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Working paper

# Seclusion and women's time: descriptive evidence from India

# Seclusion and Women's Time: Descriptive Evidence from India

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## Abstract

We use rich time-use data on where, and how, individuals spend their time to explore women's seclusion in India. We document extremely high levels of seclusion with the median woman leaving home for just 0.5 hours/day. Seclusion has increased markedly over the past two decades, particularly amongst poorer and less-educated women, although richer and more-educated women remain the most secluded. Both between- and within-activity differences in seclusion contribute to the gender gap and, within market work, women specialize in jobs suitable for homeworking but these are lower paid. Our findings suggest households are willing to pay for women's seclusion.

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## Introduction

Leaving home and moving independently within one's community allows for making friends, participating in politics, enjoying leisure activities, and pursuing well-remunerated and meaningful work. Therefore, constraints on women's mobility may significantly impact their mental, physical, and economic wellbeing. Such constraints may result in a gendered allocation of labor based on what can be done inside the home, rather than on men's and women's relative talents or preferences. Similarly, such constraints may affect how women allocate their leisure time, leading to gender inequalities in the quality of leisure.

In this short paper, we provide new evidence on female seclusion in India, a context with strict gender norms and salient safety concerns surrounding women's mobility. To this end, we use data from India's two Time Use Surveys, which took place two decades apart in 1998 and 2019. Together, these data provide a detailed record of the activities – and, importantly, the location of those activities – that 500,000 individuals engaged in during every half hour on the day preceding the survey. From our analysis, five key facts emerge.

**Fact 1. Women experience very high levels of seclusion.** In 2019, the mean time married adult women in India spent away from their home was 2.2 hours, the median was 0.5 hours and 45% did not leave home at all. By comparison, married men spent a mean of 8.7 hours outside, a median of 9.5 hours and just 4% didn't leave home. Women did far less paid work outside the home than their male counterparts but also engaged in substantially less outside leisure, socializing, and chores. Women's seclusion is highest in states with the most skewed sex ratios.

**Fact 2. The gender gap emerges during adolescence and peaks in young adulthood.** Girls' and boys' time use looks remarkably similar but as young women transition out of school and into marital life, time spent outside of the home declines sharply. Women are most secluded at age 25 when the average woman's day contains just 2 hours outside the

home and when over half don't leave home at all.

**Fact 3. Seclusion has increased over time especially among poorer households.**

**However, women from richer households remain the most secluded overall.** Between 1998 and 2019 women's time outside the home *fell* by 30%, and the share of women not leaving the home on a given day increased threefold. In 1998, and still today, we document a negative socioeconomic gradient in women's time outside whereby richer and higher-educated women are the most secluded. However, the slope of this gradient has flattened considerably over time as increases in seclusion have been most marked among poorer and less-educated women.

**Fact 4. Within- and between-activity differences in seclusion both contribute to the overall gender gap.**

We use the granular coding of activities to show how both within- and between-activity differences in seclusion create the aggregate gender gap. For virtually all of the 165 activities in our data, women are more likely to engage in that activity at home than are men. However, many activities cannot be done at home, and the more we see *men* doing an activity outside, the less women participate in the activity. This holds separately within paid labor, unpaid labor, and leisure activities as well as on aggregate.

**Fact 5. The suitability of different jobs for seclusion correlates positively with women's participation in them and negatively with wages.**

Focusing on paid work activities – and particularly those jobs in the manufacturing sector – we show that the suitability of different jobs to be done from home (as measured by *men's* propensity to do them from home) strongly positively correlates with women's participation in them. By linking our time use data to wage data at the industry level, we show evidence on the economic costs of seclusion since jobs suitable for home working tend to be lower paid.

While our facts are descriptive and we cannot draw firm causal conclusions about the causes and consequences of seclusion, we conclude with a brief discussion about mechanisms that appear consistent with and plausible given the patterns we find. We suggest that our results are consistent with households having a positive willingness to pay for female seclusion rather than high seclusion being driven only by women being tied to a set of tasks – e.g. cooking, cleaning – that must primarily be done from home. We suggest that this positive willingness to pay for seclusion is consistent with the temporal and cross-sectional patterns we see, that seclusion appears to increase as economic constraints relax. Finally, we comment on the economic costs to households of abiding by seclusion norms.

We contribute to several literatures. First, we contribute to quantifying female seclusion. A rich interdisciplinary literature has long documented the social pressure households often face to abide by institutions that physically separate women from men, such as purdah, as well as highlighting how abiding by such practices impacts the organization of men's and women's time (Papanek, 1979; Amin, 1997; Kabeer, 2001; Devi and Kaur, 2019). Much of this literature has noted that, to the extent that practicing female seclusion is economically costly, better-off households may be able to abide by such norms more fully (Miller, 1982). Such norms are often reinforced by safety concerns, both by women and their families, about women occupying public spaces (Amaral et al., 2023; Chakraborty et al., 2018; Siddique, 2022). Recent work has quantified the degree of female seclusion in India by documenting how small women's social networks are (Anukriti et al., 2020, 2022; Kandpal and Baylis, 2019; Andrew et al., 2024). To the best of our knowledge, this is the first paper to quantify female seclusion in terms of time spent outside of the dwelling, an objective and easily comparable measure. Our estimates are nationally representative for the most recent wave of data and representative of six major Indian states in 1998. The timespan of this data also allows this paper to document, for the first time, the marked rise in women's seclusion over the past 20 years. Over the same time, very high levels of seclusion have gone from being the experience of the richest women to the experience of most women.

Second, we contribute to a literature on women’s work, both paid and unpaid, and gender inequalities in the labor market in India and other contexts with gendered seclusion norms. India’s low and, until recently, declining (Fletcher et al., 2019; Li, 2023) rate of women’s labor supply has co-existed with rapid economic growth and massive increases in women’s education. Recent work has highlighted the role of norms of female seclusion, safety concerns, small social networks, women’s lack of control over household resources on the labor supply side (Jayachandran, 2021; Field et al., 2021) and discrimination and a lack of part-time and flexible jobs on the demand side (Fletcher et al., 2019). Focusing on the role of seclusion, a recent study in West Bengal by Ho et al. (2023) shows that being able to work from home drastically increases women’s propensity to take up a job, even holding other aspects of job flexibility constant. The evidence we present, using a huge sample representative of the Indian population at large, suggests the centrality of seclusion in the division of paid and unpaid work between men and women, and the specific work activities taken on by women within both paid and unpaid work. Women consistently take on activities and roles that are more amenable to being done within the home and, when it comes to market work, these roles are frequently the worst remunerated.

Finally, this work relates to a small literature on inequalities in the quality, as well as the quantity, of leisure time. Previous work has highlighted how multi-tasking and interruptions can hamper the quality of leisure time (Sevilla et al., 2012). Krueger (2007) shows substantial variation in how much people report enjoying different leisure activities. We show that women in India disproportionately participate in leisure activities that are more passive and can be done within the home, activities which Krueger (2007) found that people reported as less enjoyable. Our work thus suggests that the location constraints that women face during their leisure time may reduce the quality of their leisure.

In the next section, we describe the data and how we use it. We then present our results structured around our five “facts” before briefly concluding.

