). These men tend to have educated sisters and mothers. The marital quality of spouses or the extent to which couples have a balance in power in their marriage is associated with women's agency to make decisions and visit their natal family (Allendorf 2012).

Connection with women's natal family as a patrilineal bargain

Since it is customary for women to visit the natal family during pregnancy (or the first pregnancy) in many communities in India, studies show that spending time with the natal family during pregnancy and childbirth improves maternal and child health (Bloom et al. 2001, Matthews et al. 2005, Raman et al. 2014). Basu & Koolwal (2005) extend our understanding by demonstrating that compared to women's involvement in decisions that they are 'responsible' for in the marital family, such as those related to purchasing large household items, spending on children's education, or the number of children to have, deciding to visit their natal family is

specifically associated with the ability of women to look after themselves (Basu & Koolwal 2005). They find that women who participate in the decision to visit their natal family are more likely to consume a more nutritious diet, have lower levels of anemia, and have increased access to reproductive healthcare. Women's participation in deciding to visit the natal family is not 'instrumental' to the household or their children but is made out of what Basu & Koolwal refer to as 'self-indulgence' (2005). It is considered to benefit the married woman, possibly at the cost of her marital family.

In many communities in India, marriage norms give preference to the early marriage of girls, encourage limited familiarity with the husband and his family before marriage, and emphasize residence in the patrilocal household (that is, with husband's family) soon after marriage (Allendorf & Pandian 2016, Casterline et al. 1986, Desai & Andrist 2010, Khalil & Mookerjee 2018). A cross-regional study of four South Asian countries shows that compared to neolocal residence, continued patrilocal residence makes it difficult for women to maintain regular contact with their natal family (Khalil & Mookerjee 2018). Another marriage norm is the preference for social and economic hypergamy and caste endogamy, which reduce women's chances of finding potential spouses closer to their natal homes. Potential spouses prefer to seek those with specific characteristics, such as the same caste and of a comparatively advantageous socioeconomic status. Even if women see the possibility of visiting their natal family after marriage, their parents may discourage them from visiting frequently.

Since patrilocality uproots a woman's autonomy as a daughter when she enters as a newly wedded daughter-in-law in her marital family, regular visits to her natal family increase the chances to benefit from the material and emotional support received there (Desai & Andrist 2010, Hanmer & Klugman 2016, Khalil & Mookerjee, 2018, Kishor & Gupta 2004). This plays a

role in increasing women's autonomy and bargaining power within marriage (Basu & Koolwal 2005, Bloom et al. 2001, Matthews et al. 2005). In addition, since the natal home is perceived as a source of comfort, a close connection with the natal family also has the potential to increase women's emotional well-being (Zhang 2009, Raman et al. 2014). Compared to other patrilineal systems, such as those in different regions in Africa, where the separation of natal kin from the marital family is lower than that in Asia, married women have greater autonomy over their lives and environment (Das Gupta 2009).

To achieve gender equality, particularly to raise the value of daughters, inequitable gender systems such as the marked separation between daughters and their natal family needs to be broken. This type of patrilineal bargain is possible if married couples are accepting of wives visiting their natal family. Where has this become a norm? Has such a norm translated into practice? Is this associated with specific changes in the gender system, or is it a practice that is comparatively challenging to change compared to other aspects of the gender system? This chapter builds on the work of Basu and Koolwal (2005), who bring out the importance of understanding decision-making to visit the natal family. I investigate (a) the trends in this norm and practice, (b) how these vary by administrative region, and (c) the ways in which these are associated with different dimensions of the gender system.

METHODS

Data and sample

I use couple data from the three rounds of the India Demographic Health Survey. These are also known as the National Family Health Survey (NFHS). The data for this chapter is based on NFHS-3, conducted in 2005-2006, NFHS-4 conducted in 2015-2016, and NFHS-5, conducted in

2019-2021. The surveys provide information on demographic characteristics, health and fertility behavior, and the gender system. The surveys use multi-stage stratified sampling to collect data from a nationally representative sample of households throughout the country (IIPS & ICF 2021). Besides household heads, data are collected from women aged 15-49 and a sub-sample of their husbands. The unit of analysis is the couple or married women and their husbands[15], both of whom have completed individual interviews (Becker 1996, Upadhyay & Karasek 2012). Data presented here are weighted using national-level men's weights since men's non-response rate is higher than women's (DHS User Forum, personal communication, August 20, 2021). All cases that had missing responses to the two dependent variables, that is, reports from husbands and from wives on decision-making authority to visit the wife's natal family, were dropped from the dataset[16]. The unweighted number of couples is 38,925, 63,382, and 57,430 for the survey years 2005-2006, 2015-2016, and 2019-2021, respectively.

Only a few variables used in the multivariate analysis have missing cases. Further, in NFHS-3, a few cases were missing on women's education (n=1), husband's education (n=13), women's current employment status (n=69), and husband's current employment status (n=14). Only 1 case was missing on husband's current employment status in NFHS-4. Missing cases to gender system variables are discussed in the section below. These missing cases were not included in the multivariate analysis.

Variables

Norms: Husbands' reports of personal normative beliefs are used to measure norms (Cialdini et al. 1991, Cislaghi & Heise 2018, Haberland et al. 2021, Mackie et al. 2015). Husbands were asked, "*In a couple, who do you think should have a greater say in deciding about visits to the*

wife's family or relatives: the husband, the wife, or both equally? Response options were: (a) both equally/respondent and spouse jointly, (b) husband and (c) wife[17]. It is coded as a dichotomous variable for the multivariate analysis. That is, all those who report 'husband' are coded as 1, and the rest as 0. Those who report 'husband' are considered to hold 'inequitable' norms.

Practice: Women's reports are used to measure 'practice' or behavior. Women were asked, "*Who usually makes decisions about visits to your family or relatives: mainly you, mainly your husband, you and your husband jointly, or someone else?"* Response options were: (a) both equally/respondent and spouse jointly, (b) husband, (c) wife, and (d) someone else/other. It is coded as a dichotomous variable for the multivariate analysis, that is, all those who report 'husband[18]' are coded as 1 and the rest as 0. Those who report 'husband' are considered to practice 'inequitable' behavior.

Administrative region: Over the survey years, additional administrative regions have been created, reconstituted, or merged with an existing region. Data have also been collected from additional regions not previously surveyed. Administrative regions include states and union territories. Union territories differ from states as the national government partially or fully administers them. Key differences between the three surveys are that (1) NFHS-3 (2005-2006) does not cover five existing union territories (UTs) that are included in NFHS-4 and NFHS-5. These are Andaman & Nicobar Islands, Dadra Nagar Haveli & Daman & Diu, Chandigarh, Lakshadweep Islands, and Puducherry. (2) NFHS-4 (2015-2016) and NFHS-5 (2019-2021) collect data from all these UTs except Dadra Nagar Haveli & Daman & Diu. Data is also collected from the state of Telangana, which was created in 2014 from the existing state of Andhra Pradesh. (3) In addition to the previous modifications, NFHS-5 (2019-2021) also collects

data from the UTs of Dadra Nagar Haveli & Daman & Diu and Ladakh. Ladakh was created in 2019 from the existing state of Jammu & Kashmir. For these reasons, state-level differences cannot be compared between NFHS-3 and NFHS-4 and NFHS-5 for Andhra Pradesh and between NFHS-4 to NFHS-5 for Jammu & Kashmir. The state-level populations differed (numerically and culturally) before the states of Telangana and Ladakh were created (DHS User Forum, personal communication, January 30, 2023). A few states for which data were not available in certain years were omitted for the analysis and are denoted as NA in the tables. The latest dataset, NFHS-5 (2019-2021) collects data from 28 states and 8 UTs (that I collectively call 'region'). Cross-regional trend analysis is based on data from 29 regions for which data is available in all survey rounds. These regions are often categorized into six groups: north, central, east, northeast, south, and west, to explain patterns within the country (IIPS & ICF 2017).

Gender system: The gender system is measured with the following variables: wife's age at cohabitation with husband[19], the age difference between spouses, wife's position in the household, wife's access to money, justification of a husband's use of violence by wives, husband's experience of witnessing his father perpetuating violence against his mother, acceptance of husbands as decision-makers in making major household purchases among wives and husbands, and son preference also among wives and husbands[20]. All these variables are dichotomously coded for which 1 indicates an inequitable practice. A practice is inequitable when: wives begin to reside in the marital household before the age of 18, husbands are at least five years older than wives, wives' are the daughter-in-law in the household, wives have no access to money they can decide what to do with, when wives and husbands justify men's use of violence against wives, if husbands have witnessed their fathers perpetrate violence against their

mothers, and when spouses prefer sons over daughters (Allendorf 2012, Blanc 2001, Barker et al. 2010, Levtov et al. 2014, Mishra et al. 2014, Niraula & Morgan 1996, Snow et al. 2013).

The explanation for these measures is as follows. Women were asked when they began living with their first husband. Although a small percent[21] of women have been married more than once, this measure tells us if women entered any marital union before 18, which is when they were likely to have lower bargaining power in the marital household compared to beginning residence with their husband at an older age (Allendorf & Pandian 2016, Khalil & Mookerjee 2018). Spousal age difference is constructed from two variables: the current ages of women and husbands. In cases where the husband and wife are the same age, or the husband is up to four years older or in which the wife is older than her husband were merged since their power relations are assumed to be more egalitarian than in cases where the husband is older by five years or more, taken so in the Indian context (IIPS & ICF 2021). Women's position in the household is constructed from the household roster in which all members of the household were asked about their relationship to the head of the household. Besides those who report they are a daughter-in-law to the head of the household; the rest of the responses have been merged. These include head of the household, wife of head of household, sister in-law, mother, and daughter to the head of the household.

Since economic assets are traditionally held by men and elders in the family, women's access to a bank account or money that she has control over reflects how equitable the gender system is (Blanc 2001, Jejeebhoy & Sathar 2001, Kishor & Subaiya 2008, Snow et al. 2013). In two separate questions, women were asked if they have (i) "*any money of your own that you alone can decide how to use and (ii) a bank or savings account that you yourself use*". Women who did not have both were assigned 1. For this variable, 51 cases had a missing response in NFHS-3.

Women who reported that husbands are justified to use physical violence against their wives in any one situation were coded as 1 (Kishor & Gupta 2004, Snow et al. 2013, Upadhyay & Karasek 2012). Women have been asked "*in your opinion, is a husband justified in hitting or beating his wife*: *(i) if she goes out without telling him, (ii) neglects the house or the children, (iii) argues with him (husband), (iv) if she refuses to have sex with him, (v) if she does not cook food properly,* (vi) *if he suspects her of being unfaithful and (g) if she shows disrespect for in-laws.*" While this question had a small number of missing cases in NFHS-3, it had a large proportion of reports of 'do not know' in all three surveys[22] (1.5 to 4.9 percent). These have been recoded as missing for the analysis. Husbands have been asked "*as far as you know, did your father ever beat your mother*". Affirmative answers are coded as 1. A handful of cases were missing, and 4.2 to 8.0 percent report 'do not know'[23]. These were not included in the analysis.

Since this study considers decision-making authority to visit wife's natal family as a decision in its own right, I include responses to the question on 'decision-making authority on major household purchases' in my analysis to assess the differences in decision-making authority by type of decision. The wording of this question is similar to the one asked about visiting the natal family: husbands are asked who they believe should have a greater say in decisions on major household purchases. Wives are asked who the usual decision-maker is. This variable had 0.3 to 0.23[24] percent missing responses in husband's reports, and the missing cases have been dropped from the multivariate analysis.

Son preference has been measured by comparing the number of sons desired in one's ideal family with the number of daughters (Clark 2000). If the wife or husband prefers more sons than daughters, they were assigned a value of 1, indicating son preference. This variable too had a number of non-numeric answers to the ideal number of children or ideal number of girls and

boys[25]. These values have been coded as missing. All questions are worded the same in each survey round for the same respondent (wife or husband)[26].

Covariates: The covariates used in the multivariate analysis are household wealth, current employment status among wives and husbands and completed level of education among wives and husbands. Household wealth quintile is available in the dataset. Current employment status is coded as 1 if the respondent is currently employed and 0 if not. This is also available in the dataset. Education is a five-category variable, constructed from single years of education completed. The categories reflect completion of different levels of the school system: no schooling, primary incomplete (any grade between 1 through 4), completion of any level of primary (any grade between 5 through 8), completion of any level of secondary schooling (any grade between 9 through 12) and college education. This variable is available in the dataset.

There were no missing responses for household wealth. Very few cases in NFHS-3 have missing responses to wife's education, husband's education, wife's employment status and husband's employment status (less than 0.01 percent)[27]. All missing cases were dropped from the multivariate analysis. All questions are worded the same in each survey round for the same respondent (wife or husband).

Analytical strategy

The analysis has been done in three steps. First, to assess whether norms and practices regarding decision-making authority on visiting wife's family have changed over time, I examine data from 2005-2006 (NFHS-3) to 2019-2021 (NFHS-5). Second, to answer the next question on how states might vary in levels and shifts in norms and practices, I conduct state-wise and cross-regional analysis in three steps. I calculate the rates of change in the relevant norms and practices

for each region over the 14-year period. I then classify states by the proportion of couples holding inequitable norms and practices using the median of the prevalence of each as a cutoff. If the prevalence of a state's norm is higher than the national median, the state is considered to have a larger proportion of the population that holds an 'inequitable norm'. The same analysis is then done to classify the prevalence of an inequitable practice. For each survey year, I thus compare the prevalence of inequitable norms and practices for each state. I then compare the states that have held an inequitable norm and practice for all survey years with all others. I also compare the rates of change in the norm and practice. These analyses have been done in MS Excel.

Third, to answer how the husband's normative decision-making authority is held in combination with other dimensions of the gender system, I construct logistic regression models (Haberland et al. 2021). I regress decision making-authority (husband=1) on all other dimensions of the gender system and control for the covariates. Three models are set up for each survey year. The model set up for each year is:

$$\ln(odds\ of N) = \ln\left(\frac{P(N)}{1-P(N)}\right) = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + \cdots + b_ix_i + e$$

The equation predicts the log-odds of the outcome *N* or the normative belief that husbands should have a greater say in this decision compared to all other responses. *P* represents the conditional probability that this answer is reported. *b* are the coefficients of the independent variables and the covariates in the model. These coefficients are in log odds and have been exponentiated to odds ratios. Using backward regression, I remove those variables that are not significant in any of the three survey years in the final models.

Similarly, I construct logistic regression models to identify how the practice of inequitable decision-making authority is held in combination with other dimensions of the gender system. Three models are set up for each year. The final models shown in the findings include those gender system variables that are significant in all three survey years. Multivariate analysis has been conducted in Stata 17.0. I use the 'svyset' command in Stata to adjust my estimates and standard errors to the stratified, multi-stage cluster sampling design used by the NFHS for each survey round.

Sample characteristics: socioeconomic background and gender system

Table 3.1 shows that while a large proportion of husbands are employed, only a third of wives are employed. Further, women's employment has declined by 22 percent. There has been a rise in completing secondary and college education among husbands and wives. However, women have made larger gains. That is, from 2005 to 2019, the percentage rise in wife's completion of secondary education rose by 75 percent, while among husbands, it rose by 28 percent. Similarly, college education among wives doubled, while it rose by 37 percent among husbands.

Few gender system-related dimensions have shown improvement in the last 14 years, although these continue to remain inequitable or unfavorable for women. For instance, although there has been a decline in the proportion of women entering marital cohabitation before age 18, it continues to be high (42 percent in 2019-2021, Table 3.1). For the same year, this varied from 11-13 percent in Delhi and Karnataka to more than 50 percent in Andhra Pradesh, Bihar, and West Bengal (Appendix A2). Husbands tend to be older than wives. For around half of the couples, husbands are five years or older than their wives. Although this has fallen in most states,

it remains high and ranges from around 30 percent in Goa, Himachal Pradesh, Punjab, Rajasthan, and Uttar Pradesh to more than 60 percent in Andhra Pradesh, Jharkhand, Karnataka, Odisha, Tamil Nadu, Tripura, and West Bengal (not shown). Only a fourth of women are daughters-in-law in the household (Table 3.1). This is similar for most states except for two states in the northeast region, where it is exceptionally low (Meghalaya and Nagaland, four and eight percent respectively, not shown). The proportion of women who are daughters-in-law has increased in some states and declined in others over this time period (not shown). It appears to be part of the family-building process than a norm or pattern that emerges over time and between regions.