## Data and methods

We use publicly-available data from the 2019 and 1998 India Time Use Surveys (TUS).<sup>1</sup> The 2019 TUS covered 138,798 households sampled from every State and Union Territory. Data was collected from every available household member aged six years old and above, resulting in 445,299 individuals. We use sampling weights throughout our analysis to ensure representativeness at the national level. The 1998 TUS was designed as a pilot survey for the eventual nationwide survey and had a smaller sample size: 63,269 respondents in the 6 states of Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya. Thus, whenever we compare data across waves, we restrict the 2019 sample to the 6 States surveyed in 1998.<sup>2</sup>

Across both waves, time use was collected via enumerator-administered diaries, which have been shown to perform well relative to the “gold standard” of high-frequency visits (Field et al., 2023). Beginning at 4 a.m. on the day before the interview up until 4 a.m. on the day of the interview, the enumerator asked the respondent to chronologically report all activities they had done. The enumerator recorded each activity’s start and end time to the nearest half an hour and classified tasks into one of 165 codes using the International Classification of Activities for Time Use Statistics 2016. They then asked several follow-up questions, including whether the activity was performed “within [the] premises of the dwelling unit of the selected household” or “outside the dwelling”.<sup>3</sup> Respondents could report up to three activities within a 30-minute slot and respondents reported more than one activity in 9% of slots. In these cases, we assume the slot was divided equally between all activities mentioned.

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<sup>1</sup>Data and documentation available from: <http://mospi.nic.in/time-use-survey-0>

<sup>2</sup>Further details on data and sampling in appendix A which also includes descriptives for the 6 States covered by the 1998 TUS.

<sup>3</sup>For activities outside the dwelling, enumerators also asked whether they were carried out in a fixed location. We do not use this distinction.

Unless otherwise indicated, we restrict our core analysis to currently married women and men of working age (18-64 years). This leads to a working-age sample of 245,743 individuals. We relax these restrictions and use all available data only in Figure 2, panels (d) and (e), to explore differences in time allocation across all ages including unmarried respondents.

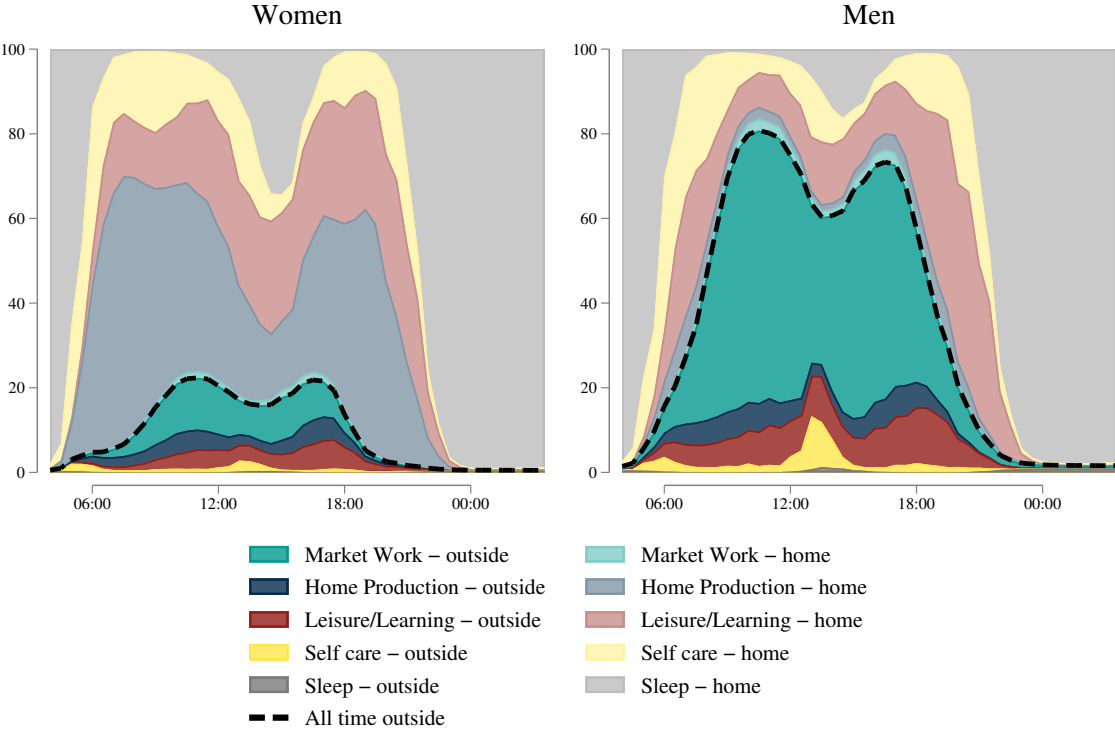
To simplify exposition, most of our analysis focuses on 5 aggregate categories of activities: market work, home production and care work, leisure and learning, self-care, and sleep. *Market work* includes self-employment and all instances where a respondent supplies labor to firms, other households, or the community, whether paid or unpaid, regularly or on a casual basis. *Home production and care work* includes the production of goods or services for a respondent's own household and care for children or other household members. Given our focus on the working-age married population, we aggregate leisure and learning into a single category as time spent in education is low for this group (less than 1% of leisure and learning hours are accounted for by education). The details of which activities are included in each category, for both surveys, are provided in appendix tables A.2 through A.7.

Figure 1 plots the percentage of working-age women and men doing each of the five broad groups of activities at every point of the day. For each, we distinguish whether activities took place within the household's dwelling (in the paler shade) or outside (the deeper shade). The black line plots the percentage of women and men outside of their dwelling at every time during the day.

Even at this aggregate level of analysis, striking gender differences are immediately apparent. Women begin their day earlier than men, with 86% awake by 6:00 against 70% of men. There are two peaks in male outdoor activity during the day, one at 10:30 and one at 16:30, when 81% and 73% of men are found out of the home. In contrast, only 22% of women are outside the home at each of these times. Women return home earlier and by 18:30 90% of female respondents are home.



**Figure 1:** Share of respondents engaged in each activity through the day, by gender and location



**Notes:** 2019 TUS data. The sample includes married women and men, aged 18-64 years old. For each 30 minute interval, the graph reports the share of women or men engaged in each activity-location pair. Sampling weights used throughout.

**Fact 1: Women experience very high levels of seclusion.**

We begin by documenting just how secluded, on average, married women in India are together with the magnitude of gender gaps. While working-age married men spend a mean of 8.7 and a median of 9.5 hours outside their home, the corresponding figures are 2.2 and 0.5 hours for woman (Figures 2(a) and 2(b)). Substantial differences emerge at the extensive margin too: 45% of working-age married women report not leaving the home at all on the day before the survey, compared to 4% of men (Figure 2(c)).<sup>4</sup> Figure 2(a) also breaks down

<sup>4</sup>Appendix Table B.1 and Appendix Figure B.1 provide more detail on the distribution of time outside the home.

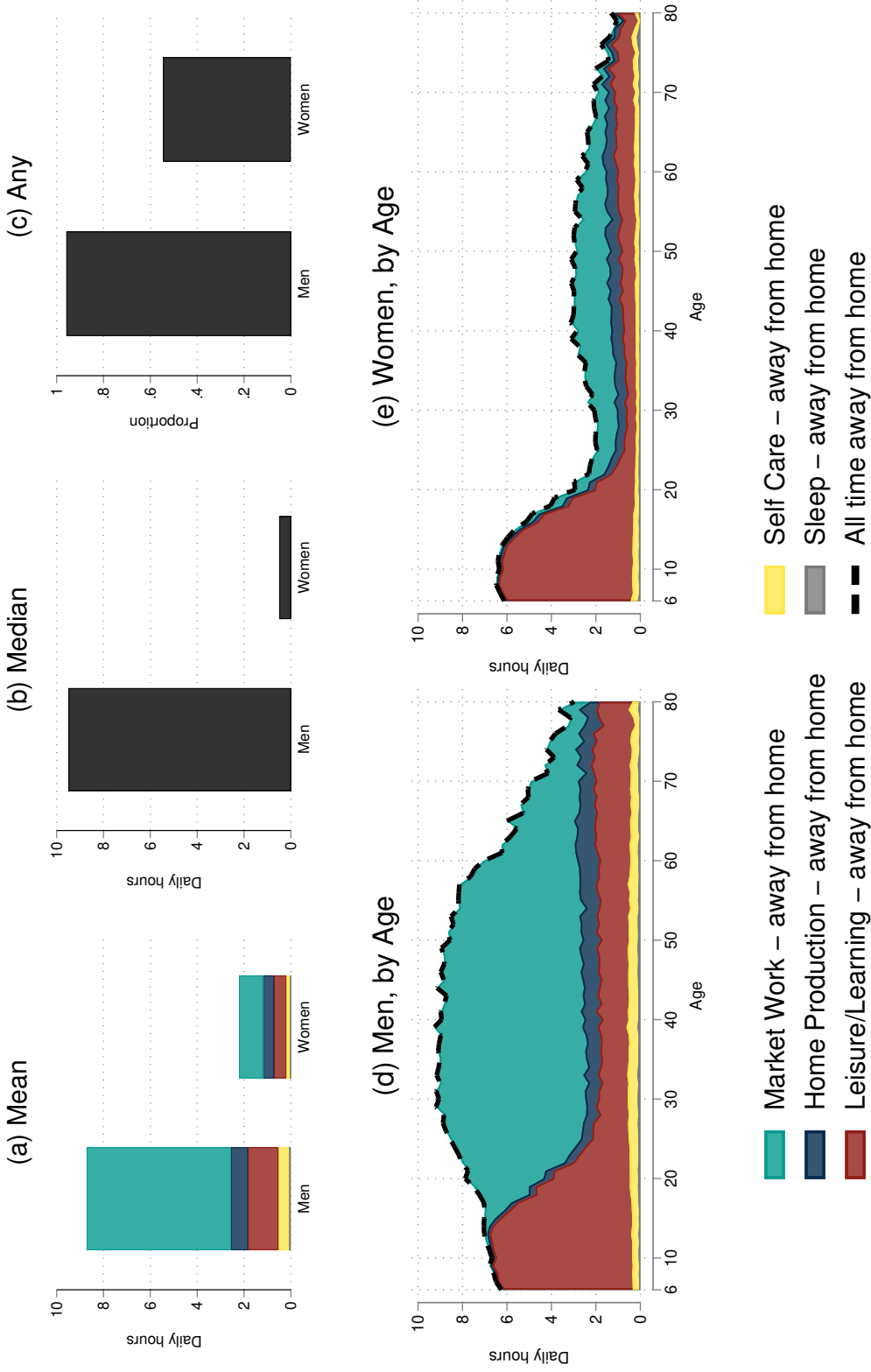
time spent outside the home by activity: we see that while there is a vast gender difference in market work away from home, women also do substantially less leisure and chores outside their homes.<sup>5</sup>

Looking at variation across states, we see that in states with more skewed sex ratios (i.e. more missing women), women spend less time out of their home (i.e. women are more hidden); the correlation coefficient here is  $r = 0.40$  whereas no such correlation exists for men (Appendix Figure B.2). When it comes to economic development at the state level, we see that in more prosperous states both women and men spend more time outside the home (Appendix Figure B.3).

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<sup>5</sup>Appendix Tables B.2 and B.3 provide a more detailed breakdown across activities.

Figure 2: Time Away From Home, by Gender



**Notes:** 2019 TUS data. The sample for panels (a) through (c) includes married women and men, aged 18-64 years old. The sample for panels (d) and (e) includes all household members (married and unmarried) aged 6 to 80. Panel (a) reports the mean time away from home by gender, split by activity. Panel (b) reports the median time away while (c) shows the proportion of men and women who reported no time away from home. Panels (d) and (e) show the average number of daily hours spent in each group of activity outside of the home, by respondents' age. Sampling weights used throughout.

## **Fact 2: The gender gap emerges during adolescence and peaks in young adulthood.**

We next explore how female seclusion varies over the lifecycle. Figures 2(d) and 2(e) show the mean number of hours spent outside the home in different activities by age and gender for all (married and unmarried) respondents in the data.

For young children, there is no discernible gender gap in time allocation. On average, both boys and girls spend roughly 6 hours per day outside of the home and almost all of this time is spent in leisure or learning activities (appendix figure B.4). The time girls spend out of the home peaks at age 11, when the average is 6.4 hours against 6.7 hours for boys. Children of both genders make comparable time investments in learning (appendix figure B.5). By age 14, time outside for girls and boys start to diverge. This is driven initially by a sharp increase in seclusion for girls. This persists throughout adolescence and early adulthood when most women transition out of school and into marital life. Women aged 25 are the most secluded: the average 25 year old woman spends just 2 hours outside and, on an average day, 51% do not leave their home at all.

An opposite trend for young men contributes to the emergence of a huge gender gap. Between the ages of 18 and 30, the time men spend outside the home increases, peaking at 9 hours in their early 30s. As a result, by age 30, the gender gap in outside activities reaches its maximum of 7 hours. Women in their 30s and 40s spend slightly longer outside than younger women, reducing the gender gap by one hour. The gap reduces further with age, settling at 2 hours a day in old age, as men leaving employment.

Marriage is strongly associated with women's seclusion: at all ages married women are more secluded than their unmarried peers although since over 80% of women are married by age 25 little variation exists at older ages (Appendix Figure B.6). Conversely, married men spend more time away from home than unmarried men do. A key idea, which we discuss further in our conclusions, is that women's seclusion might be partially driven by

being tied to caring responsibilities that need to happen at home. In Appendix Figure B.7, we do see evidence that married women with children, and in particular young children, in the household and those without other married women in the household to share chores with do experience slightly higher levels of seclusion. However, even married women who appear to have fewer caring responsibilities experience remarkably high levels of seclusion. We observe that within a household, women's time outside is positively correlated.<sup>6</sup>

**Fact 3: Seclusion has increased over time especially among poorer households. However, women from richer households remain the most secluded overall.**

By comparing the Time Use Surveys from 1998 and 2019, we explore how female seclusion has evolved over time. These two decades have been characterized by sustained economic growth, the emergence of new jobs and employment opportunities, and the steady closure of gender gaps in schooling. As discussed in the Data and Methods section, we can draw these comparisons only for the six states included in the 1998 TUS.

Between 1998 and 2019, while the average time men spent outside of their homes witnessed only minimal changes, women have become substantially more secluded. Figure 3 shows that the mean number of hours women spent outside has fallen from 3.98 to 2.68 – a 33% decrease – (Figure 3(a)), the median time has fallen by two-thirds (Figure 3(b)), and the share of women not leaving the home on an average day has grown threefold – from 12% to 38% (Figure 3(c)).

In Figure 3(a), and in Appendix Figure B.10, we break down these changes by activity type. We see that the overall drop in women's time outside the home has been driven, by roughly equal extents, by a drop in outside market work outside, a drop in outside home

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<sup>6</sup>We observe an intraclass correlation of 0.34 among women aged 41-64 living in the same household and of 0.19 for women aged 18-40.

production outside and a drop in outside self care outside. Time spent doing market work at home has fallen substantially from 0.65 hours per day to 0.18 hours. At the same time, leisure inside the home (but not outside leisure) has risen dramatically from 2.77 hours per day to 3.79 hours per day. In later sections, we discuss indicators of the quality of women's leisure.

We explore how patterns of seclusion have evolved with respect to key indicators of socioeconomic status. The bottom panels of Figure 3 explore the changing patterns of heterogeneity in female seclusion with respect to households' expenditure and women's education while Appendix Tables B.7 through B.14 show that these patterns are robust to including basic controls.