There has been an increase in the proportion of women who have access to a bank account and or money they can decide how to use. This trend is found in all states (Appendix A2). Although there has been a slight decline in the proportion of women who justify that husbands can use physical violence against their wives, it remains largely accepted. Further, in some states, the proportion has slightly increased, such as in Andhra Pradesh, Jharkhand, and Maharashtra (Appendix A2). While a fifth of husbands report that they have witnessed their fathers use physical violence against their mothers, it greatly varies from more than 45 percent in Andhra Pradesh and Tamil Nadu to less than 5 percent in Goa and Mizoram (not shown). This proportion has declined in most states except for Jharkhand and Maharashtra, where it has increased by more than 30 percentage points. Further, there has been a gain in the preference for daughters, but it remains exceptionally low (4 to 5 percent).

FINDINGS

Norm and practice of decision-making to visit wife's natal family: Between 2005 to 2019, the proportion of couples reporting both the norm and the practice of husbands as decision-

makers to visit the wife's natal family declined significantly ($p \leq 0.001$, two-sample z-test). However, compared to change in practice, the decline in the norm has been at a slower rate. For instance, in 2019-2021, 21 percent of husbands reported the normative belief that husbands should have a greater say in making the decision to visit the wife's family, down from 26 percent in 2005-2006. In the same period, the proportion of wives who reported that husbands are the usual decision-makers declined from 28 to 17 percent.

Table 3.1. Socioeconomic and gender system-related characteristics of couples

	NFHS-3 2005-06	NFHS-4 2015-16	NFHS-5 2019-21
Husband currently working	96.7	92.0	92.2
Wife currently working	38.0	25.4	29.6
Husband's education			
No education	24.7	17.7	16.5
Primary incomplete	12.5	8.5	9.0
Completed some primary (5-8 grade)	24.2	25.7	24.2
Completed some secondary (9-12 grade)	27.4	34.1	34.9
College	11.3	14.0	15.5
Wife's education			
No education	47.0	31.3	25.4
Primary incomplete	8.3	6.7	7.2
Completed some primary (5-8 grade)	20.6	24.6	23.6
Completed some secondary (9-12 grade)	18.1	27.1	31.7
College	6.1	10.3	12.2
The normative belief in decision-maker on visiting wife's family			
Husband	26.3	20.3	21.4
Wife	12.3	10.6	10.3
Jointly	61.4	69.1	68.3
The practice of usual decision-maker on visiting wife's family			
Husband	28.4	21.5	16.9
Someone else/other	10.2	3.5	2.3
Wife	8.6	7.1	7.0
Jointly	52.8	67.9	73.8
Related to husband	NA	14.9	13.0
Wife's age at marital cohabitation			
Before 18	59.1	43.0	42.3
18-22	33.7	43.6	43.1
23 or older	7.3	13.3	14.6
Age difference			
0-4 years	38.7	48.5	44.3

Wife older than husband	5.2	2.2	2.7
Husband older than wife by 5 years or more	56.1	49.4	53.0
Wife's position in the household			
Head/spouse of the head of household	75.1	70.8	70.1
Daughter-in-law	20.7	25.2	26.5
Daughter	1.2	1.4	1.3
Other (parent, sister-in-law/brother)	3.0	2.7	2.2
Wife has no access to a bank account/money	52.1	32.8	13.9
Wife justifies the use of violence by husbands	55.0	53.0	49.4
Husband has witnessed father use physical violence against mother	26.5	21.2	21.2
The normative belief that husbands should have a greater say in decisions on major household purchases	26.4	27.8	29.3
The practice of husbands as usual decision-makers on major household purchases	39.1	22.8	18.1
Gender preferences among husbands			
Balance preference	73.8	74.3	76.4
Daughter preference	2.1	4.3	5.0
Son preference	24.1	21.4	18.6
Gender preferences among wives			
Balance preference	72.3	76.7	77.3
Daughter preference	2.4	3.5	4.0
Son preference	25.3	19.8	18.7
Number of observations (weighted)	*41,888*	*63,634*	*57,819*

Shift in norm and practice: Box 3.1 presents the type of shift in the norm and practice by comparing the rate of change in these for each state. The background color of each state reflects its geographical location: north, central, east, northeast, south, and west. Table 3.2 provides more details on the rate of change in the norm and the practice.

The Box shows that for eight states, the norm has consistently progressed faster than the practice each survey year. Most of these states are also those that have been least conservative across time, such as Meghalaya, Nagaland and Sikkim, Kerala, and Goa. These states reflect four different regions: north, northeast, south, and west. However, in most states[28], the practice has improved faster than a positive shift in the norm. These 15 states consist of an eclectic group, regionally and in terms of the level of conservativeness. However, it includes all those states that have been the most conservative, such as Jammu & Kashmir, Rajasthan, Madhya Pradesh, Bihar, Odisha and West Bengal and Andhra Pradesh.

Box 3.1. List of states by comparison of rate of change in norm and in practice, 2005-06 to 2019-21

Norm progressed faster than improvement in practice
Uttarakhand
Assam
Manipur
Meghalaya
Mizoram
Nagaland
Kerala
Goa
Practice improved faster than progress in norm
Himachal Pradesh
Jammu & Kashmir
Rajasthan
Chhattisgarh
Madhya Pradesh
Bihar
Jharkhand
Odisha
West Bengal
Sikkim
Tripura
Andhra Pradesh
Tamil Nadu
Gujarat
Maharashtra
Practice improved but norm did not progress/change
Delhi
Haryana
Punjab
Uttar Pradesh
Karnataka
Norm progressed but practice became conservative
Arunachal Pradesh

Note: Background color of each state represents the region it belongs to: - orange: north, yellow: central, gray: east, blue: northeast, green: south, purple: west.

I also find that that the norm has not progressed in few states. These include Delhi, Haryana, Punjab and Uttar Pradesh in the north and central regions, and Karnataka in the south. Except for Karnataka, these four states share a larger culture and are geographically adjacent to each other. In the same period, the practice of husbands as the usual decision-makers has fallen in all regions, except in Arunachal Pradesh in the northeast.

Table 3.2. Prevalence of norm and practice in 2019-21 and percent change from 2005-06, for each state

State	Norm: Husband decision-maker on natal visits NFHS-5: 2019-21	Norm: Husband decision-maker on natal visits Percentage change from NFHS-3 (2005-06)	Practice: Husband decision-maker on natal visits NFHS-5: 2019-21	Practice: Husband decision-maker on natal visits Percentage change from NFHS-3 (2005-06)
Andhra Pradesh	26.7	-23	25.3	-26.0
Arunachal Pradesh	7.7	-62	18.1	106.7
Assam	10.1	-52	14.3	-29.9
Bihar	24.6	-31	21.3	-53.3
Chhattisgarh	18.2	-24	12.3	-67.7
Delhi	8.0	4	15.0	-43.8
Goa	5.0	-50	11.0	-26.7
Gujarat	10.0	-29	13.0	-55.2
Haryana	9.0	0	19.0	-29.6
Himachal Pradesh	8.0	-38	11.0	-73.2
Jammu & Kashmir	22.0	-31	24.0	-60.0
Jharkhand	14.0	-26	14.0	-57.6
Karnataka	28.0	34	26.0	-41.7
Kerala	6.0	-76	14.0	-33.6
Madhya Pradesh	17.0	-19	22.0	-54.2
Maharashtra	20.0	-9	18.0	-27.9
Manipur	18.0	-49	10.7	-24.1
Meghalaya	9.5	-27	11.0	-15.7
Mizoram	10.0	-43	5.3	-33.4
Nagaland	3.0	-74	2.1	-61.7
Odisha	17.4	-39	17.6	-52.1
Punjab	11.8	27	13.0	-53.6
Rajasthan	18.9	-29	20.7	-61.9
Sikkim	7.8	-10	13.4	-37.0
Tamil Nadu	12.8	-36	14.4	-41.9
Tripura	20.0	-51	12.2	-70.7
Uttar Pradesh	24.1	62	19.0	-56.9
Uttarakhand	6.7	-76	14.4	-69.7
West Bengal	34.8	-27	19.1	-63.8

Note: Background color of each state represents the region it belongs to: - orange: north, yellow: central, gray: east, blue: northeast, green: south, purple: west.

The Box also shows that all four southern states depict different patterns in these shifts. For instance, in Kerala, the norm improved at a faster rate than change in practice. In Tamil Nadu and Andhra Pradesh, the practice improved at a faster rate, and in Karnataka, the norm became inegalitarian although the practice improved.

Regional patterns: Examining the prevalence and discrepancy between the norm and practice for each region over the years shows that certain regions have been conversative and remain so. Figures 3.1 to 3.3 (placed at the end of this chapter) depict this for all regions for each of the three survey years. In each of the figures, the x-axis shows the normative belief that husbands should be the decision-makers (as reported by husbands), while the y-axis shows the practice of husbands as the usual decision-makers (as reported by wives). Each figure can be visualized in a way that it contains four quadrants. For instance, the lower-left quadrant shows regions where a relatively low proportion of couples report husbands as normative and usual decision-makers. In contrast, the upper-right quadrant shows regions where a relatively high proportion of couples report husbands as normative and usual decision-makers. Irrespective of the survey year, certain regions tend to have a higher proportion of inequitable couples, such as Jammu & Kashmir and Rajasthan (in the north), Uttar Pradesh and Madhya Pradesh (in the central region), Bihar, Odisha, and West Bengal (in the east) and Andhra Pradesh and Karnataka (in the south). And regions such as Himachal Pradesh and Punjab (in the north), Arunachal Pradesh, Meghalaya, Nagaland and Sikkim (in the northeast), Kerala (in the south) and Goa (in the west) tend to have a higher proportion of equitable couples[29].

Dimensions of the gender system associated with the norm and practice of husband's decision-making authority: Table 3.3 shows that after controlling for household wealth,

education and employment, the normative acceptance of husbands as decision-makers is influenced by different dimensions of the gender system at each survey year. For instance, in 2005-2006, the odds of reporting the norm of husbands as decision-makers are predicted to be 3.48 times larger ($p \leq 0.001$) among those who regard husbands as decision-makers for major household purchases than those who do not. In 2015-2016, reports of husbands as normative decision-makers for major household purchases increases the odds by 9.04 ($p \leq 0.001$). In the same year, the odds of reporting husbands as normative decision-makers on making visits to wife's natal family is associated with many gender-system related factors, such as marital cohabitation before the age of 18 (OR 1.12, $p \leq 0.001$), limited access to money or bank account (OR 1.12, $p < 0.01$), justification of the use of violence by a husband against his wife (OR 1.01, $p \leq 0.05$), witnessing fathers use of physical violence (OR 1.25, $p \leq 0.001$) and son preference among husbands (OR 1.20, $p \leq 0.001$). In 2019-2021, the odds of reporting husbands as decision-makers are similarly higher among couples with similar characteristics as discussed above.

For all survey years, the normative acceptance of husbands as decision-makers is significantly predicted by two gender-system variables: the belief that husbands should have a greater say on decisions related to major household purchases and son preference among husbands. Further, the odds of the normative acceptance of husbands as decision-makers to visit wife's natal family are significantly lower for couples belonging to the top two wealth quintiles ($p \leq 0.001$) and if wives are employed ($p \leq 0.001$), after controlling for all other variables. Neither spouse's education is a consistent predictor.

Table 3.3. Adjusted odds ratios from multivariate logistic regression assessing the likelihood of normative belief that husbands have greater say in making the decision on visiting wife's natal family, by socioeconomic background and gender system-related measures, for each survey year, India

	NFHS-3 2005-06	NFHS-4 2015-16	NFHS-5 2019-21
Wealth index			
Poorest	Ref	Ref	Ref
Poorer	0.95	0.97**	0.88
Middle	0.87	0.79***	0.74***
Richer	0.69***	0.69***	0.62***
Richest	0.42***	0.55***	0.6***
Husband currently working	0.88	0.71***	0.85*
Wife currently working	0.84***	0.86***	0.85***
Husband's education			
No education	Ref	Ref	Ref
Primary incomplete	1.11	0.98	1.23*
Completed some primary (5-8 grade)	0.95	1.02	1.09
Completed some secondary (9-12 grade)	0.99	1.05	1.00
College	0.9**	1.03	0.94
Wife's education			
No education	Ref	Ref	Ref
Primary incomplete	0.9	0.9	1.1
Completed some primary (5-8 grade)	0.97	0.85***	1.07
Completed some secondary (9-12 grade)	0.94	0.82***	1.06
College	0.7	0.79*	1.02
Wife began marital cohabitation before age 18	1.04	1.12***	1.26***
Wife has no access to bank account/money	0.98	1.12**	0.93
Wife justifies use of violence by husbands	1.04	1.01*	1.12*
Husband has witnessed father use physical violence against mother	0.1	1.25***	1.41***
The normative belief that husbands should have greater say in decisions on major household purchases	3.48***	9.04***	8.16***
The practice of husbands as usual decision-makers on major household purchases	1.14**	1.19*	1.1
Son preference among husbands	1.12*	1.20***	1.18**
Son preference among wives	0.90*	1.11*	0.83**
Number of observations (weighted)	*30,598*	*56,331*	*51,518*

Note: Age difference between spouses and wife's position in the household are not significant and have been removed in this model.

The factors significantly associated with the practice of the husband being the usual decision-maker in visiting the wife's family vary from those associated with the norm (Table 3.4). After controlling for socioeconomic characteristics and other gender system-related variables, in 2005-

2006, the odds of reporting that the husband is the usual decision-maker are 1.49 times larger when the wife is a daughter in-law in the household compared to those who are not ($p \leq 0.001$), 1.21 times larger among those who justify the use of violence by a husband against his wife ($p \leq 0.001$), and when the husband is the usual decision-maker for major household purchases. In 2015-2016 and 2019-2021, access to money or a bank account is also a significant predictor.

Table 3.4. Adjusted odds ratios from multivariate logistic regression assessing the likelihood of reporting husbands as usual decision-makers to visiting wife's natal family, by socioeconomic background and gender system-related measures, for each survey year, India

	NFHS-3 2005-06	NFHS-4 2015-16	NFHS-5 2019-21
Wealth index			
Poorest	Ref	Ref	Ref
Poorer	0.86*	1.02	1.01
Middle	0.76***	0.93	1.07
Richer	0.65***	0.83**	0.97
Richest	0.5***	0.83*	0.88
Wife currently working	0.86**	0.8***	0.97
Husband's education			
No education	Ref	Ref	Ref
Primary incomplete	0.94	0.93	0.84
Completed some primary (5-8 grade)	1.03	0.94	0.91
Completed some secondary (9-12 grade)	1.1	1	0.89
College	1.01	1.21*	0.77*
Wife's education			
No education	Ref	Ref	Ref
Primary incomplete	0.80**	0.76***	0.89
Completed some primary (5-8 grade)	0.86*	0.79***	0.92
Completed some secondary (9-12 grade)	0.68***	0.74***	0.98
College	0.70*	0.51***	0.79
Wife is daughter in-law in household	1.49***	1.21***	1.05
Wife has no access to bank account/money	1.05	1.34***	1.42***
Wife justifies use of violence by husbands	1.21***	1.24***	1.34***
Husband has witnessed father use physical violence against mother	0.80***	1.03	1.02
The normative belief that husbands should have greater say in decisions on major household purchases	1.12*	1.16***	1.08
The practice of husbands as usual decision-makers on major household purchases	9.47***	33.8***	37.62***
Son preference among wives	1.05	1.16**	1.19*
Number of observations (weighted)	*31,057*	*57,033*	*52,000*

Note: Husband's employment status, wife's age a cohabitation, age difference between spouses and husband's preference for sons are not significant and have been removed in this model.

For all survey years, the *practice* of husbands as *usual* decision-makers is consistently associated with two gender-system variables: wife's justification of violence by a husband and the practice of husbands as decision-makers on major household purchases. In addition, in 2015-2016 and 2015-2016, household wealth, women's employment, and women's education were also associated with husbands having a greater say in the decision to visit the wife's natal family. In 2019-2021, this is no longer the case.