Panel (d) plots the mean number of hours women and men spend out of the home across the quintiles (calculated within states and survey wave) of households' monthly expenditure per capita. In 1998 (red line), a clear negative relationship linked the two variables, with both men and women from richer households spending significantly less time out of the home than their poorer counterparts. The difference was particularly marked for women: while those in the poorest quintile spent on average 5.0 hours outside the home, the number falls to 2.4 hours per day for the richest. Over two decades, however, this relationship has flattened considerably (dark blue lines). This is true for both women and men, with a crucial difference: while men from all expenditure quintiles have converged at the mean, towards the middle of the 1998 distribution, women have moved towards the much higher degree of seclusion experienced by the richest women in 1998. Nevertheless, it remains the case that in 2019 women in richer households remained more secluded overall. Interestingly, the proportion of women who leave the home *at all* has seen less convergence than has mean time outside (panel (e)): In the 6 comparable states, women from the highest-expenditure households were, in 2019, 14 percentage points less likely to have left home at all on the reference day than women from the lowest-expenditure households. This difference in the extent of convergence on aggregate and on the extensive margin is partly due to a small

rise in women from the richest households who reported being outside the home for eight or more hours (see Appendix Figure B.12).

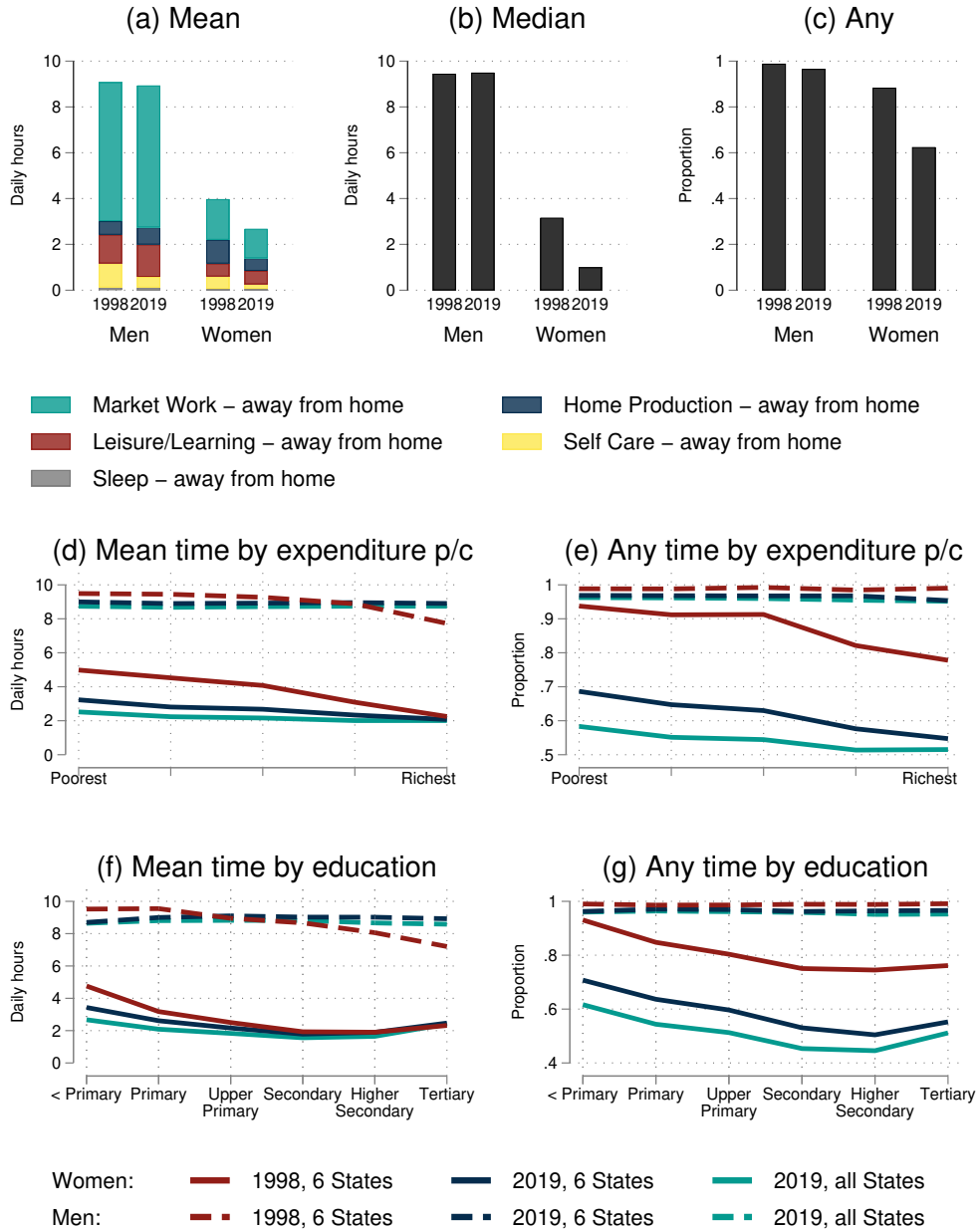
We see a similar pattern with respect to women's education in panels (f) and (g). In both 1998 and 2019, we observe a U-shaped relationship between women's education with female seclusion increasing monotonically with education up until Standards 10 and 12 and then reducing slightly for women with tertiary education. Interestingly, Klasen and Pieters (2015) document a similarly U-shaped relationship between schooling and female labor force participation in India. While the broad U-shape remains, it has flattened considerably with time (panel (f)). Two decades ago, women with less than primary education spent 2.5 times as much time outside their home on average than their secondary-educated peers, but the corresponding ratio for 2019 was just 1.9.<sup>7</sup> Similarly to patterns by expenditure, the U-shape remains more pronounced on the extensive margin of women spending *any* time outside of the home (panel (g)). This is in part driven by an increasing (but still small) share of highly-educated women who now have hours outside the home that are much more comparable to men (see Figure B.12).

In Appendix Tables B.4 and B.5 we see similar patterns with respect to caste and urban/rural status: women from more advantaged caste groups and in urban areas were more secluded in 1998 and are more secluded today although the gap has reduced over time.

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<sup>7</sup>Appendix figures B.8 and B.9 expand on this evidence and show, for 2019, how the hours women spend outside the home engaged in different activities vary along these dimensions.

**Figure 3: Changes over time and by expenditure and education**



**Notes:** 2019 and 1998 TUS data. The sample includes married women and men, aged 18-64 years old. Panels (a) and (b) show, respectively, the mean and median number of daily hours spent outside the home by gender and survey wave. Panel (a) additionally decomposes mean time outside into its different constituent activities. Panels (d) and (f) report the mean number of hours spent outside of the home daily by household expenditure quintiles and by respondents educational attainment while panels (e) and (g) show the same gradients for the proportion of respondents who reported any time outside of their home. In panels (d) to (g), we plot aggregates using the full 2019 sample, 2019 data restricted to the 6 States surveyed in 1998, and 1998 data. Details on how household expenditure is computed can be found in Appendix A. Sampling weights used throughout.



**Fact 4: Within- and between-activity differences in seclusion both contribute to the overall gender gap.**

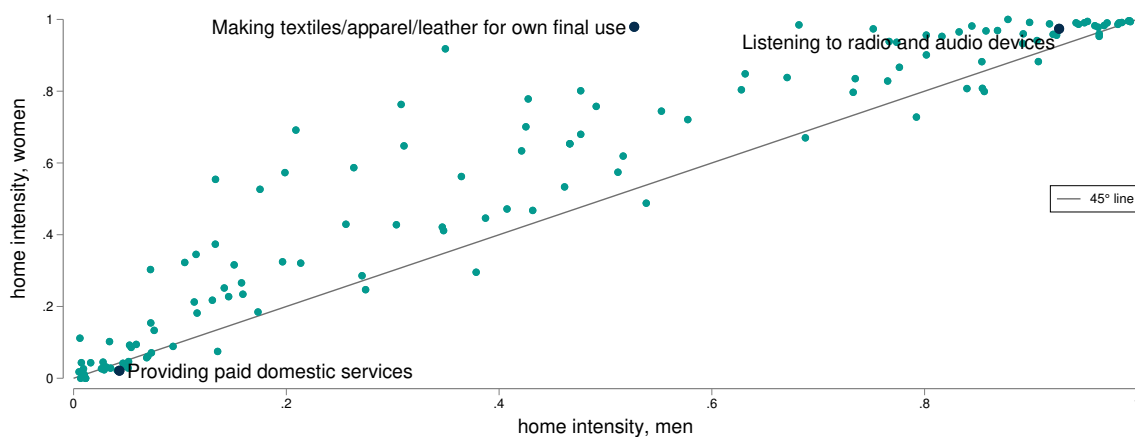
Overall gender gaps in seclusion may be driven by (i) gender differences in the allocation of time *between* activities, and (ii) differences in the location of men and women *within* a given set of activities. In other words, women may do activities that are more likely to be done in the home (by both genders). In addition, or alternatively, women may be more likely to perform a given activity within the home than men. In this section, we show that both margins are important.

As noted previously, activities are coded into one of 165 different categories. For each of these, Figure 4(a) plots the fraction of instances we observe women performing that activity at home (as opposed to outside of the home) against the equivalent share for men. With few exceptions, women are more likely to do any activity at home than are men. Of course, certain activities are more suitable, or even unique, to specific locations. For example, “Employment in corporations, government and non-profit institutions” takes place almost exclusively outside of home, while “Listening to radio and audio devices” is done almost entirely within the dwelling by both women and men. However, there are many activities that we observe being done at high frequency both within and outside of the dwelling. We can think of these activities as having fewer intrinsic location constraints. If it is the case that women are more location-constrained – whether due to their preferences, their families’ preferences, social norms, safety concerns or needing to multitask with domestic work – then it is precisely for these flexible activities that we would expect gender gaps in location to emerge. Figure 4 confirms that this is indeed what we see. For instance, “Making, processing textiles, wearing apparel, leather and related products for own final use”, when done by men, is done by at home 55% of the time, while the corresponding figure for women is 96%.

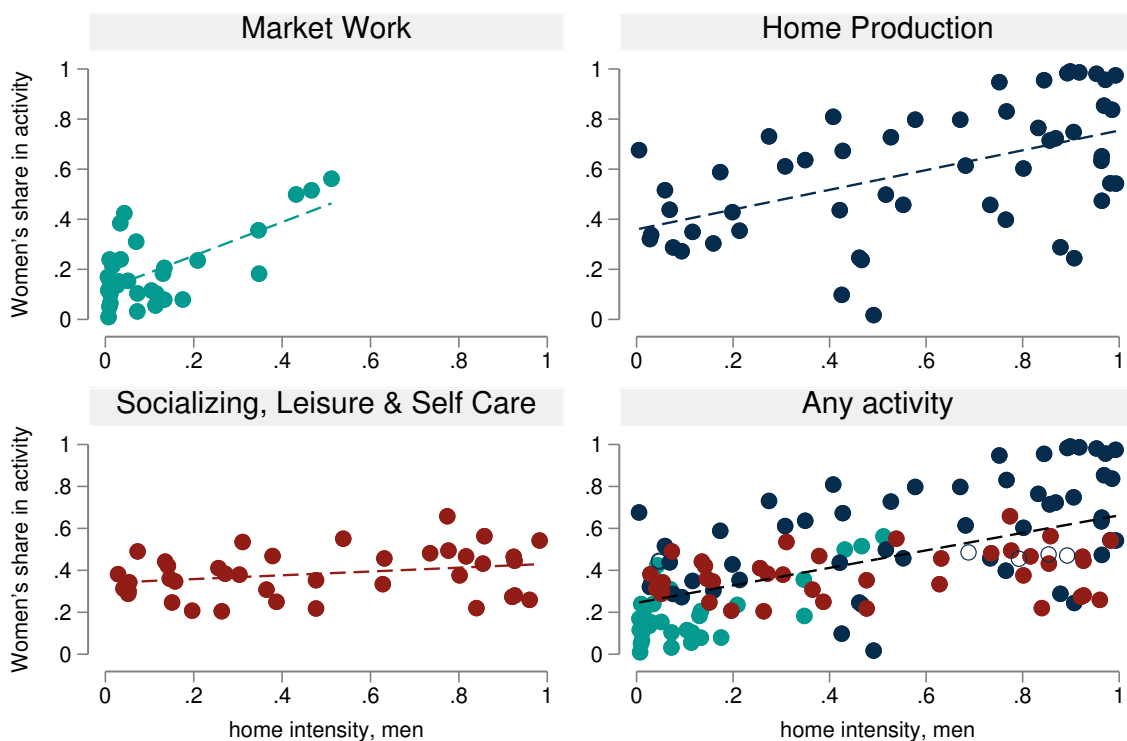
Where there is little scope to move the activity inside, or when doing so comes at a

**Figure 4: Gender gaps, within and between activities**

(a) Proportion of time women do each activity at home compared to men



(b) Correlation between activities' home suitability and women's participation



**Notes:** 2019 TUS data. The sample includes men and women, aged 18-64 years old and married. On the “Any activity” plot, market work, home production and socializing and leisure are marked in green, navy and red respectively. The clear markers show other activity types. *Home intensity* refers to the share of times each activity is performed within the dwelling, as opposed to outside. Tasks that account for less than 0.005% of total respondent time are not plotted.

significant cost to the efficiency or enjoyment of that activity, a positive willingness to pay for seclusion may lead women to opt out of that activity entirely. Indeed, Figure 4(b) shows that the allocation of activities between women and men appears highly correlated with the extent to which activities can be done at home. For each activity, the figure shows women's share in total hours logged for that activity (total hours by women/total hours) against the proportion of time we observe the activity being done at home when done by men. Within each of three broad classes of activities – (i) market work, (ii) home production and care work, and (iii) leisure – we see that the more an activity is done inside (when done by men), the more women engage in it. In the last panel, we put all these classes of activities together and observe the same positive relationship. We consider this highly suggestive that the gendered allocation of activities is shaped around the potential for seclusion. Our evidence suggests this is true both between broad classes of activities – for instance, contributing to why women do an overwhelming proportion of chores which, on average, are more suitable to be done at home while men take on a disproportionate share of paid work – and in the allocation of tasks within these broad categories.<sup>8</sup>

Two areas where it is particularly informative to consider how a preference or positive willingness to pay for female seclusion might affect how women and men spend their time are leisure and market work. We discuss the implications for the latter in “Fact 5” and turn our attention here to leisure.<sup>9</sup> Appendix Figure B.13 shows that women dedicate slightly less time to leisure activities than men, a daily average of 4.3 and 4.6 hours respectively. Figure B.13 and Table B.15 show how this time is allocated to distinct groups of activities, by gender and location. Familiar patterns emerge. First, women are more likely to engage in activities that are predominantly done in the home, such as watching TV or sitting. However, leisure activities usually done outside the home, such as playing sports, which is done outside

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<sup>8</sup>In Appendix C we formally decompose the seclusion gap into its between and within components, showing that they are equally important quantitatively.

<sup>9</sup>For this analysis we focus on pure leisure, we drop educational activities.

the home 74% of time by men (and 58% of time by women) are disproportionately done by men. We see women playing sports for just 16% of the time we observe for men. We likewise see gender gaps in time spent participating in community, social, and religious events, activities that almost always happen outside of the home. Second, regardless of the leisure activity, women are more likely found within the home. These figures suggest that overall leisure time may hide inequalities in the *quality* of leisure. Subjective ratings of the qualities associated with different leisure activities collected by Krueger (2007) suggest that people typically get more enjoyment out of leisure activities that have a social component and are performed outside.

**Fact 5: The suitability of different jobs for seclusion correlates positively with women’s participation in them and negatively with wages.**

Female labor force participation is an important component of the seclusion gap. About 80% of married men in our sample engage in market work activities leading them outside of the home for close to 8 hours per day on average. In contrast, the share of adult married women doing any market work outside the home on the reference day is below 10% up until age 25, and grows to around 25% for those in their 40s (appendix figure B.14). Gender gaps also emerge on the intensive margin, with women who work outside the home doing so for about 6 hours per day on average. This section shows evidence consistent with the idea that, conditional on women engaging in market work, they specialize in tasks that are more suitable for home working and that tend to have lower wages.