DISCUSSION

My study finds that the norm and practice of the decision to visit the wife's natal family have become more equitable over time, although the norm has been slower to change. In some states, the norm has not improved and even worsened. This is particularly visible in the states of Delhi, Haryana, Punjab, and Uttar Pradesh. These states share a similar culture and are congruous. The data show that in these states, husbands continue to believe that they have a greater say in making this decision to visit the wife's family. This could be associated with the heightened media attention on women's safety in this region. Based on the assumption that social norms constrain men to believe that they are responsible for the safety of their family, men may be reassessing how safe it is for their wives to travel to their natal family and continue to believe that they should be making this decision. Certain moments in history can change the direction of normative change. These changes may be temporary and possibly improve or adapt. For instance, in the U.S., Cotter et al. (2011) find that decades of progress toward more egalitarian gender role attitudes have stalled. The authors attribute this to the backlash to feminism in the mid-1990s. They argue that this has given rise to a new cultural frame that they theorize as

‘egalitarian essentialism’ since it combines traditional gender attitudes toward motherhood and feminist ideals of equality.

In some states, while the norm has become equitable at a faster rate than the practice, other dimensions of the gender system have worsened. For instance, the preference for sons has slightly increased among women in Kerala, and among men in both Kerala and Meghalaya. In Nagaland, there has been a slight rise in husbands’ reports of witnessing their fathers use violence against their mothers. It is only in Goa, Manipur, and Uttarakhand that all gender-related dimensions have shown improvement and that normative change in decision-making authority to visit wife’s natal family has proceeded faster than change in practice.

Inegalitarian normative beliefs are shown to be slower and challenging to change compared to practice (UNDP 2020). This is because norms are constructed by an individual’s perception of what others in their reference group do or expect the individual to do (Cislaghi et al. 2019, Chung & Rimal 2016). My study uses men’s reports to measure norms which could also be showing why norms have been slower to progress. It is possible that men hold certain norms more strongly, such as those that question their power. While development discourse has focused on women’s empowerment and basic indicators of human development, less attention has been given to addressing power structures, or enhanced indicators of development, such as social norms (UNDP 2020). Hence, there is a need to understand how men question their own power and to address the barriers that constrain men to hold certain beliefs, so that they can act equitably. I find that states within the same region or with similar kinship systems can and do display a variation in norms. For instance, the norm remains high (or inegalitarian) in Jammu & Kashmir, Rajasthan Madhya Pradesh, Uttar Pradesh, Bihar, Odisha, West Bengal, Andhra Pradesh, and Karnataka. These regions represent different kinship systems and cultures.

Another theory that explains variation in gender norms is that gender-equitable norms rise in contexts of high economic and physical security (Das Gupta 2011, Inglehart et al. 2017). Using cross-national data over three decades, Inglehart et al. (2017) find a rise in gender-equitable norms in societies where there has been a consistent rise in life expectancy, a decline in infant mortality, and a rise in GDP per capita over a long period. Das Gupta (2011) extends this argument and suggests that Indian states that have committed to some form of development, either economic (with a focus on industrialization) or social (with a focus on equity in health and education) show improvement in their human development indicators (Das Gupta 2011). These forms of development ensure that people aspire to improve their living conditions and feel certain about the future (Das Gupta 2011). This could be a partial explanation. Jammu & Kashmir, Rajasthan Madhya Pradesh, Uttar Pradesh, Bihar, and Odisha rank lower on economic development and on physical and economic security indicators (Ray et al. 2019). Socioeconomic development and gender equality cannot be separated. Globally is it seen that no region in the world has reached a high level of human and socioeconomic development without reducing gender inequality (UNDP 2020).

In 2019-21, Andhra Pradesh, Karnataka, and West Bengal had the highest proportion of husbands reporting that men have normative decision-making authority. These states have not shown consistent declines in conservative gender system-related attitudes and practices and continued to have comparatively high levels of acceptance of husband's use of violence. Previous work has found that certain indicators in these states have shown improvement while others have remained quite conservative. For instance, using the DHS of 1998-99, Kishor & Gupta (2004) found that compared to states like Goa and Tamil Nadu, women's mobility is low in Andhra Pradesh, Assam, Jammu & Kashmir, Nagaland, Odisha, Rajasthan, Uttar Pradesh, and

West Bengal where only 20 percent (or fewer) women can go to the market or visit family members without permission. For Karnataka, they show that compared to other states, women's decision-making authority is lower, and spousal age gap is much higher. This study also found that a comparatively high proportion of women in Andhra Pradesh justify husbands' use of violence against wives. In Andhra Pradesh, another study found that certain practices were beneficial to women, while others were not (Singh et al. 2019). For instance, compared to many Indian states, a higher proportion of women had a bank account and owned a house, land, or other assets, but women's use of birth spacing methods remained low. These studies suggest that certain gender-inequitable practices such as the acceptance of husbands using their power over their wives in the form of violence, or lower women's mobility can become a norm in certain regions. It is plausible that addressing inequitable norms has been neglected in regions that have progressed in other dimensions of the gender system.

Husband's recognition of their wife's participation in decision-making may be linked with lower violence against women and gender-equitable outcomes (Bussolo et al. 2021). I find a clustering of these two attitudes: the normative belief in husband's decision-making authority in visiting wife's family and wife's justification of the use of violence by husbands. Further, I find that the normative belief that husbands should have greater say in visiting wife's family is largely associated with the normative belief that husbands should have greater say in making major household purchases. This could indicate an overarching norm that husbands are perceived to have authority in making most decisions in the family, compared to the perception that husbands can have varying levels of authority by type of decision. However, both decisions have varying contextual meanings and different implications on women. Visiting wife's family is considered an 'indulgence' that mainly benefits the wife (Basu & Koolwal 2005). Major

household purchases benefit the marital family. Because these two questions were asked in succession, it may be difficult to disentangle the extent to which husbands' responses reflect situation-specific decision-making authority.

In China, Ebenstein & Leung (2010) found that behavior change is not always associated with normative change. They found that the decline in the skewed sex ratio at birth did not alter the cultural norm of son preference. My study also suggests that practice can change without social norm change. In many cases, normative change requires husbands to be allies for gender-equitable practices. Often development programs aimed at achieving gender equality aim for improvement in *women's* practices, such as increasing the age at marriage, expanding financial access, and increasing women's political engagement. In the last few decades, although we have seen improvements in these practices among women at the microlevel, challenges remain in engaging men, understanding their barriers to adopting more gender-equitable norms and practices, and assessing the ways by which they can be allies in achieving gender equality. Men tend to be the gatekeepers of family practices, and women's empowerment can appear to uproot their power. This is bolstered by women's acceptance of men as the gatekeepers and their limited power in marital relationships. For the value of daughters to rise, gender-inequitable norms and practices must be questioned by men, as much as by women.

By assuming the broad base of patriliny, my study overshadows the practices of matrilineal communities. There is scant national-level data on communities organized around matriliny. A few studies among the Nairs in Kerala and the Khasis in Meghalaya demonstrate that patrilineal practices have emerged over the decades (Abraham 2017, Nongbri 2000). A follow-up to Indian ethnographic work such as Dube's work (1995) in the Muslim matrilineal society of Lakshadweep will also broaden our understanding of gender norms and how certain practices are

egalitarian or not. Also, this research does not make causal claims. For instance, an increase in a wife's participation in the decision to visit her natal family may or may not result in her maintaining regular contact with her natal family, although it seems plausible. Further, there may be husbands who make decisions in favor of women even when they are the usual decision-makers. Unfortunately, in this study I was not able to include other variables that are associated with regular and close connection with the wife's natal family, such as the distance from the family and sibling composition (Niraula & Morgan 1996)[30].

Figure 3.1. State-wise prevalence of the norm and practice of husband's as decision-makers to visiting wife's family, NFHS-3, 2005-06

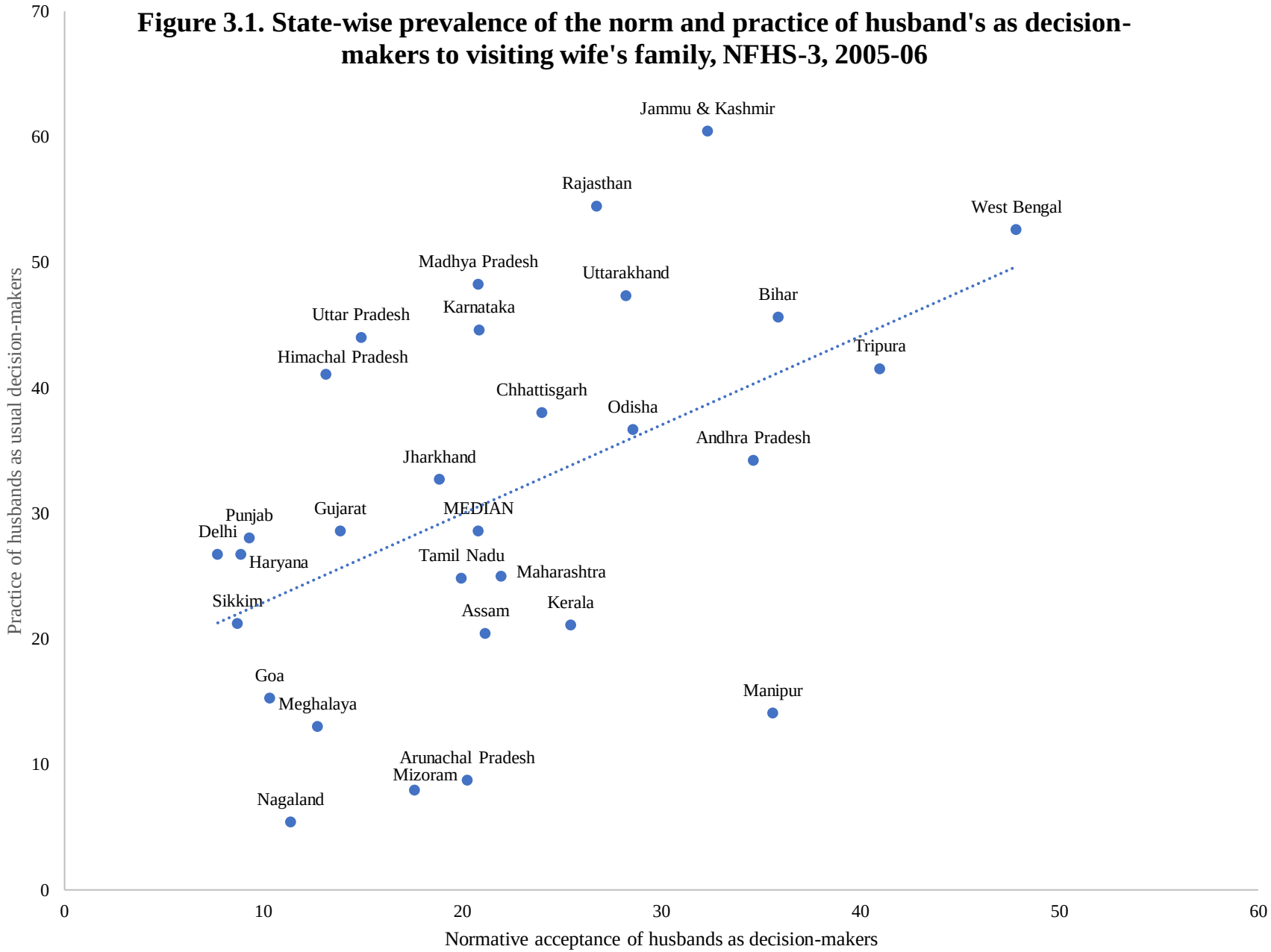


Figure 3.2. State-wise prevalence of the norm and practice of husband's as decision-makers to visiting wife's family, NFHS-4, 2015-16

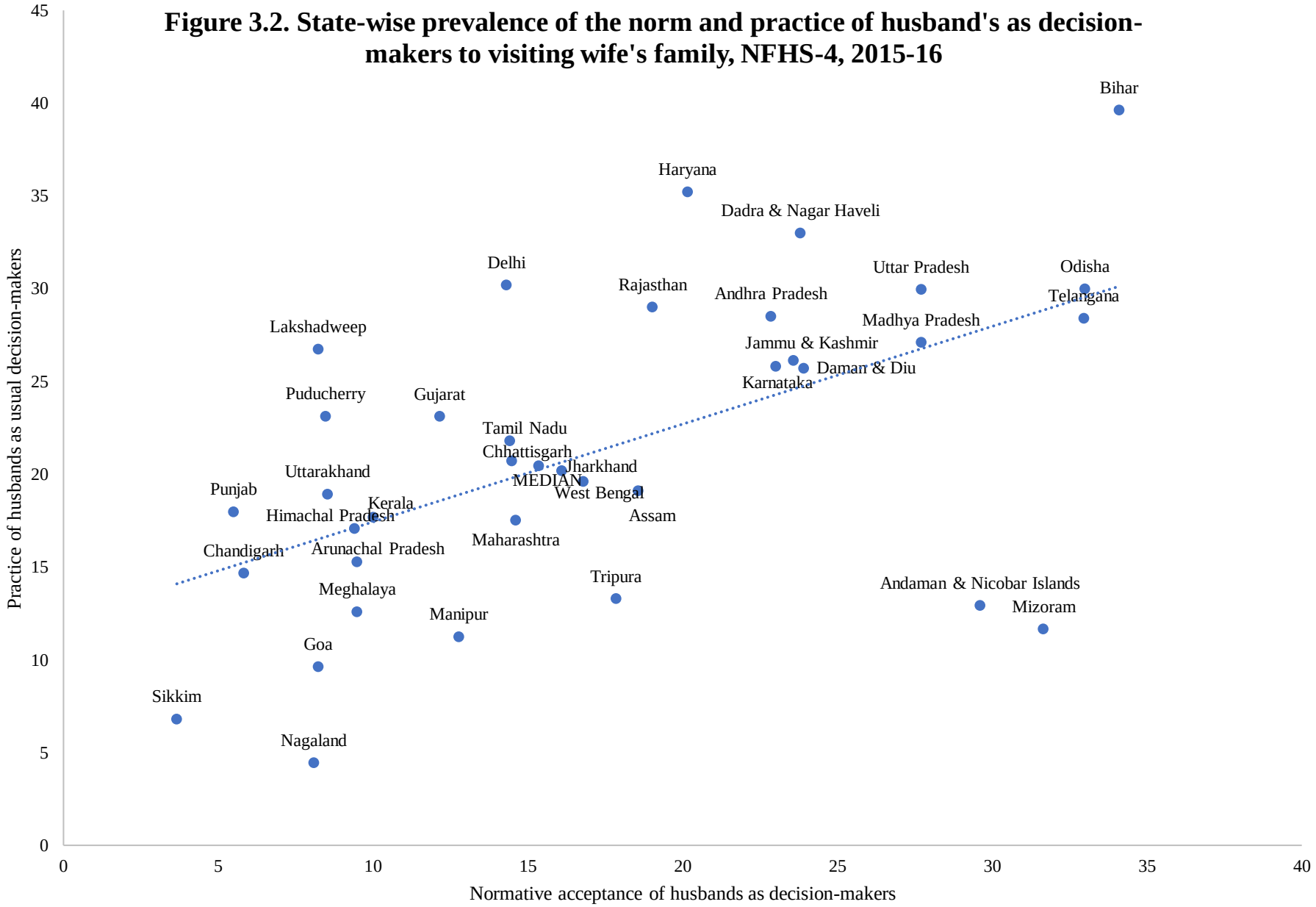
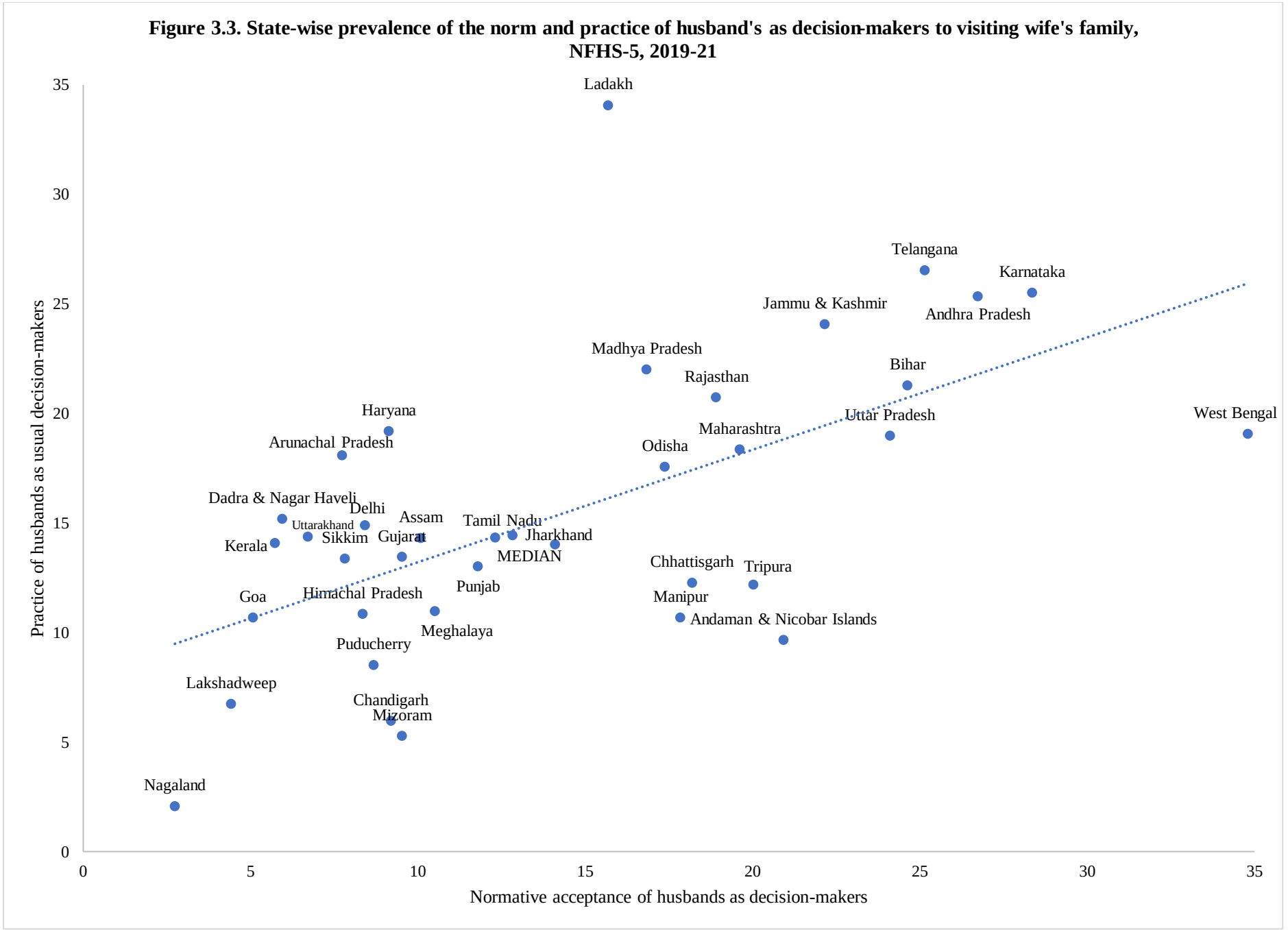


Figure 3.3. State-wise prevalence of the norm and practice of husband's as decision-makers to visiting wife's family, NFHS-5, 2019-21



CHAPTER 4

A SATISFIED LIFE: THE ROLES OF GENDER AND RESIDENTIAL PROXIMITY OF CHILDREN AMONG OLDER PARENTS IN INDIA

In most patrilineal communities in India, sons are valued over daughters since they are expected to offer old-age support to parents. Although it is widely believed that a satisfied old age is one spent with a married son and his wife, little evidence suggests how strongly such normative beliefs about the value of children for elderly support are held. I use the 2019-2021 Longitudinal Aging Study in India to test if the gender composition and residential proximity of children influence elderly life satisfaction and if this effect varies by economic class. Based on the full sample, I find that compared to having only daughters, life satisfaction is significantly higher among those with both daughters and sons. Once important covariates are controlled, however, having only sons is not significantly associated with greater life satisfaction. Linear regression analysis shows that subjective socioeconomic status, self-rated health, and spiritual engagement are positively associated with life satisfaction. Depression and experience of discrimination negatively influence life satisfaction. Among the financially well-off, coresidence with married children or having the nearest non-coresident child outside the country increase life satisfaction but this is not found among the less financially well-off groups. The findings suggest that policy efforts on healthy aging need to disassociate the importance of sons on elderly well-being and prioritize expanding economic and social security to older adults in India.

INTRODUCTION

In many communities in Asia, residential proximity and care from children of a culturally preferred gender are found to improve elderly parents' well-being (Cong & Silverstein 2008, Teerawichitchainan et al. 2015, Zhang & Harper 2022). In patrilineal communities in India, adult sons and their wives are expected to care for elderly parents by offering financial and instrumental support through coresidence. Adult daughters, particularly married daughters are discouraged from offering financial support or coresidence (Agarwal et al. 2020, Barik et al. 2015). Married daughters are considered to 'belong' to their marital family as opposed to the natal family and offer support to their husband's family as a daughter-in-law. Because of this deeply entrenched norm, parents without sons may believe that they lack a potential support. Further, the absence of financial contributions from a son can magnify distress in old age among parents with limited social security (Zhang & Harper 2022). In the broad context of son preference and the value placed on children for elder care, I assess whether having at least one son improves elderly well-being in India. I further investigate the importance of proximity of living children for life satisfaction and examine whether any observed effects of children's characteristics are moderated by the level of economic well-being among elderly parents.

Determinants of elderly well-being

Happiness and life satisfaction have significant positive effects on the mental and physical health of older adults (Steptoe et al. 2015). These aspects of well-being are associated with a lower probability of disease and disability, active cognitive and physical functioning, and sustained engagement in social and productive activities among the elderly population (Steptoe et al. 2015, WHO 2020), all of which can be used to gauge healthy aging and are thus of policy

interest (Pinquart & Sörensen 2000, WHO 2022). One widely used measure of elderly well-being is life satisfaction or the cognitive evaluation of one's life situation (Diener et al. 1985, Pinquart & Sörensen 2000). In most contexts, meaningful relationships, education and employment, good health, positive perceptions of aging, and religiosity are associated with higher life satisfaction (Khodabakhsh 2022, Pinquart & Sörensen 2000, Steptoe et al. 2015, Wurm & Benyamini 2014).

Besides meaningful relationships with one's children, companionship with one's siblings, spouse, and friends increase life satisfaction since they help people remain integrated in social life, offer resources to deal with life's challenges, economic resources, and social control over unhealthy behaviors (Bai 2019, Berkman & Glass 2000, Khodabakhsh 2022, Perkins et al. 2016). While close contact with family members can increase dependence, bring up unresolved conflicts, and become stressful if social expectations are not met, friendships can act as a buffer against family conflicts (Oshio 2012, Pinquart & Sörensen 2000, Srivastava et al. 2022). Friendships can improve well-being since they are made out of choice and because friends often share personal characteristics, cohort experiences, and lifestyles (Pinquart & Sörensen 2000).

Employment and education bring respect from one's community, a sense of purpose and mastery, and friends. These are also associated with higher income and improved quality of life, which can make one's past years of life look worthwhile. Further, education and higher income provide elderly individuals with more knowledge in using resources that contribute to good health and access to medical insurance while improving the process of coping with life's challenges (Khodabakhsh 2022, Pinquart & Sörensen 2000). The meaning attached to retirement or withdrawal from one's occupation or active working life varies by culture. In certain contexts, where retirement is associated with the end of the benefits that employment brings, life

satisfaction may be reduced (Reddy Mukku et al. 2018). Besides objective measures of economic well-being such as income, household expenditure, and assets, how individuals evaluate their position in the socioeconomic hierarchy also determines elderly well-being (Muhammad et al. 2022). When people perceive themselves to be in a lower position in the social hierarchy, they are likely to report more stress, lower self-esteem, and poorer health than those who do not perceive themselves to hold a lower position. Using national-level data from India, Muhammad et al. (2022) find that compared to objective socioeconomic status, subjective socioeconomic status has a stronger association with elderly cognitive functioning.

Self-rated health is a robust measure of well-being and is consistently associated with life satisfaction. It measures an individual's overall perception of different aspects of their health: physical, cognitive, and behavioral (Fayers & Sprangers 2002, Jylhä 2009). Greater ease in completing certain self-care tasks and activities instrumental in daily life is associated with a sense of independence and greater participation in social life (Kandapan et al. 2023, Srivastava et al. 2022). Positive self-perceptions of aging also predict survival and well-being (George 2010, Wurm & Benyamini 2014). Prejudice toward people based on age or 'ageism' can increase the likeliness of feeling discriminated against and mistreatment among older adults, which are bound to lower life satisfaction (Khodabakhsh 2022, Pillemer et al. 2021, Sathya et al. 2022). Religious and spiritual engagement provides an opportunity to participate in social life and help individuals to cope with difficult situations and find meaning in life (Barman et al. 2002, Khodabakhsh 2022). While both religiosity and spirituality rest on the belief in a higher power, some individuals may identify as spiritual but not religious.

Family as a locus of old-age support

In many Asian countries, the family is the preferred locus of support in old age, and institutional systems of care are discouraged (Barik et al. 2015, Siva Raju 2014). Support is largely intergenerational. Elderly parents offer support to their adult children through gifts, caring for grandchildren, knowledge, emotional support, making critical familial decisions, and keeping the family together (Babu et al. 2018, Knodel 2014). Adult children are also expected to offer support through shared living arrangements, financial assistance, instrumental care, and emotional companionship (Hermalin 2002, Soldo & Hill 1993). Intergenerational support rests on the cultural notion of filial respect, that since parents have contributed a significant share to their children's upbringing, adult children are obligated to give back to maintain balance in support over the life course (Caldwell 2005, Hermalin 2002, Lin et al. 2003).

Residential distance, parents' health, and the needs of children can facilitate or constrain intergenerational interaction. For instance, coresidence or close residence between elderly parents and adult children can facilitate instrumental care or help in activities of daily living (Bengston & Roberts 1991, Teerawichitchainan et al. 2015). Or a parent's health problem can increase parent-child interactions, even if children reside far from home (Knodel 2014). Intergenerational solidarity is higher when parents and children both show a 'normative commitment to familialism'; that is, they have frequent conversations on important topics, involve each other in major life decisions, give weight to each other's opinions, meet for family gatherings, carry out recreational and religious activities together, help each other with errands and fulfill the social obligations associated with their role (Bengston & Roberts 1991). A higher level of intergenerational solidarity increases life satisfaction (Peng et al. 2019). For instance, in Asian contexts, when adult sons meet the normative expectation to marry, elderly parents benefit

from the caregiving offered by daughters-in-law and show reduced signs of depression (Cong & Silverstein 2008).

Although the dominant form of living arrangement for older adults in India continues to be residence with one's spouse and children, this form of residence, or coresidence has declined (Barik et al. 2015, Siva Raju 2014). However, a decline in coresidence should not be taken as a sign of weakened family support, although this is often framed as a concern among families in India (Barik et al. 2015, Shah 2014, Uberoi 2005, Ugargol 2016). Living close enough for frequent social interaction or quasi-coresidence can keep family members connected. Based on a study of families in Thailand, Knodel (2014) found that the frequency of interaction between parents and their non-coresident children increased over the years, particularly with the expanded use of mobile phones. Other studies from Asia also suggest that elderly parents and their children prefer to live independently but nearby to benefit from caregiving and to retain their autonomy (Gruijters & Ermisch 2018, Peng et al. 2019). Residing in separate households may also signify higher economic status and be preferred by the wealthy (Kumar & Kumar 2019).

Expectations of support from sons in patrilineal communities

Cross-regional studies find that support from a child of a preferred gender significantly improves the emotional health of older adults (Bai 2017, Cong & Silverstein 2008, Teerawichitchainan et al. 2015, Zhang & Harper 2022, Zhang et al. 2017). For instance, in a comparative study of Southeast Asian countries, Teerawichitchainan et al. (2015) show that coresidence with the child of the preferred gender, such as with daughters in Myanmar or sons in Vietnam, significantly improves the emotional health of the elderly. In another study, Chinese elderly parents residing with their sons and daughters-in-law report significantly lower

symptoms of depression and higher self-rated health compared to older parents living with daughters (Zhang & Harper 2022).

In the Indian context, the obligations of children toward elderly parents also vary by the gender of the child. In patrilineal communities, sons and their wives are expected to coreside with parents after marriage (patrilocality) and provide old age support (Vatuk 1990). A satisfying old age is constructed as one with a 'good' (useful) son and daughter-in-law offering *seva* (Vatuk 1990). *Seva* means service but connotes a respectful offer of care toward the body and its comfort which elders can expect from the younger generation (Bandyopadhyay & Singh 2023, Lamb 2013, Vatuk 1990). Parents heavily invest in sons compared to daughters, as they expect to receive support from them in old age. Parents expect sons to marry and continue to offer support along with their spouses.

Although unmarried children can support their elderly parents, it is regarded as a nonfulfillment of the child's duty (Mishra & Kaur 2021). The parental obligation to ensure that their children are married is also strong and it is suggested that in certain contexts in India, the social pressure to ensure that daughters are married may be greater than ensuring that sons are married (Bandyopadhyay & Singh 2023). If the social expectation of having married adult children is strong in many regions in India, coresiding with only unmarried children can negatively affect elderly life satisfaction. Further, unmarried son(s) also means an absence of daughters-in-law to care for elderly parents. This can increase worries in old age since daughters-in-law are expected to offer instrumental care. In other parts of Asia, such as in Japan, coresidence with unmarried sons can lower life satisfaction (Oshio 2012). Oshio (2012) suggests that this implies that elderly parents want their sons to be economically independent since an economically dependent son cannot offer financial support to elderly parents.

Adult daughters may offer support when sons are not available. However, they are normatively discouraged from offering financial care and long-term coresidence with parents (Barik et al. 2015). Although daughters can provide emotional support, the absence of a son implies limited financial and instrumental support for parents in old age (Patel 2007, Vatuk 1990). Hence, being 'sonless' is constructed as a greater concern for old age than being 'daughterless' and could exacerbate anxiety in old age (Patel 2007).

Parental expectations of support from their sons can be moderated by their level of economic security. Several studies show that when parents are financially secure, sons are no longer the main contributors to parents' economic well-being. Further, with the expansion of women's employment, married daughters also step in and offer as much or more support to parents as married sons (Bai 2017, Ngoo et al. 2015, Peng et al. 2019, Xie & Zhu 2009). For instance, with universal pensions in urban China, Xie & Zhu (2009) find that elderly parents no longer require monetary support from their children and that such transfers may start to have greater symbolic value than instrumental value. In Hong Kong, financially secure elderly parents have adjusted their expectations from their children, including sons (Bai 2017, Peng et al. 2019). They expect less financial support and are unwilling to burden their adult children for financial support, because they see that their children are trying to meet the demands of their marital families and are living farther away. Further, Zhang & Harper (2022) find that while the gender of the child offering support does not affect the well-being of wealthy older parents, it does among the less wealthy in China. That is, among the less wealthy, those who received care from their sons were less likely to show symptoms of depression than those who received care from their daughters. In India, the gender of children may also be more important in some circumstances than in others.

India is currently struggling to address the strong cultural preference for sons. A key reason is the widespread belief that having a son nearby will lead to a satisfied old age. To date, however, there is little evidence about the strength of the relationship between the characteristics of children, including their gender or proximity, and elderly life satisfaction. Further, if life satisfaction is higher among those with greater financial security irrespective of the gender composition of children, then the gender composition of children may not be a critical contributor to life satisfaction as believed. In this chapter, I examine the extent to which the gender and proximity of residence of children influence parental well-being and if this relationship varies by economic class. I use 2019-2021 data from the Longitudinal Aging Study in India (LASI) to test five hypotheses:

H_1: Life satisfaction will be higher among elderly parents who have at least one living son,

H_{2A}: Life satisfaction will be higher among elderly parents with a coresident child than among those whose children are living elsewhere,

H_{2B}: Life satisfaction will be higher among elderly parents who have children living nearby than those whose most proximate children live further away,

H_3: Life satisfaction will be higher among elderly parents who have at least one married child living with them than those who have only unmarried children living with them,

H_4: The relationship between the gender composition of children and life satisfaction differs by level of economic well-being, and,

H_5: Among those with financial constraints, the gender and residential proximity of children will play a more significant role in contributing to life satisfaction than other predictors of elderly well-being.