The first panel in Figure 4(b) already showed that women engage more in market-work activities that can more easily be done from home. However, some activity codes – such as “Employment in corporations, government and non-profit institutions” – cover many different types of work. In order to provide a more granular characterization of work, we use information from time diaries together with respondents’ reports of the *industry*

of employment and define as *jobs* each paid activity-industry combination. For instance, among individuals who list their industry as manufacturing furniture, some of the most frequent work activities are the “making and processing of goods” and “vending and trading of goods”. We consider these as two distinct *jobs*. At the level of these jobs we then analyze how the suitability of the job for home working relates to women’s participation in it and to wages. We focus our analysis and discussion on jobs in the manufacturing sector since this is the only major sector where we see a reasonable number of jobs being done at home for a substantial fraction of spells.<sup>10</sup>

In Figure 5(a), we plot – for the 25% most frequently observed jobs in manufacturing which together account for 83% of paid-work time slots for respondents coded as working in manufacturing – the frequency with which that job is done at home (by men) against women’s share in that job. Again, we see a positive relationship: Jobs that are more frequently done at home have a greater share of women participating. For instance, we observe that “repair[ing] and install[ing] ... machinery and equipment” is virtually never done at home and is virtually never done by women. At the other end of the spectrum, activities involved in the manufacturing of tobacco products are done at home more than half the time when done by men (and upwards of 95% of the time when done by women). Correspondingly, we estimate that women supply four-fifths of the hours devoted to this job. Likewise, we see that it is fairly common to manufacture textiles and clothes within the home and that these jobs have a greater-than-average representation of women.

We have shown that when they engage in market work, women disproportionately work in jobs that can be done from home. Is there an economic cost to this? Figure 5(b) suggests there may be. Again focusing on manufacturing, for each manufacturing industry we plot the proportion of time that we observe men working inside the home against the male average hourly wage observed in that industry in the 2019 Periodic Labour Force Survey.

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<sup>10</sup>In Appendix Figure B.17, we repeat our analysis with jobs in all sectors and find the same pattern. Predictably, though, there is a huge mass of jobs concentrated in the low-homeworking, low-female-participation corner of the joint distribution.

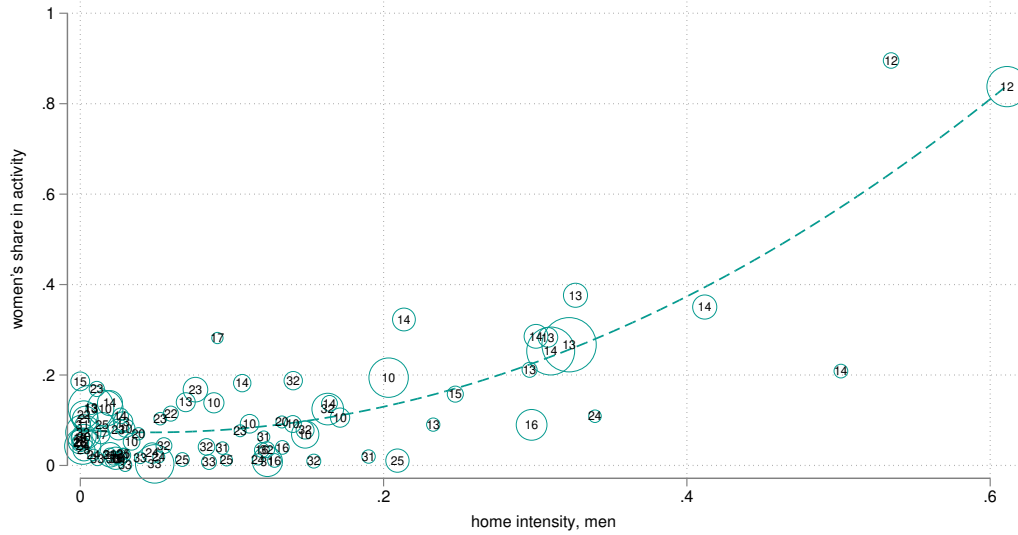
We see that industries where working from home is more common are those with the lowest wages. Here we show this in terms of the male hourly wage but in Appendix Figure B.18, we show this pattern is also true for female hourly wages. Likewise, here we show results after we have removed age, education, and state-by-urban effects from wages but we in Appendix Figure B.18 we show very similar patterns simply using raw hourly wages.<sup>11</sup>

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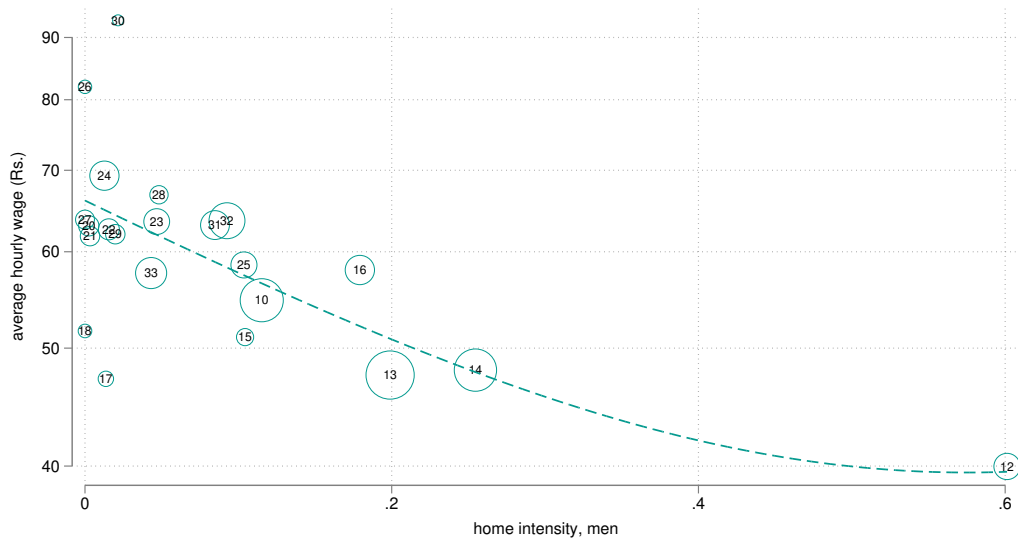
<sup>11</sup>The relationship between jobs suitability to the home environment and wages is negative also for jobs in the service sectors. However, there is much less variation in home suitability within these industries.

**Figure 5: Paid work and jobs' home suitability.**

(a) Home working and women's participation in manufacturing industries



(b) Home working and male wages in manufacturing industries



**Notes:** In panel (a) each observation is a *job*, i.e. a unique combination of industry (following NIC 2008 classification and labelled in the figure, see Appendix Table A.8 for key) and task (3-digit activity code). *Home intensity* on the horizontal axis represents the share of times men are observed to be at home when engaged in each task according to the 2019 TUS survey. The vertical axis reports, for each job, the share of women in total hours. In panel (b), instead, the vertical axis reports average male wages in each industry, residualised against age, educational attainment, and state-by-urban fixed effects. Wage data from the Periodic Labour Force Survey, 2019. Both panels focus on the manufacturing sector only, and markers' size is proportional to the frequency of each job/industry in TUS 2019 data.

## Conclusions

The analysis in this paper is descriptive, and we don't attempt to draw firm causal conclusions about the causes or consequences of the patterns we see. We consider an important value in outlining these facts to be demonstrating the usefulness of granular data on the location of time for understanding women's seclusion. We see another as showing a series of stark quantitative patterns that future work can explore. Nevertheless, we do contend that the various nuanced patterns we show are suggestive of the mechanisms at play.