METHODS

Data and sample

The LASI is a nationally representative survey that examines the economic security, work and retirement, health, family and social networks, and awareness and uptake of social security among the near-elderly and elderly in India. The study is a joint undertaking of the Harvard T.H. Chan School of Public Health, the International Institute for Population Sciences (IIPS) in Mumbai, India, and the University of Southern California (USC). Sampling is based on the 2011 Indian Census and uses a multi-stage, stratified area probability cluster sampling design (Arokiasamy et al. 2022). Within each state, a three-stage sampling design is followed in rural areas and a four-stage sampling design in urban areas. The first wave was conducted between 2017 and 2018 and the survey is intended to be conducted every three years[31]. LASI samples non-institutionalized individuals aged 45 and above and their spouses (irrespective of age) (Arokiasamy et al. 2022). Data has been collected from 73,396 adults representing all states and union territories in India[32]. The individual response rate is 87.3 percent and varies by state, from 76.7 to 96.3 percent (Arokiasamy et al. 2022).

My analysis is limited to individuals aged 60 and older with at least one living child[33]. These individuals were asked about the characteristics of their children, such as their gender and place of residence. The dataset has been created by merging individual cases to the household roster to identify the characteristics of coresident children using Stata's 'merge many to one' command. To prepare the final sample[34], I dropped an additional number of observations for which the (a) response to the number of children was missing (n=313), (b) information on children in the household roster did not match the reports of the respondent[35] (n=348), and (c) the response to life satisfaction was missing (n=725). A few other cases for the independent variables used in the

multivariate analysis were missing[36]: have siblings (n=93), have friends (n=13), subjective socioeconomic status (n=153), self-rated health (n=14), symptoms of depression (n=53), felt discriminated against (n=22), and spiritual beliefs (n=30). No pattern of missing responses was found among these, and the cases have been dropped for the multivariate analysis (n=378, 1.29 percent). The final sample for the multivariate analysis is 28,967 individuals.

The data have been weighted using the 'indiaindividualweight' variable. It is available in the dataset and has been computed taking the multi-stage stage design effects and corresponding sample inclusion probabilities into account (LASI team, personal communication, July 8, 2022). The weights produce an estimate of the 'actual number of individuals' at the national level (that is 109,492,388 elderly individuals). Since this number is not relevant for interpreting the analysis and is not referred to in previous studies, the tables presented here show the unweighted number of cases or the sample that is used for the analysis (Barman et al. 2022, Rana et al. 2022, Saha et al. 2022, Sathya et al. 2022, Srivastava et al. 2022).

Variables

Life satisfaction is the dependent variable: Life satisfaction is measured using the Diener Satisfaction with Life Scale (SWLS) (Diener et al. 1985). Respondents were asked for their degree of agreement with five statements on a seven-point Likert scale. The statements are (a) *in most ways, my life is close to ideal, (b) the conditions of my life are excellent, (c) I am satisfied with my life, (d) so far, I have got the important things I want in life and (e) if I could live my life again, I would change almost nothing*. I added the score to each of the five items to create an index ranging from 5 to 35 (Barman et al. 2022, Srivastava et al. 2022). A higher value denotes higher life satisfaction.

The gender composition of living children is the main independent variable: This consists of three mutually exclusive categories: only daughters, only sons, and a mix of daughters and sons. Having only daughters is the reference category as it is likely to be associated with the lower life satisfaction in the context of India. The word 'children' is used throughout this chapter, although it can refer to a small proportion of parents[37] who have only one living child.

Residential proximity of children for support is the other independent variable: To construct the variable, I use three criteria to create mutually exclusive categories of residential proximity of children for support to parents (Bai 2019, Knodel 2014, Teerawichitchainan et al. 2015, Zhang & Harper 2022). The criteria are (a) residence with at least one child (yes or no), (b) marital status of coresident children (any one coresident child is married or not), and (c) the place where the nearest non-coresident child lives among those with no coresident child(ren). The resultant six-category variable was constructed as follows. From the household roster, I matched the gender and marital status of coresident children with each elderly individual. Since most individuals have more than one child and each child would have different residential locations, I assigned respondents in this *order* to avoid overlap. (1) Those residing with at least one child were assigned 1 and the rest 0. (2) Among those with at least one coresident child, the marital status of the child (or all children[38]) was checked. If any child was married, the elderly parent was assigned 1 and the rest 0. (3) Parents with no coresident children (assigned 0 in step 1) were categorized by the location of the nearest child: within city/town/village, outside the city/town/village but in the same administrative state[39], within the country (but outside the administrative state) and outside the country. The six categories[40] are: (1) residence with only unmarried child(ren), (2) residence with at least one married child, (3) the nearest non-coresident child lives within the elderly parent's city/town/village, (4) the nearest non-coresident child lives

within the elderly parent's state, (5) the nearest non-coresident child lives within the country, and (6) the nearest non-coresident child lives outside the country. Residence with only unmarried child(ren) is used as the reference category with the assumption that the obligation to marry is strong in Asian contexts (Bengston & Roberts 1991, Cong & Silverstein 2008, Oshio 2012, Peng et al. 2019) and residence with unmarried children is a reminder of an unfulfilled intergenerational contract, which could lower life satisfaction.

Economic well-being is a moderator variable: The monthly per-capita consumption expenditure (MPCE) quintile is used to gauge the economic well-being of households (Barman et al. 2022, Kumar & Kumar 2019, Zhang & Harper 2022). The variable is in the dataset and has been derived by dividing the total consumption expenditure of a household on food and non-food items by the number of household members to create quintiles. For this chapter, the five quintiles have been recoded into three categories for straightforward interpretation, that is, into low (poorest and poorer), middle, and high (richer and richest) (Muhammad et al. 2022).

Control variables: I control for the following correlates of elderly well-being: meaningful relationships, education, subjective socioeconomic status, self-rated health, symptoms of depression, feeling discriminated against due to age, and the strength of spiritual beliefs. I measure meaningful relationships with two variables: if one has siblings[41] (=1, if not=0) and if one has friends (=1, if not=0). Education is coded as a seven-category variable and captures the variation and levels of formal education available during pre-independent and newly independent India when these cohorts were growing up (Kumar & Kumar 2019). These are (a) never been to school, (b) completed less than primary (up to grade 4), (c) completed primary (grade 5-7), (d) completed middle school (grade 8-9), (e) completed secondary school (grade 10), (f) completed high school (grade 12) and (g) some years of college education.

Subjective socioeconomic status has been measured using the MacArthur Scale of Subjective Social Status (Muhammad et al. 2022, Nobles et al. 2013). Respondents are shown a picture of a ladder with ten numbered steps (1 at the bottom and 10 at the top) and asked, "*Think of this ladder as representing where people stand in our society. At the top of the ladder are the people who are the best off – those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off – who have the least money, least education, and the worst jobs or no jobs. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the people at the very bottom of your society. Please indicate the number given on the rung on the ladder where you would place yourself*". This variable ranges from 1 to 10. A higher value denotes higher subjective socioeconomic status. I find that subjective socioeconomic status is weakly correlated with objective socioeconomic, measured by monthly per-capita consumption expenditure (r=0.2). Further, regressing life satisfaction on these two variables also results in a lower variation inflation factor or VIF (of 1.03) suggesting that these two independent variables are not highly correlated.

Self-rated health is measured by asking respondents to rate their overall health on a 5-point Likert scale[42] (Fayers & Sprangers 2002, Jylhä 2009). The question asked is '*Now I want to ask you about your general health. Overall, how is your health in general? Would you say it is very good, good, fair, poor or very poor?*' Self-rated health varies from 1 to 5. Higher values denote better self-rated health.

To assess for the symptoms of depression, the LASI survey uses the Center for Epidemiological Studies-Depression (CES-D) 10-item scale (Barman et al. 2022, Sathya et al. 2022). The scale includes 7 items that measure negative affect and 3 that measure positive affect.

The indicators of negative affect (or emotions) include trouble concentrating, feeling depressed, having low energy, fearing something, feeling lonely, being bothered by things, and feel that everything is an effort. The three indicators for positive affect include feeling happy, hopeful, and satisfied. All responses were gathered based on the frequency of having these feelings in the past week. Responses to each statement varied from: rarely or never (less than 1 day), sometimes (1 to 2 days), often (3 to 4 days), and most or all of the time (5 to 7 days). Each item of negative affect was given a score of 0 if experienced rarely, never or sometimes, or 1 if experienced often or most of the time (Barman et al. 2022, Sathya et al. 2022). The scoring was reversed for the three questions on positive affect; a score of 0 was given if one experienced these often or most of the time or 1 if experienced rarely, never or sometimes (Barman et al. 2022, Sathya et al. 2022). All values were added to create a 10-point index ranging from 0 to 10 (α=0.72). This variable is used as continuous variable in the analysis. A score of 4 or more indicates depression (Barman et al. 2022, Sathya et al. 2022).

Respondents were asked how often they have felt discriminated against in six different ways: treated with less respect than other people, received poorer services at restaurants/stores, received poorer services from doctors/hospitals, people have acted as if they think you are not smart, people have acted as if they are afraid of you, or you have been harassed. Those who report experiencing any of these situations were then asked if they believed this occurred due to their age, and because of social differences that generate stereotypes such as gender, religion, caste, weight, physical disability, physical appearance, financial status, and any other. From these two types of questions, I measure the experience of feeling discriminated against by creating a three-category variable: (a) experienced no discrimination, (b) experienced discrimination perceived due to age, and (c) experienced discrimination perceived due to other

social differences. By separating the role of discrimination perceived due to age from other forms of discrimination can reveal how the effect of this form of discrimination or ageism on life satisfaction differs from other forms of discrimination (Khodabakhsh 2022, Pillemer et al. 2021, Sathya et al. 2022).

The degree to which one is spiritual has been gauged from responses to four items, asking if respondents think they (a) have a feeling of deep inner peace, (b) are spiritually touched by the beauty of creation, (c) are thankful for what they have received in their life, and (d) are selflessly caring for others. The possible answers ranged on a five-point Likert scale from never (=1) to every day in a week (=5). The scores to all questions were added to create an index ranging from 4 to 20. A higher value denotes higher spiritual engagement.

Other contextual variables: Age, gender of the parent, marital status, religion, degree of religiosity, work status, family composition, and difficulty in completing activities of daily living are found to be associated with elderly health and well-being in various contexts (Khodabakhsh 2022, Pinquart & Sörensen 2000, Sathya et al. 2022). However, these were not found to have a significant relationship with life satisfaction in the multivariate analysis, but are used to describe the sample[43]. Age is categorized as young old (60 to 69 years), old-old (70 to 79 years) and oldest old (80 or older) and gender as a dichotomous variable (Barman et al. 2022, Srivastava et al. 2022). I code current marital status into three categories: married/living with a partner, widowed, and separated/deserted/divorced. Religion is used as a four-category variable: Hindus, Muslims, Christians, and others. Others include Sikhs, Buddhists, Jains, Jews, Parsis, and those who do not identify with any religion. Degree of religiosity has been measured by how important one perceives religion in one's life: very important, somewhat, and not too important.

I construct a four-category work status variable from these three questions: *Have you ever worked for at least three months in your lifetime? What was the main reason for you not to have worked in your lifetime? Are you currently working?* The categories are (a) never worked for economic gain and have been a 'homemaker', (b) never worked for economic gain due to other reasons, (c) worked for economic gain previously but not currently employed, and (d) currently working for economic gain. I further identified the type of occupation among those who had ever worked (c and d). Although the questions were worded slightly differently for those currently working and those no longer working, all those who had ever worked were asked a series of questions to identify their type of occupation. These questions helped identify if respondents were working (a) on their own or their family's farm, (b) on another person's farm as agricultural labor, or (c) if they were self-employed or working in their family's non-agricultural business, or (d) if they were engaged in salaried or wage work.

Analytical strategy

I analyze the data in four steps. First, I use correlation, ANOVA, and simple linear regression to identify which variables are significantly associated with life satisfaction and need to be controlled for in the multivariate analysis. I drop those variables from multivariate analysis for which the regression coefficients are not significantly associated with life satisfaction at $p \leq 0.001$ in the simple linear regression[44] (Chowdhury & Turin 2020). As discussed earlier, the covariates selected for the final models are meaningful relationships, education, subjective socioeconomic status, self-rated health, symptoms of depression, the experience of discrimination, and the degree of spirituality.

Second, to test hypotheses 1, 2 and 3, I set up four sets of simple and multiple ordinary least square (OLS) linear regression models (Chowdhury & Turin 2020, Everitt 2009). The first set is used to test H_1, that is, if life satisfaction is likely to be higher among elderly parents who have at least one son than those with only daughters (Equation 1 below). The second and third sets are used to test H_2. The second set tests if life satisfaction is likely to be higher among those who have at least one coresident child compared to those for whom all their children live elsewhere (Equation 2). The third tests if life satisfaction is likely to be higher among those who have at least one child living in the same administrative state, coresident or not (as an indicator of 'children living nearby') than those whose most proximate children live further away such as in another state or outside the country (Equation 3). The equations below denote each of the three sets of multiple linear regression models:

$$Elderly\ life\ satisfaction_i = \beta_0 + \beta_1\, Only\ daughters_i + \beta_2 Only\ sons_i + \beta_3 Mix\ of\ gender_i + \beta_4\, Controls_i + \varepsilon_i \quad \ldots(1)$$

$$Elderly\ life\ satisfaction_i = \beta_0 + \beta_1\, Coresidence\ with\ at\ least\ one\ child_i + \beta_2\, Controls + \varepsilon_i \quad \ldots(2)$$

$$Elderly\ life\ satisfaction_i = \beta_0 + \beta_1\, At\ least\ one\ child\ resides\ within\ state_i + \beta_2\, Controls_i + \varepsilon_i \quad \ldots(3)$$

To test H_3, or if life satisfaction is likely to be higher among those who have at least one married child living with them than those who have only unmarried children living with them, I use the six-category variable of residential proximity of children for support as the independent variable. The reference category for this variable is 'residence with only unmarried children.' The model is shown in Equation 4:

$$Elderly\ life\ satisfaction_i = \beta_0 + \beta_1\ All\ coresident\ children\ are\ unmarried_i + \beta_2\ At\ least\ one\ coresident\ child\ is\ married_i + \beta_3\ Closest\ nonresident\ child\ within\ city_i + \beta_4\ Closest\ nonresident\ child\ within\ state_i + \beta_5\ Closet\ nonresident\ child\ within\ country_i + \beta_6\ Closest\ nonresident\ child\ outside\ country_i + \beta_7 Controls_i + \varepsilon_i \ldots(4)$$

The unstandardized regression coefficients reflect the change in life satisfaction by each indicator variable for individual *i*. Each model is run twice, as a simple model without controls and then as a full model with controls.

In the third step of the analysis, I test if the effect of the gender composition of children on life satisfaction is moderated by the level of economic well-being (H_4) by introducing an interaction term[45]. I interact the three categories of the gender composition of children (only daughters, only sons, mix of genders) and the level of economic well-being (low, middle, high), and test if the level of life satisfaction among those with the same gender composition of children is significantly different by level of economic well-being (Huang 2019, Muhammad et al. 2022, Srivastava et al. 2022). I construct an OLS model with the same controls used in step 2. Further, for ease of interpretation of the regression coefficients, I also present the marginal effects of the interaction terms on life satisfaction (Huang 2019). While regression coefficients show the predicted change in life satisfaction (dependent variable) with one unit change in gender composition*level of economic well-being, marginal effects show the predicted value of life

satisfaction for each condition held (e.g., if one has only sons and higher economic well-being and so on) (Perraillon forthcoming). Post-estimation tests are used to test for statistical differences between pairs of the estimated coefficients of different economic groups with the same gender composition of children. Suppose there is a statistically significant difference between the coefficients of two such groups, such as between those with only sons and low economic well-being and those with only sons and high economic well-being, then in that case, it can be said that the effect of the gender of children on life satisfaction is moderated (or influenced) by level of economic well-being. I model elderly life satisfaction as:

$$Elderly\ life\ satisfaction_i = \beta_0 + \beta_1\, Only\ daughters_i * Low_i + \beta_2\, Only\ daughters_i * Middle_{\ i} + \beta_3\, Only\ daughters_i * High_{\ i} + \beta_4\, Only\ sons_i * Low_i + \beta_5\, Only\ sons_i * Middle_{\ i} + \beta_6\, Only\ sons_i * High_{\ i} + \beta_7\, Mix\ of genders_i * Low_i + \beta_8\, Mix\ of\ genders_i * Middle_{\ i} + \beta_9\, Mix\ of\ genders_{\ i} * High_{\ i} + \beta_{10} Controls_i + \varepsilon_i$$

Fourth, to test H_5 or the effect of gender and residential proximity of children on life satisfaction I model three separate linear regression models for each category of economic well-being: low, middle, and high. I also present the results using the full sample. The control variables are used as predictors to help identify which covariates are the most significant in predicting life satisfaction in each economic group. Standardized beta coefficients[46] are used to assess if gender and residential proximity of children are significant associated with life satisfaction, compared to other predictors, particularly among those with low economic well-being (poorer and poorest), as hypothesized.

I use cluster-robust standard errors in all the regression models since the standard errors for individuals in the same household can be correlated (Cameron & Miller 2015, Peng et al. 2019). This is because spouses and relatives over the age of 60 and belonging to the same household

have the potential to be included in this sample. In all models, multicollinearity does not appear to be a problem since the VIF ranges from 2.07 to 2.34 in the four regression models.

Sample characteristics

Sample characteristics are shown in Table 4.1. These are also disaggregated by the gender of the individual. Slightly more than half are women. The mean age of the sample is 69 years. Around 11 percent are 80 and older, among both women and men. Two-thirds are currently married. More than a third have lost their spouse. This varies widely among women and men, with a far greater proportion of women having lost a spouse. A small fraction is divorced or separated. A large majority are Hindus (83 percent), followed by Muslims (11 percent) and Christians (3 percent).

A large proportion of the sample has never attended school. This varies substantially between women and men. A higher proportion of women (73 percent), compared to men (38 percent), have never been to school. Vast inequalities exist in the level of education. A smaller proportion has completed high school or a college degree (7 percent, less than 3 percent women and 12 percent men). On a ladder of 1 to 10, the mean subjective socioeconomic status is 4.26. It does not vary much between women and men. Slightly more than half of the sample, that is, 60 percent of women and 55 percent of men, report a score of 4 or lower, indicating a perception of belonging to the lower socioeconomic class (not shown).

A third of the sample is currently employed. However, women's and men's experiences of employment vary. Slightly less than half of women have never been employed and are homemakers. Comparatively, women tend to be (or have been) working on farms other than

theirs or for salaried work, while men tend to work on their farms and be self-employed or manage a business.

Table 4.1. Background characteristics and indicators of well-being among older adults in India, 2019-21

	Women		Men		Total	
Gender: Women	-		-		53.0	
Mean age	68.84 (S.D. 7.34)		69.08 (S.D. 7.30)		68.95 (S.D. 7.34)	
Current marital status						
Married/living with partner[a]	45.5		83.2		63.2	
Widowed	53.5		16.2		36.0	
Separated/deserted/divorced[b]	1.0		0.7		0.8	
Religion[c]						
Hindu	82.8		82.8		82.8	
Muslim	10.5		11.0		10.7	
Christian	3.0		2.5		2.8	
Education						
Never been to school	72.6		37.9		56.3	
Less than primary (up to grade 4)	8.7		15.0		11.6	
Primary (grade 5-7)	7.9		15.0		11.2	
Middle school (grade 8-9)	4.4		9.5		6.8	
Secondary school (grade 10)	3.8		10.7		7.0	
High school	1.4		4.7		3.0	
Some years of college education	1.3		7.2		4.1	
Subjective socioeconomic status	4.14 (S.D. 1.99)		4.39 (S.D. 2.07)		4.26 (S.D. 2.03)	
Employment/work status						
Currently working	19.3		45.3		31.5	
No longer working	33.8		51.1		41.9	
Never worked: Homemaker	45.6		1.7		24.9	
Never worked: Other reason	1.41		1.9		1.6	
Type of work	**Currently working**	**No longer working**	**Currently working**	**No longer working**	**Currently working**	**No longer working**
Own/family farm	31.7	36.6	36.3	27.8	37.0	31.5
Other's farm/agricultural laborer	22.1	35.6	10.6	19.6	12.4	26.3
Self-employed/non-agri. business	14.3	11.8	21.5	13.4	19.4	12.7
Salaried/wage work	32.0	16.0	30.5	39.2	31.0	29.2
Mean life satisfaction	23.5 (S.D. 7.58)		24.2 (S.D. 7.50)		23.8 (S.D 7.55)	
Gender composition of children						
Percent families with only daughters	8.2		7.0		7.6	
Percent families with only sons	17.0		17.6		17.2	
A mix of daughters and sons	74.9		75.5		75.2	
Residential proximity of children for potential support						

Coresidence with at least one married child	54.8	49.7	52.4
Coresidence with only unmarried child(ren)	16.7	21.8	19.0
The nearest non-coresident child lives in same city/town/village	21.6	20.9	21.3
The nearest non-coresident child lives within state	6.1	6.3	6.2
The nearest non-coresident child lives outside state	1.0	1.3	1.1
Has siblings	90.8	91.3	91.0
Has friends	19.8	33.6	29.8
Self-rated health			
Very poor/ Poor	25.7	21.8	22.7
Fair	46.5	44.0	43.3
Good/ Very good	27.8	34.1	34.0
Percent reporting depression	32.1	27.2	28.8
Experienced discrimination perceived due to age	6.7	6.3	6.5
Experienced discrimination perceived due to other social differences	10.8	10.5	10.7
Mean engagement in spirituality	6.1 (S.D. 4.72)	6.6 (S.D. 4.8)	6.29 (S.D. 4.76)
Total number of individuals	*15,249*	*14,052*	*29,301*

Note: The total weighted sample is 29,301 individuals unless cases are missing.
S.D. is the standard deviation.
[a] Includes 145 respondents in a live-in relationship.
[b] Includes 11 respondents who have never married.
[c] The rest 3.7 percent (of the total sample) includes others, including 0.1 percent who do not affiliate with any religion.

Family characteristics

A large proportion of those interviewed have both daughters and sons (75 percent), 8 percent have only daughters, and 17 percent have only sons. Seventy-two percent live with at least one child. More than half (53 percent) reside with at least one married child, and 19 percent live with only unmarried children. Of those who reside with married children, a large proportion reside with at least one son (96 percent, not shown). Among those with no coresident children, almost all have a child living in the same city, town, village, or state. Only one percent have their *nearest* children residing outside their state or the country. A large proportion have grandchildren

(95 percent) (not shown). The respondents are not close to many family members. Fifty-two percent report that they are close to their spouse, 43 percent to their sons, 17 percent to their daughters, 12 percent to their daughters-in-law, 9 percent to their grandchildren, and only 2 percent are close to their son-in-law (not shown). Ninety-one percent have siblings. Only a fourth report that they have friends (26 percent).

FINDINGS

Elderly physical and mental health: Around 43 percent rate their health as 'fair'. Fewer (34 percent) perceive their health as good. More than a fifth (23 percent) consider their health as poor. A small proportion shows at least four or more symptoms of depression (12 percent). Around 23 percent cannot complete at least one of the self-care activities of daily living in the last three months (not shown). This includes 6-8 percent who have difficulty in dressing, or walking across a room, or bathing, or eating, and 11 to 17 percent who have difficulty in getting in and out of bed or in using the toilet. Around 46 percent could not complete at least one instrumental activity of daily living in the last three months (not shown). These include 15-17 percent who have difficulty in preparing a hot meal and taking medications; and 22-29 percent who have difficulty in shopping for groceries, making telephone calls, gardening/doing work around the house, managing money, and getting around or finding addresses in an unfamiliar place. Although a large proportion did not report that they had been discriminated against in the last three months, 7-12 percent did perceive that they had been discriminated against due to age and social differences. On a scale of 4 to 20, the mean spiritual engagement is on the lower side, at 6.29. However, it varies considerably (S.D. 4.76). Finally, on a scale of 5 to 35, the mean life satisfaction score is 23.8 (S.D 7.55).

Life satisfaction by characteristics of children: Table 4.2 presents the results from several linear regression models. Each row presents the results using only one of the four specified independent variables. The rows are depicted by the letters, A, B, and C. The results in the table are presented in two columns: the first shows the analysis from the simple models (without controls) and the second, labeled 'full models', includes controls.

Row A shows that compared to those with only daughters, those with only sons and those with a mix of genders report significantly higher life satisfaction ($b=1.32_{\text{only sons}}$ $p\leq0.001$, $b=1.23_{\text{mix of genders}}$ $p\leq0.001$). However, after controlling for other predictors (has siblings, has friends, level of education, subjective socioeconomic status, self-rated health, symptoms of depression, perception of discrimination, and degree of spirituality), having only sons is no longer significant, and while a mix of genders of children remains significant, its effect is reduced ($b=0.93$ $p\leq0.001$). This partially supports hypothesis one, that life satisfaction is higher among elderly parents who have at least one living son. Compared to parents with only daughters, those who have at least one son report higher life satisfaction, although just having sons is not significantly associated with higher life satisfaction once important covariates are controlled.

Row B shows that coresidence with a child (irrespective of their marital status or other characteristics) is significantly associated with higher life satisfaction ($b=1.24$ $p\leq0.001$), and this remains significant after other explanatory variables are controlled for ($b=0.59$ $p\leq0.01$). This supports Hypothesis 2A.

Table 4.2. Linear regression coefficients for the association between life satisfaction among older adults with each of the separate characteristics of living children, India, 2019-21

	Simple models	Full models
A. Gender composition of living children:		
Only daughters	Ref	Ref
Only sons	1.32***	0.44
A mix of daughters and sons	1.23***	0.93***
B. At least one child coresident child	1.24***	0.59**
C. Residential proximity of children for support^		
Coresidence with only unmarried children	Ref	Ref
Coresidence with at least one married child	0.79***	0.54*
The nearest non-coresident child lives in same city/town/village	-0.77**	-0.15
The nearest non-coresident child lives within state	-0.82	-0.84*
The nearest non-coresident child lives outside state	1.89**	0.70
The nearest non-coresident child lives outside country	3.98***	0.67
Total number of observations	*29,301*	*28,967*

Note: Estimates are in the form of unstandardized regression coefficients.
The full models include the following controls: siblings, friends, education, subjective socioeconomic status, self-rated health, symptoms of depression, perception of discrimination and index of spirituality.
^ The last four categories include individuals with no coresident children.
The p-values of the F-tests of each model are significant at $p \leq 0.001$.

Marital status of coresident child and proximity of non-coresident child are considered in analysis C. Here I find that compared to residence with only unmarried children, residence with at least one married child is positively and significantly associated with life satisfaction in both the simple and the full models. This was anticipated and supports Hypothesis 2B. Positive coefficients for nearest coresident child living further afield were not predicted and may reflect successful out-migration and economic support through remittances, often a source of pride for parents. These effects disappear once other variables are controlled. Parents with children living within the state but not within the local community appear least satisfied when compared with those with an unmarried coresident child. Support for Hypothesis 3 is thus mixed.

Effect of gender composition of children on life satisfaction moderated by economic well-being: Table 4.3 shows the marginal effects of interacting gender composition of children and level of economic well-being (low, middle, and high). The marginal effect or the predicted values of life satisfaction of those having the same gender composition but different levels of economic well-being are not statistically significantly different from one another (post-estimation t-tests, p-values not significant at $p \leq 0.05$). This suggests that the relationship between the gender composition of children and life satisfaction does not differ substantially by the level of economic well-being, hence hypothesis 4 does not hold.

Table 4.3. Interaction effects of the gender composition of living children and economic well-being for life satisfaction among older adults in India, 2019-21

	Coefficient (Full model)	Marginal effect
Only daughters#Low	Ref	22.6
Only daughters#Middle	1.30	23.9
Only daughters#High	0.60	23.2
Only sons#Low	1.10	23.7
Only sons#Middle	1.31	23.9
Only sons#High	0.70	23.3
A mix of genders#Low	1.21	23.8
A mix of genders#Middle	1.56	24.2
A mix of genders#High	1.58	24.2
Number of observations	*28,967*	

Note: Estimates are in the form of unstandardized regression coefficients.
Marginal effects depict the predicted value of life satisfaction if everyone in the sample belonged to that specific group.
The full model includes the following controls: siblings, friends, education, subjective socioeconomic status, self-rated health, symptoms of depression, perception of discrimination and index of spirituality.
The models with interaction terms consider the main effect (or individual effect of gender composition and economic well-being) to be zero.

Predictors of life satisfaction by level of economic well-being: Table 4.4 shows the effect of the predictors on life satisfaction for each level of economic well-being. Among the poorest and poor, or groups with low economic well-being, the gender composition and residential proximity of children are not significantly associated with life satisfaction. The significant predictors of

higher life satisfaction are having friends (b=0.49 p≤0.05), completion of schooling ($b_{\text{secondary school}}$=1.92 p≤0.001, $b_{\text{high school}}$=1.71 p≤0.001), higher subjective socioeconomic status, the perception that one is in fair to very good health ($b_{\text{fair health}}$=3.43 p≤0.001, $b_{\text{good health}}$=3.70 p≤0.001, $b_{\text{very good health}}$=5.35 p≤0.001) and greater spirituality (b=0.27 p≤0.001). Hypothesis 5 is thus not supported. Further, controlling for all predictor variables, for every unit increase in the depression index, life satisfaction is predicted to decrease by 0.77 units (p≤0.001). Feeling discriminated against due to age or other social differences is also associated with lower life satisfaction (b_{age}=-0.87 p≤0.05, $b_{\text{social differences}}$= -2.91 p≤0.001).

Among groups with middle-level economic well-being, the gender composition and residential proximity of children of children are also not significantly associated with life satisfaction. The significant predictors of higher life satisfaction are having siblings (b=1.12 p≤0.05), higher subjective socioeconomic status (b=0.61 p≤0.001), the perception that one's health is good (b=3.59 p≤0.001), and greater spirituality (b=0.27 p≤0.001). As a corollary to this, life satisfaction is predicted to be lower with depression (b=-0.76 p≤0.001) and with feeling discriminated against due to age or other factors (b=-1.05 p≤0.05, b= -2.56 p≤0.001 respectively).

Among those with the highest level of economic well-being, compared to residence with unmarried children, having a non-coresident child outside the country is significantly associated with life satisfaction (b=2.31 p≤0.001), as is coresidence with a married child. Other factors associated with higher life satisfaction are having siblings (b=1.78 p≤0.001) and friends (b=0.62 p≤0.05), attainment of secondary schooling and college education (b=1.48 p≤0.001, b=1.95 p≤0.001 respectively), higher subjective socioeconomic status, the perception of being in very

good health (b=4.10 p≤0.001) and greater spirituality (b=0.21 p≤0.001). In contrast, life satisfaction is lower with depression and experiencing discrimination due to age.

Taking the full sample into consideration, I find that a mix of gender of children, having a sibling, friends, completing at least primary education, higher subjective socioeconomic status, higher self-rated health, and spiritual engagement significantly and positively predict life satisfaction among elderly parents. Having the closest non-coresident child outside one's city/town/village but within the same state, showing symptoms of depression, and experiencing discrimination are negatively associated with life satisfaction. Life satisfaction increases with each unit increase in the level of perception of health.