Several patterns we have presented are suggestive of households holding a positive willingness to pay for female seclusion. We cannot speak to whether such an inclination for seclusion comes from private beliefs or preferences, social norms (Bursztyn et al., 2020; Field et al., 2021) or safety concerns (Amaral et al., 2023; Chakraborty et al., 2018; Siddique, 2022), or whether such inclinations belong to male or female decision makers. Nevertheless, three patterns are suggestive that high rates of seclusion are not *only* driven by women being tied (by preferences or by comparative advantage) to a set of activities that just happen to take place at home but that, instead, households are willing to pay a price to secure seclusion. First, within-activity seclusion gaps show that women are more likely to do any task within the home, suggesting that where there is scope to adjust the location of an activity, women frequently take it. This fits with women in India being far more likely to take home-working jobs even holding constant other aspects of job flexibility (Ho et al., 2023). Second, while many of the activities that are both done predominantly by women and predominantly at home are activities (such as cooking or cleaning) where gender norms may well dictate that it is desirable for women to take on these roles, we also observe many activities – such as manufacturing cigarettes – where there is no particular reason to think that gender norms or comparative advantage would explain women's high participation. For these activities, it seems more likely that women's participation is driven by these activities' suitability to be done from home. Third, we see very high levels of seclusion even for women who are



likely to face a lower burden of home-based chores including those without young children and those living in households with many other married women.

Consistent with the notion of households being willing to pay or undergo costly actions to achieve female seclusion, we see evidence that the loosening of economic constraints is associated with more seclusion. This holds both in the cross section, where women from richer households experience higher seclusion, and over time where two decades of economic growth and rising male incomes have been associated with an increase in seclusion. These patterns are suggestive of an income effect whereby households adopt more seclusion as seclusion becomes more affordable. Both the cross-sectional and temporal patterns suggest that adopting more seclusion comes not only through reducing women's outside market work but also through reducing the share of home production, self-care, and leisure activities done outside the home. Moving these other types of activities within the home could be costly if it requires investments in new home-production of indoor-leisure technologies. While small in magnitude, we do see evidence of growing divergence and heterogeneity. In the 2019 data (but not two decades earlier) we see evidence of a multi-peaked distribution for the non-secluded time of richer and more educated women where a small proportion of these women experience much lower levels of seclusion that are more akin to men.

When it comes to the consequences of women's seclusion, this work cannot say much about impacts on health or wellbeing although we note that previous work has documented strong negative correlations between alternative measures of seclusion and mental health and empowerment (Andrew et al., 2024; Kandpal and Baylis, 2019; Jayachandran et al., 2023). Our analysis has more to say about the possible impacts of seclusion on work and wages. Focusing on both market work activities in general and then jobs within the manufacturing sector in particular, we see that women are disproportionately concentrated in activities and jobs that can be done from home. We then see that jobs that are amenable to home working come with lower hourly wages. This penalty could arise for various reasons – from a direct

hit to workers' productivity associated with home working (Ho et al., 2023), to a desire for female seclusion creating a segmented labor market where women are disproportionately crowded into secluded jobs driving down the wage (Bergmann, 1974). Regardless, our evidence suggests that pressures for seclusion are likely to weaken women's earnings.

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## A Data

### A.1 2019 data

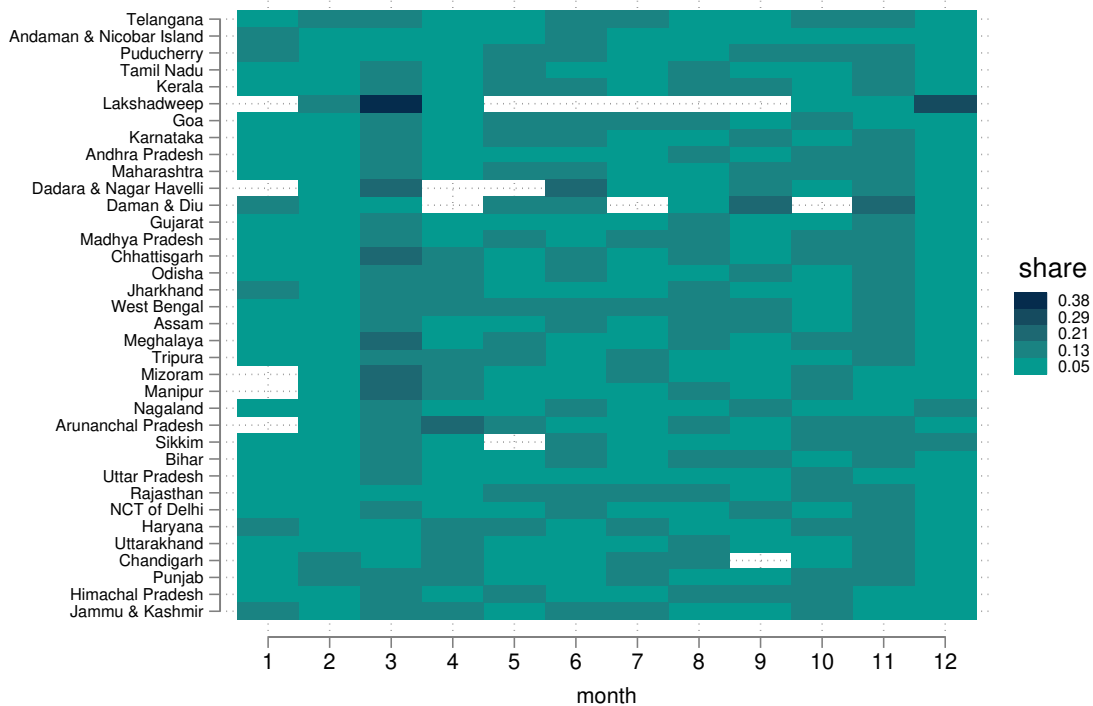
The 2019 Time Use Survey (TUS) provides nationally representative data on the time allocations for half a million individuals. The study employed a stratified multi-stage design to ensure wide coverage. The main features of the sampling strategy are as follows. First, the Union territory was split into small geographical areas – *first-stage units (FSU)* – of approximately equal population, following 2011 Census data and MoSPI projections. Within each region defined by the Nation Sample Survey, FSUs were drawn at random stratifying by urban/rural sector, and further by village/urban block size. The total number of FSUs sampled within each State and Union Territory (UT) is proportional to their 2011 Census population.<sup>12</sup>. Within each FSU, 14 households were selected at random and interviewed over a period of 7 days. This careful sampling procedure gives rise to household-level sampling weights which we use throughout to ensure the analysis leverages nationally representative and unbiased estimates. Data collection took place over 12 months. Figure A.1 shows the share of each State and UT's sample collected in each month. With the exception of few relatively small UTs, data collection began in January in every State and UT and progressed smoothly throughout the year.

For each sampled household, detailed time use information was collected from every individual of age 6 years and above. Of the 138,798 households sampled, 66.2% provided complete information for every household member listed on the roster, and in 19% of cases only one respondent is missing. Time use diaries spanned a reference period of 24 hours, starting from 4:00 AM on the day before the interview to 4:00 AM on the day of the interview. This reference period was split into 48 time slots, each of duration of 30 minutes. Respondents were also allowed to report multiple activities carried out in each slot, as long as each

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<sup>12</sup>For further details, including the location of those few villages excluded from the sampling frame due to logistical challenges, see MOSPI (2020)

**Figure A.1:** Share of data collected, by month and State/UTs



**Notes:** For each Indian State and Territory, the graph reports the share of total sampled households surveyed during each month, from January to December 2019.

reported activity took place for at least 10 minutes. When processing and aggregating the data, we treat these slots as equally split between all activities reported. Time use accounts were codified using the *International Classification of Activities for Time Use Statistics 2016*. Tables A.2 through A.7 report the full list activities in the data, together with the macro-categories we formed to streamline the analysis: market work, home production, leisure, learning, self-care and sleep. Importantly, for each time use slot, the survey records whether activities were performed within or outside respondents' dwellings.