Table 4.4. Effects of predictors of life satisfaction among varying levels of economic well-being, among older adults in India, 2019-21

	Level of economic well-being						**Full sample**	
	Low		**Medium**		**High**			
	Coeff.	*β*	**Coeff.**	*β*	**Coeff.**	*β*	**Coeff.**	*β*
Gender composition of children								
Only daughters	Ref		Ref		Ref		Ref	
Only sons	0.61	0.030	0.25	0.013	-0.51	-0.026	0.08	0.00
Mix of daughters and sons	0.84	0.046	0.2	0.012	0.59	0.035	0.63*	0.04
Residential proximity of children								
Coresidence with only unmarried children	Ref		Ref		Ref		Ref	
Coresidence with at least one married child	0.41	0.027	0.18	0.012	0.94*	0.061	0.54*	0.4
The nearest non-coresident child lives in same city/town/village	-0.47	-0.023	0.48	0.028	-0.02	-0.001	-0.02	-0.00
The nearest non-coresident child lives within state	-0.84	-0.021	-1.04	-0.034	-0.55	-0.021	-0.74*	-0.02
The nearest non-coresident child lives outside state	0.44	0.004	1.06	0.013	1.1	0.016	0.87	0.01
The nearest non-coresident child lives outside country	0.56	0.003	-4.53	-0.023	2.31***	0.020	0.89	0.00
Has siblings	1.16	0.046	1.12*	0.042	1.78**	0.064	1.38***	0.05
Has friends	0.49*	0.027	0.45	0.028	0.62*	0.038	0.53**	0.03

Education								
Never been to school	Ref		Ref		Ref		Ref	
Less than primary (up to grade 4)	0.65*	0.028	-0.03	-0.001	-0.09	-0.004	0.27	0.01
Primary (grade 5-7)	0.95**	0.037	0.18	0.008	0.4	0.017	0.62**	0.03
Middle school (grade 8-9)	0.87*	0.026	0.82	0.029	1.88	0.068	1.44*	0.05
Secondary school (10^{th} grade)	1.92***	0.054	0.38	0.013	1.48***	0.059	1.43***	0.05
High school	1.71**	0.029	1.41*	0.033	1.39**	0.038	1.54***	0.03
Some years of college education	1.22	0.020	-0.87	-0.025	1.95***	0.065	1.24**	0.03
Subjective socioeconomic status	0.68***	0.174	0.61***	0.173	0.49***	0.133	0.69***	0.09
Self-rated health								
Poorest	Ref		Ref		Ref		Ref	
Poor	2.33**	0.126	1.41	0.077	0.97	0.052	1.75***	0.09
Fair	3.43***	0.226	2.01*	0.139	2.44**	0.159	2.88***	0.19
Good	3.70***	0.216	3.59***	0.228	2.16*	0.125	3.25***	0.19
Very good	5.35***	0.123	3.30**	0.085	4.10***	0.113	4.56***	0.11
Depression index	-0.77***	-0.175	-0.76***	-0.176	-0.76***	-0.173	-0.77***	-0.18
Perception of discrimination								
Not felt discriminated	Ref		Ref		Ref		Ref	
Experienced discrimination perceived due to age	-0.87*	-0.028	-1.05*	-0.036	-1.09*	-0.035	-0.94***	-0.03
Experienced discrimination perceived due to other social differences	-2.91***	-0.121	-2.56***	-0.104	-1.90	-0.078	-2.34***	-0.10
Engagement in spirituality	0.27***	0.169	0.27***	0.177	0.21***	0.134	0.25***	0.16
Constant	*16.07*		*18.60*		*18.18*		17.13	
Number of observations	*11,917*		*5,909*		*11,141*		*28,967*	

Note: β refers to standardized beta coefficients calculated without cluster-robust standard errors.
The p-values of the F-tests of each model are significant at $p \leq 0.001$.
* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$.

DISCUSSION

Elderly well-being is increasingly becoming important for policy in developing countries. In India, the total fertility rate has fallen below 2.1 in many regions, and life expectancy at the ages of 60 and 80 has dramatically increased (UN 2019). With these demographic changes, it is

estimated that in 2050 there will be more than 250 million people aged 65 and up, around 15 percent of India's population (UN 2019). This study gives us a snapshot of the well-being of this cohort of the 1940s to the 1960s. While on the positive side, a large proportion of older parents do not show symptoms of depression and do not report experiencing any discrimination; only a third feel that they are in good health, and an even smaller proportion perceive that they belong to a higher socioeconomic group.

Meaningful relationships, education, employment, good health, positive perceptions of aging, and religiosity have been shown to be associated with higher elderly life satisfaction in other contexts (Khodabakhsh 2022, Pinquart & Sörensen 2000, Steptoe et al. 2015, Wurm & Benyamini 2014). Similarly, I find that subjective socioeconomic status, self-rated health, absence of discrimination, and the degree of spirituality emerge as the most critical predictors of life satisfaction among older adults in India. This is found across levels of economic well-being. Education has a significant effect on life satisfaction only when individuals have completed secondary or high school education. College education is only a significant predictor among the wealthy. The findings suggests that policy and civil society efforts must address social and economic inequalities for improving the well-being of the elderly.

Cartensen (2021) argues that when the time horizon grows shorter, as with age, older people selectively construct smaller and more meaningful social networks and spend time with close social contacts. This increases the value of friends and close social contacts. However, for this sample, only a fourth of the elderly report having friends. Further, the positive influence of siblings and friends on life satisfaction is largely seen among the wealthy. This could be further probed as it is likely that the word 'friends' connotes a different meaning among different class groups. For instance, the word 'friend' in Hindi is associated with having time for leisure and in

contexts where an individual's interests and feelings are greatly valued. In the Indian context, neighbors or kin may serve the purpose as friends. Many elderly individuals may interact with them regularly, but not associate them with the literal translation of the word 'friend'.

This chapter seeks to empirically test the normative belief that a son is needed for elderly parents to feel satisfied in life. Although a large majority of elderly parents reside with a married son, life satisfaction is enhanced by having at least a daughter and a son. Hence, a large proportion of families practice the widely held norm of coresidence with a married son but are likely to have higher life satisfaction when they also have a daughter, in addition to a son. The effect of the gender of children on life satisfaction does not significantly vary by the level of economic well-being, suggesting that its effect is independent. As a predictor of parental well-being, it is of secondary importance compared to having a secure and comfortable life. Das Gupta (2011) finds that Indian states with institutional structures in place for greater physical and social security of life have made greater gains in other aspects of human development, such as health. The findings suggest that for the value of daughters to rise, the narrative of healthy aging needs to challenge the belief that sons are necessary for elderly well-being and focus on making strides in healthcare and standard of living.

The degree of residential closeness with children is important to older adults in two ways. First, after controlling for factors such as education, subjective socioeconomic status, self-rated health, and degree of spirituality, coresidence with children continues to be associated with increased life satisfaction, but only among the economically well-off. This could be explained by culture, that among wealthier families, coresidence with children facilitates a family business or helps control and keep land/property in the family. Further, wealthier families can afford larger and more comfortable living spaces, reducing the stress of living closely with family members (if

any). The effect of children's marital status and residential proximity is not significant among parents belonging to the middle and lower economic groups, for whom other predictors are of greater importance in predicting life satisfaction.

Second, having the closest child residing abroad increases life satisfaction, but only among the wealthy. Wealthier families are likely to have the resources and networks to sponsor their children to go abroad and subsequently maintain frequent contact/visits when their nearest non-coresident child lives abroad (Knodel 2014). Further, these families may benefit from the relatively larger remittances received because of which they can live independently or without having children nearby. Having a child abroad could also be associated with higher status, hence greater life satisfaction (Knodel 2014, Kumar & Kumar 2019).

Reduced expectations from sons for old age support may also lower future son preference, as seen in South Korea, Japan, Taiwan, Hong Kong, and China (Chun & Das Gupta 2021). Politico-economic changes such as universal pension systems, rising standards of living, gender-equitable norms, expansion of women's employment, and migration of children have changed how children offer support to their elderly parents in these regions (Chun & Das Gupta 2021, Ngoo et al. 2015, Xie & Zhu 2009, Yeung et al. 2018). Intergenerational ties between daughters and elderly parents have increased. And since parents have financial support from sources other than children, expectations of emotional support have come to the foreground (Chun & Das Gupta 2021, Oh et al. 2017). Emotional closeness with a daughter and a shift away from duty-based support from sons and their wives could strengthen and raise the value of daughters in themselves (Chun & Das Gupta 2021).

Further investigation will help answer additional questions. What influences life satisfaction among those who do not have any children? How does this vary by class? Given that a fair

proportion of women have lost a spouse and that life expectancy among women is going to be higher, will this increase dependence on sons or children nearby? How is intergenerational support maintained between parents and children living abroad? How does the gender and marital status of non-coresident children living in residential proximity of children affect life satisfaction? Does the birth order of children influence how children of a mix of genders offer support to their elderly parents? And how does intergenerational support differ between patrilineal and matrilineal communities? Also, since India is economically and culturally heterogenous, state-wise analysis of the patterns of intergenerational support and their associations with elderly life satisfaction should be further examined (Das Gupta 2011, Ray et al. 2019).

More variables, if included in the dataset, could help answer some of these questions. The dataset did not have the marital status of non-coresident children, because of which I could not compare life satisfaction between married non-coresident children and married coresident children. It is also difficult to know the reason because of which a small proportion of elderly parents report that their married daughters are residing with them. It is unclear if this is a social norm associated with matriliny or a temporary arrangement in a patrilineal system. The answer to this question can help us understand the extent to which daughters are accepted for old age care and support.

CHAPTER 5

CONCLUSION

This dissertation investigates if and how the norms and practices that support son preference have become equitable and the implications this has on the value of daughters in India. At the national-level, I find that the preference for sons has been steadily declining, and a large proportion of the decline can be attributed to changing social norms. However, daughters are often valued when they have at least one brother since a large majority of families prefer both a daughter and a son. Certain norms like community support for women's employment, wives' participation in the decision to visit their natal family, and a belief that husbands should not use violence against their wives are associated with lower son preference. Although the preference for sons over daughters is declining, norms and practices that support son preference have been slower to change. For instance, husbands are often still considered to be the primary decision-makers regarding wives' visits to their natal families; there is also considerable regional variation in this belief. Greater participation of women in this decision, or a patrilineal bargain, is needed for married daughters to maintain close contact with their elderly parents and to be able to offer them support. Interestingly, the gender of one's children is not the most critical predictor of life satisfaction among older adults in most economic groups, as is widely believed. Higher subjective socioeconomic status, self-rated health, spiritual engagement, and absence of discrimination are more important in positively influencing life satisfaction among elderly parents. The findings suggest that the narrative of healthy aging needs to further disassociate the belief that sons and their wives are necessary for elderly well-being.

Policy implications

Raising the value of daughters is a policy goal in regions where son preference has been strong, such as in South Asia (Brunson 2010, Jejeebhoy et al. 2015, Sekher 2012, UNFPA & UNWomen 2014, Zaidi & Morgan 2016). Although it is difficult to gauge the impact of the policy efforts that have been put in place in these regions, this study deepens our understanding on how policy might contribute to increasing the value of daughters as son preference declines. The market, media and civil society will also need to play a role. A few policy implications include the following.

First, the narrative of most policies in India constructs and focuses on expanding parental resources among those with unmarried and young daughters. Policy narratives also need to highlight the role of married daughters, and parental expectations from them. This narrative should not only construct the roles of daughters as those who can offer elderly care, but also needs to challenge the normative belief that sons are solely important for parents in older age.

Second, reliable systems of financial and residential security need to be extended to all older adults. Although children are mandated by law to provide care to their elderly parents, healthcare, housing, and pension systems need to be put in place for all individuals so that the concept of aging is not always connected with being 'dependent' on children, especially sons. Healthy aging needs to be a process that can occur independent of children. Positive notions of aging that culturally exist can be reinforced.

Third, as life expectancy increases, the demand for care work will increase. Care work is disproportionately carried out by women. This also reinforces the need for a 'daughter-in-law' to offer instrumental care. Gender-transformative programs designed to promote gender equity in

care work and challenge traditional notions of femininity and masculinity can have long-term effects on changing the meaning of care and expanding access to care.

Fourth, equity in care work also has the potential to raise women's labor force participation. This will give adult daughters greater access and control over resources and bargaining power in the marital household, increasing intergenerational support between elderly parents and married daughters.

Fifth, policies need to promote gender-equitable relationships between married spouses (or partners in union). Such relationships are free of violence and marked by healthy communication, which will likely favor wives to maintain close contact with their natal family after marriage. Policies can be strengthened on our understanding of region-specific gender norms.

Limitations

Although it is known that sons are preferred in patrilineal systems, the characteristics of families who prefer daughters is not well-known. However, in my analyses I could not compare the socioeconomic or kinship-related characteristics of families who prefer daughters with those who prefer sons or a balance of both due to insufficient sample size of reports of daughter preference. It is not clear whether daughter preference is closely associated with individual-level traits or socioeconomic characteristics (such as education), or cultural structures (such as matriliny). Matriliny is not a dominant form of kinship system in India, however, and the few studies among matrilineal communities such as the Nairs in Kerala and the Khasis in Meghalaya suggest that these groups have become less egalitarian over the decades (Abraham 2017, Nongbri 2000).

This research does not make causal claims. For instance, it is difficult to ascertain if parental fertility preferences are shaped by the gender composition of children, or if the gender composition of children shapes fertility preferences. In addition, while higher subjective socioeconomic status, self-rated health, spiritual engagement, and absence of discrimination are associated with higher life satisfaction among the elderly, it cannot be said if and how these relationships are causal.

The analyses could have been strengthened if certain variables had been available in the datasets. For instance, knowing the marital status of both coresident and non-coreresident children could help compare elderly well-being among more types of families. In addition, there was very little information on the quality of the husband-wife relationship and specific factors associated with visiting wife's family (such as the distance). Both sorts of variables may play a role in the decision-making process surrounding natal family visits.

Directions for further research

Since this research aims to find ways to raise the value of daughters based on our understanding of the norms and practices associated with son preference, I suggest four areas of mixed method research as a next step.

First, the norms and practices in matrilineal communities could be compared with practices in patrilineal communities[47]. This would strengthen our understanding of the ways in which gender and kinship systems can be less discriminatory toward daughters. Are daughters preferred over sons in matrilineal communities? What role do they play with their brothers in such communities? Are they expected to offer financial and residential support to elderly parents, or do parents have other systems of support? How are the gender systems in matrilineal

communities different from patrilineal communities in the ways in which decisions to visit kin are made? A cross-cultural investigation that considers the regional and socioeconomic differences among these communities would also give us insight if the value of daughters is shaped by the kinship system or the broader culture and socioeconomic structure (Dube 1995). It could help to examine the literature that suggests that patrilineal practices have emerged in some of these communities in the last decades and use such research studies to examine how gender norms become less gender-equitable (Abraham 2017, Cotter et al. 2011, Nongbri 2000).

Second, the processes and challenges by which married daughters in patrilineal communities visit their natal family and offer support to their elderly parents needs to be further investigated. A few studies suggest that parents have become more accepting of married daughters for old-age support compared to the past, but we know less about how these changes have taken place, and the extent to which such an attitudinal change has allowed women to offer support (Larsen & Kaur 2013, Patel 2020, Shah 2014). Further, even when parents accept support from married daughters or show no preference for sons, they may be unable to escape strongly held sociocultural norms that enforce patrilineal practices. This has been found in other South Asian contexts such as in Bangladesh and Nepal (Asadullah et al. 2021, Brunson 2010).

In 2019, I conducted in-depth interviews with middle-class married women in Delhi who were offering support to their elderly parents. Most were financially independent. I found that the kind of support women offered was primarily shaped by the characteristics of siblings and the quality of their marital relationship. Their parents discouraged financial and residential support, but these women navigated through the patrilineal system to maintain close connections and offer care and support when possible. Women's actions were shaped by factors such as the presence of a brother, the sibship composition (birth order, marital status of siblings, distance

from siblings), coresidence with in-laws, the conjugal bond, the presence of a sister in-law, and distance from parents. Financial autonomy gave women more power to offer support to their parents. Support was framed as one that came from the daughters themselves and not from the marital family, they 'belong' to. Longitudinal analysis with the second wave of the Longitudinal Aging Study in India could be a next step to examine the changing situation and needs of older adults and the possible ways by which intergenerational ties can be maintained.

Third, the impact of policies and laws such as the Hindu Succession Act 2005 and the Maintenance and Welfare of Parents and Senior Citizens Act 2007 would be critical for understanding the challenges in transforming deep-rooted norms that support son preference. The Hindu Succession Act 2005 amendment grants daughters the right to inherit property. My qualitative study found that women do not think it is appropriate to ask for their share of parental property, or they often prefer that their brothers manage it. It is unclear how such a law can help raise the value of daughters. The Maintenance and Welfare of Parents and Senior Citizens Act 2007 mandates daughters with the legal responsibility to care for elderly parents, just as sons (UNFPA & UNWomen 2014). Again, we know little about whether parents and children are aware of these provisions, are adhering to them, and in either case why or why not.

Fourth, although in some contexts we know which characteristics and experiences make certain men qualitatively different and more gender-equitable than other men, a nuanced understanding of this in India would be insightful since South Asia is known to be one of the most gender-inequitable regions in the world, and progress has been slow (Levtov et al. 2014, UNDP 2020). Providing a supportive environment to such men, who stand with wives and sisters might facilitate a closer connection of married children with their elderly parents irrespective of the gender of children, and improve the ways care and support is made.

Open research

The datasets used for this research are publicly available, and these can be accessed upon registration. Analyses in Chapter 2 are based on a selected sample of women interviewed in the five rounds of the India Demographic and Health Survey. Women's responses are available in the "individual recode (IR)" file. Chapter 3 uses three rounds of the India Demographic and Health Survey couple data. Couple's responses are available in the "couple recode (CR)" file. These datasets are available on the Demographic and Health Survey website: https://dhsprogram.com/data/available-datasets.cfm.

Analysis in Chapter 4 is based on a selected sample of individuals interviewed in the Longitudinal Aging Study in India. The dataset is available on the Gateway to Global Aging Data website: https://g2aging.org/downloads.

The datasets do not have individual identifiers.

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APPENDIX

A1. Population composition of selected demographic characteristics of women, India 1992-2019

	NFHS-1 1992-93	NFHS-2 1998-99	NFHS-3 2005-06	NFHS-4 2015-16	NFHS-5 2019-21
Birth cohort					
1954 or before	22.4	9.5	NA	NA	NA
1955- 1964	32.8	26.1	21.2	NA	NA
1965- 1974	40.7	38.9	33.2	21.6	13.9
1975- 1984	4.1	25.5	38.3	33.5	31.2
1985- 1994	NA	NA	7.3	38.7	38.0
1994 and later	NA	NA	NA	6.2	16.9
Region					
South	23.3	23.0	22.0	24.2	20.6
Central	23.2	23.2	23.7	21.2	23.2
East	21.7	22.5	23.7	21.7	24.2
Northeast	3.8	3.6	3.4	3.2	3.7
West	15.4	15.0	14.3	16.2	14.1
North	12.7	12.7	13.0	13.6	14.2
Religion					
Hindu	83.1	82.9	82.0	81.4	81.4
Muslim	10.6	11.5	12.9	13.4	13.6
Christian	2.4	2.4	2.2	2.3	2.1
Sikh	2.1	1.7	1.6	1.4	1.7
Other	1.8	1.5	1.4	1.4	1.2
Urban residence	27.0	26.5	30.9	34.7	31.1
Standard of living					
Poorer	NA	31.2	38.4	35.5	38.9
Middle	NA	46.6	20.0	20.4	20.5
Richer	NA	21.0	41.6	44.1	40.6
Mean age	30.0	30.4	31.3	32.8	33.4

Education					
No education	58.9	51.4	46.7	31.1	27.3
Primary	16.8	17.0	15.4	14.0	13.8
Secondary	20.5	23.1	31.9	44.0	45.8
Higher	3.8	8.6	6.0	11.0	13.1
Frequency of watching TV					
At least once a week	34.1	46.9	51.6	71.5	47.1[48]
Women's employment					
Not employed	68.3	63.7	57.5	69.5	69.0
Technical/managerial/clerical	0.2	2.4	2.9	3.0	3.3
Sales/services	5.0	1.6	4.3	4.5	5.3
Agricultural/manual	26.4	32.3	35.4	23.0	23.4
Mean number of children at the community-level	2.66	2.63	2.46	1.99	1.95

Appendix A2: Gender system indicators by state, prevalence in 2019-21 and percent change from 2005-06

	Wife: cohabiting before 18		Wife: has no bank account/money to decide on		Wife: justifies violence in at least one situation		Husband: witnessed father perpetrate violence against mother	
State	**NFHS-5: 2019-21**	**Percent change**	**NFHS-5: 2019-21**	**Percent change**	**NFHS-5: 2019-21**	**Percent change**	**NFHS-5: 2019-21**	**Percent change**
Andhra Pradesh	56	-21	17	-61	85	11.2	46	-5
Arunachal Pradesh	33	-44	16	-72	34	-51.6	27	-26
Assam	40	-19	14	-80	33	-18.5	15	1
Bihar	53	-28	14	-68	38	-31.8	16	-44
Chhattisgarh	44	-36	11	-83	28	-8.2	19	-13
Delhi	11	-70	11	-79	37	6.2	19	19
Goa	33	-27	15	-59	31	-46.4	4	-77
Gujarat	35	95	15	-59	32	-19.1	12	-44
Haryana	21	-38	10	-85	16	-50.6	6	60
Himachal Pradesh	15	-75	11	-82	53	16.1	12	-18
Jammu & Kashmir	50	-31	13	-64	29	-44.3	18	5
Jharkhand	39	4	7	-84	80	24.4	40	532
Karnataka	13	-76	16	-56	55	-19.1	8	-71
Kerala	48	130	17	-72	36	-44.4	12	-62
Madhya Pradesh	37	2	19	-70	48	-8.6	20	39
Maharashtra	18	-68	16	-71	63	16.8	34	46
Manipur	27	4	17	-76	32	-64.0	9	-71
Meghalaya	18	-73	19	-70	28	-44.3	13	-58
Mizoram	22	-16	32	-61	26	-66.2	5	-50
Nagaland	32	-14	21	-68	19	-75.5	20	83
Odisha	36	-38	8	-87	49	-23.0	17	-10
Punjab	20	-42	12	-82	25	-54.7	10	-48
Rajasthan	40	-43	12	-82	35	-40.8	11	-43
Sikkim	28	-24	13	-78	30	-58.9	7	-44
Tamil Nadu	24	-38	5	-93	80	16.5	49	-9
Tripura	49	-7	13	-81	29	-44.5	14	54
Uttar Pradesh	42	-10	13	-78	44	-16.1	19	15
Uttarakhand	36	-44	13	-66	23	-50.0	8	-63

West Bengal	57	-9	14	-77	43	2.5	17	-29

	Norm: Husband decision-maker of major household purchases		Practice: Husband decision-maker of major household purchases		Wife: prefers sons over daughters		Husband: prefers sons over daughters	
	NFHS-5: 2019-21	**Percent change**	**NFHS-5: 2019-21**	**Percent change**	**NFHS-5: 2019-21**	**Percent change**	**NFHS-5: 2019-21**	**Percent change**
Andhra Pradesh	28	-32	45	-50	6	-40	13	-7
Arunachal Pradesh	15	-56	26	-26	27	-12	25	-26
Assam	18	42	23	-29	15	-45	17	-17
Bihar	27	-2	36	-49	37	-15	28	-37
Chhattisgarh	22	217	39	-67	18	-54	20	-32
Delhi	13	-28	28	-54	7	-47	2	-84
Goa	26	16	36	-63	18	-31	19	-17
Gujarat	14	-9	31	-51	12	11	13	-7
Haryana	11	8	36	-57	9	-27	9	-23
Himachal Pradesh	36	295	37	-18	28	2	28	24
Jammu & Kashmir	19	153	26	-49	27	-16	20	-33
Jharkhand	59	276	49	-50	15	-45	17	-38
Karnataka	16	-34	44	-62	7	-44	14	-10
Kerala	28	-14	32	-41	17	87	15	31
Madhya Pradesh	29	30	16	10	8	-36	13	-42
Maharashtra	30	1	32	-52	22	22	36	91
Manipur	17	-18	11	19	17	-45	19	-53
Meghalaya	10	-76	44	-90	23	-36	36	5
Mizoram	12	-68	11	-81	21	-22	27	-36
Nagaland	15	-49	17	-16	9	-61	10	-67
Odisha	26	-8	36	-59	15	-49	15	-41
Punjab	23	106	39	-67	11	-45	12	-24
Rajasthan	31	-22	52	-62	20	-48	20	-34
Sikkim	24	150	18	-15	13	-18	29	35
Tamil Nadu	23	-35	36	-55	8	23	12	41
Tripura	29	28	50	-70	10	-46	15	-26
Uttar Pradesh	34	146	41	-60	28	10	29	79
Uttarakhand	12	-17	33	-57	16	-59	12	-65
West Bengal	28	-5	58	-71	12	-34	21	7

[1] These words have been taken from a UN WIDER video (2013) that features a conversation with Amartya Sen. I have selected excerpts from the conversation and slightly paraphrased these for brevity.
[2] Other tools, such as the Coombs Scale and the Multi-response Fertility Preference Scale, offer rigorous measurement of gender preferences, although such data are not available in the DHS (Stash 1996).
[3] The desired sex ratio is calculated from the ideal gender composition of children.
[4] Union territories differ from states as they are partially or fully administered by the national government.
[5] Key differences between the five surveys are that (a) all include the state of Sikkim except for NFHS-1, and (b) Surveys from NFHS-3 and onwards include newly created states carved out of existing states since 2000. The reorganization does not change the regional categorization of these newly formed states. In addition, (c) NFHS-4 and NFHS-5 also include data from six to seven union territories.
[6] In NFHS-2, the 'Standard of Living' is a three-category variable (low, medium, high) constructed from a sum of scores given to various household assets (IIPS and ORC Macro 2000). NFHS-3 to NFHS-5 contain a five-category wealth quintile developed with principal component analysis of household assets (IIPS and ICF 2017).
[7] In NFHS-1 and NFHS-2, women were asked, "*Do you usually watch television at least once a week*?" to which they could answer 'yes' or 'no.' In NFHS- 3 and NFHS-4, women were asked, "*Do you watch television almost every day, at least once a week, less than once a week, or not at all*?" and could give one of the four responses in the question. In NFHS- 5, the phrase 'almost every day' has been dropped from the question. It now goes, "*Do you watch television at least once a week, less than once a week, or not at all*?" to which women could give one of the three responses in the question.
[8] Depending on the type of variable (nominal, ordinal, interval or ratio), community-level variables can be constructed as proportions or means.
[9] These variables are created from women's responses to (a) their work status in the last 12 months and (b) the type of occupation they are engaged in. Occupation types are largely pre-grouped in the datasets, viz. not working, technical/managerial, clerical, sales, services (household/domestic), agricultural, manual, and do not know.
[10] That is, technical/managerial, clerical, sales, services, agricultural, manual, and those who do not know the type of the occupation they are engaged in.
[11] The traditional form of gender bias, son preference, is associated with population-level distortions, which the other forms of gender preferences are not.
[12] Between 2015-16 and 2019-21, both daughter preference and son preference declined amongst these groups.
[13] I am thankful to two anonymous reviewers for their insights and helpful comments.
[14] Gender is considered binary in this research.
[15] Although less than one percent husbands report having additional wives, this does not affect the sample. Additional wives were not interviewed.
[16] In the 2005-06 survey, a few responses to these questions were missing (n=28 women, n=19 husbands).
[17] Around 0.4 to 0.7 husbands reported 'do not know/depends' (n=285, 314, and 263 for the survey years 2005-06, 2015-16, and 2019-21, respectively). All these cases have been dropped from the dataset (Seidu et al. 2021).
[18] This category also includes a small proportion of women who reported 'someone else/other.' This likely reflects that someone other than the wife has authority over this decision.
[19] Compared to age at marriage, age at cohabitation is a realistic measure of residing in the marital household since, in certain parts of the country, marriage implies a ceremonial union that may not immediately proceed with the bride's residence with her husband.
[20] All these variables are significantly associated with either the norm or practice at $p \leq 0.01$ or higher, based on Chi2 tests.
[21] 1.85 in NFHS-3, 1.52 in NFHS-4 and 1.29 percent in NFHS-5.
[22] n=1,920 (includes 21 missing cases) in NFHS-3, n=1,490 in NFHS-4 and n=863 in NFHS-5
[23] n=3,125 (includes 19 missing) in NFHS-3, n=3,087 in NFHS-4 and n=2,416 in NFHS-5. Since respondents are asked according to as far as they know, it is difficult to gauge what is meant by the response of 'do not know.'
[24] n=119 in NFHS-3, n=145 in NFHS-4 and n=92 in NFHS-5. Only 1 case was missing in NFHS-3 for women.
[25] Among wives, this varied from 0.62 to 1.8 percent. Among husbands, this ranged from 1.5 to 1.7 percent.
[26] I did not find any patterns in the responses coded as missing for these variables of the gender system, except that a larger proportion of the response of 'don't know' to the questions on justification of violence by husbands, husband's experience of witnessing violence by their fathers and son preference are among those belonging to lower wealth quintiles.

[27] Only 1 case was missing in NFHS-4 for husband's employment status.
[28] This does not include an analysis of trends in the following regions: Andaman & Nicobar Islands, Chandigarh, Daman & Diu & Dadra & Nagar Haveli, Ladakh, Lakshadweep, Puducherry, and Telangana. Data for all three years is not available for these regions.
[29] Telangana (in the south) seems to be conservative, while Chandigarh (in the north) and Lakshadweep and Puducherry (in the south) tend to be less conservative. Data for these regions are available for the last five years only, because of which the patterns and trends over the previous 14 years cannot be compared with other states.
[30] I want to thank the experts at the DHS User Forum for their guidance on analyzing the datasets.
[31] Data collection for the second wave has been delayed due to the COVID-19 pandemic.
[32] Data for the one state of Sikkim was collected later, in 2020-21. This sample includes data from Sikkim.
[33] Among those aged 60 or older, 1,215 had no living children (3.8 percent).
[34] Prof T.V. Sekher and Manoj Patange (IIPS) played an encouraging role in using the LASI dataset. Thank you!
[35] This includes the number of total children, children alive, gender of children, and marital status of children.
[36] These also include responses of 'refused' and 'do not know'.
[37] Eight percent of individuals have one living child.
[38] This is the current marital status. It cannot gauge whether the child had been married earlier or not. The marital status of non-coresident children is not available in the dataset.
[39] There are 28 administrative states and eight union territories in India.
[40] This variable is used in two ways to measure 'closeness' or proximity of children in H_2. First, I compare coresidence with at least one child, irrespective of their marital status (=1) with residence with no children (all other categories=0). Second, I compare coresidence with at least one child or having the nearest non-coresident child in the same administrative state (=1) to having the nearest non-coresident child living in another administrative state or outside the country (=0).
[41] The question asked to respondents captures living and deceased siblings. Information on their age of death is not available. By including this variable, I intend to capture longer experiences of the individual's life course, for which it is not imperative for the sibling to be currently alive.
[42] Respondents were asked two different questions on self-rated health. In the computer-assisted questionnaire, any one question came up randomly at the beginning of the interview and the other toward the end. Although both questions are worded slightly differently and have different response options, evidence suggests that these differences are immaterial to the predictive value of this measure of self-rated health (Fayers & Sprangers 2002, Jylhä 2009). I use the question recommended by the WHO.
[43] These are not used in the multivariate analysis because they are not significantly associated with life satisfaction. In total, these variables have 128 missing cases (0.44 percent).
[44] For categorical variables, coefficients of all the categories were checked for significance at $p \leq 0.001$.
[45] Interaction terms are used if the independent variable (e.g. gender composition of children/residential proximity) has a different effect on the outcome (e.g. life satisfaction) depending on the values of another independent variable (e.g. level of economic well-being).
[46] Standardized beta values represent the change in life satisfaction associated with change in one standard deviation unit of the predictor variable, conditional on the other predictors remaining constant.
[47] The literature needs to shed more light on bilateral communities in India.
[48] It is unclear why there has been a decrease in the percentage of women reporting that they watch TV at least once a week. I confirmed these figures with the DHS User Forum and they are correct (December 19, 2022). One possible explanation is that more women are spending time on using mobile phones either for news or entertainment or to talk to family, because of which they are watching less TV. Another explanation could be that the coding of the question has changed between the last two survey years, which could influence how the question is perceived during the interview process.