The 2019 TUS includes also individual- and household-level characteristics. In particular, it records each respondent's highest educational attainment, occupational status and industry of employment.<sup>13</sup> Our analysis also leverages data on household-level monthly consumer

<sup>13</sup>Industry data is coded following the 2-digit National Industrial Classification, 2008.

expenditure. This is computed by aggregating answers to four expenditure questions: (i) “usual consumer expenditure in a month for household purposes out of purchase”; (ii) “imputed value of usual consumption in a month from home grown stock”; (iii) “imputed value of usual consumption in a month from wages in kind, free collection, gifts, etc.”; (iv) “expenditure on purchase of household durables during last 365 days”. Other household characteristics used in our analysis are religion, and whether the household belongs to a scheduled caste, tribe or otherwise protected group.

## **A.2 1998 data**

Our analysis leverages also the 1998 wave of the TUS. This survey, designed as a *pilot* for the 2019 TUS, employs a similar questionnaire and an analogous sampling strategy.<sup>14</sup> However, the sampling frame included only 6 states: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya. Each of these States was selected to provide a representation of 6 broad geographical regions, but the sampling strategy was not designed to be representative of India at large. Hence, when comparing 2019 and 1998 data, we restrict the data to have common geographical support across waves. Table A.1 reports descriptive statistics for each of these 6 states, together with Indian averages. While no clear pattern emerges, we note that this sample is slightly more rural than the country at large.

A key difference between the 1998 and the 2019 waves is the classification of tasks and activities. Tables A.2 through A.7 provide details on how we harmonised the two datasets, listing the activities from each survey that contribute to the macro-categories used in the analysis. The main differences between the two surveys lie in the classification of market work and home production activities: while the 1998 relies on a more granular classification of tasks related to income generating activities, the 2019 wave simplifies this list and expands the number of home production activities captured by the survey. However, both surveys record the location of each activity in the same way, ameliorating concerns about

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<sup>14</sup>For details, see <https://microdata.gov.in/nada43/index.php/catalog/140>



measurement of our headline figures on time spent outside the home.

**Table A.1:** State level descriptives, sample survey in 1998

	India	Haryana	Madhya Pradesh	Gujarat	Odisha	Tamil Nadu	Meghalaya
<i>Census 2011</i>							
Population, millions	1,210.86	25.35	72.63	60.44	41.97	72.15	2.97
Rural share of population	0.688	0.651	0.724	0.574	0.833	0.516	0.799
<i>Reserve Bank of India</i>							
Net State Domestic Product per capita, 2018-19	125,946	236,147	90,998	197,447	95,164	204,488	89,024
<i>DHS 2019</i>							
Female/male ratio, all ages	1.02	0.926	0.970	0.965	1.063	1.088	1.039
Female/male ratio, all 0-6	0.928	0.868	0.940	0.937	0.922	0.888	0.982
Women age 20-64 as a share of female population	0.584	0.599	0.579	0.602	0.611	0.645	0.511
Men age 20-64 as a share of male population	0.552	0.576	0.567	0.590	0.564	0.597	0.488
Total fertility rate	2	1.9	2	1.9	1.8	1.8	2.9
Share of households with basic sanitation service	0.702	0.850	0.651	0.740	0.605	0.726	0.829
Share of households with electricity	0.965	0.995	0.981	0.972	0.963	0.990	0.810
Hindu, share of households	0.819	0.909	0.939	0.884	0.945	0.910	0.108
Median years of schooling, women age>6	4.9	6.1	4.3	4.5	5.1	5.4	7
Literacy, share of women age 15-49	0.715	0.797	0.654	0.734	0.695	0.840	0.876
Share not employed in past 12 months, women age 15-49	0.695	0.772	0.648	0.615	0.713	0.572	0.523

**Notes:** Data for Census population and Net State Domestic Product per capita (current prices) compiled from RBI (2023). The remaining datapoints were compiled from Demographics and Health Survey data collected in 2018-2019.

**Table A.2: Activities categorised as *Market work***

2019		1998	
code	activity	code	activity
110	Employment in corporations, government and non-profit institutions	111	Ploughing, preparing land, cleaning of land
121	Growing of crops for the market in household enterprises	112	Sewing, planting, transplanting
122	Raising animals for the market in household enterprises	113	Application of manure, fertilizer, pesticides and watering, preparing organic/manure. Harvesting, threshing, picking, winnowing
123	Forestry and logging for the market in household enterprises	114	Weeding
124	Fishing for the market in household enterprises	115	Supervision of work.
125	Aquaculture for the market in household enterprises	116	Kitchen gardening - backyard cultivation
126	Mining and quarrying for the market in household enterprises	117	Stocking, transporting to home, guarding or protection of crops.
127	Making and processing goods for the market in household enterprises	118	Sale and purchase related activities
128	Construction activities for the market in household enterprises	121	Grazing animals outside
129	Other activities related to employment in household enterprises to produce goods	122	Tending animals - cleaning, washing shed, feeding, watering, preparation of feed.
131	Vending and trading of goods in household enterprises	123	Caring for animals: breeding, shearing, medical treatment, grooming, shoeing, AI etc.
132	Providing paid repair, installation, maintenance and disposal in household enterprises	124	Milking and processing of milk Collecting, storing of poultry products.
133	Providing paid business and professional services in household enterprises	125	Making dung cakes
134	Transporting goods and passengers for pay or profit in household enterprises	126	Poultry rearing - feeding, cleaning.
135	Providing paid personal care services in household enterprises	127	Other related activities.
136	Providing paid domestic services	128	Sale and purchase related activities
139	Other activities related to employment in household enterprises providing services	131	Nursery - seedlings
141	Activities ancillary to employment	132	Planting, tending, processing of trees.
142	Breaks during working time within employment	133	Collecting, storing & stocking of fruits etc.
150	Training and studies in relation to employment	134	Wood cutting, chopping & stocking firewood

**Table A.2:** Activities categorised as *market work* (continued)

2019		1998	
code	activity	code	activity
160	Seeking employment	135	Fish farming, cleaning se -bed, feeding fish, catching fish, gathering other aquatic life
170	Setting up a business	136	Indoor and outdoor garden work.
181	Employment-related travel	137	Flower gardening -landscaping, maintenance, cutting, collecting, storing
182	Commuting	138	Sale and purchase related activities.
511	Unpaid volunteer household maintenance, management, construction, renovation and repair	152	Milling, husking, pounding
512	Unpaid volunteer shopping/purchasing goods and services	153	Parboiling
513	Unpaid volunteer childcare and instruction	154	Sorting, Grading
514	Unpaid volunteer care for adults	155	Grinding, crushing
515	Unpaid volunteer activities in enterprises owned by other households	156	Any other related activity
519	Other activities related to direct unpaid volunteering for other households	157	Sales and purchase related activities
521	Unpaid volunteer work on road/building repair, clearing and preparing land, cleaning (streets, markets, etc.), and construction	161	Mining/extraction of salt,
522	Unpaid volunteer preparing/serving meals, cleaning up	162	Mining/digging/quarrying of stone, slabs, breaking of stones for construction of building road, bridges etc.
523	Unpaid volunteer cultural activities, recreation and sports activities	163	Digging out clay, gravel and sand
524	Unpaid volunteer office/administrative work	164	Digging out minerals - major and minor
529	Other activities related to community- and organization based unpaid volunteering	165	Transporting in vehicles
530	Unpaid trainee work and related activities	166	Storing, stocking
540	Travelling time related to unpaid volunteer, trainee and other unpaid work	167	Any other related activity
590	Other unpaid work activities	168	Sale and purchase related activity
		211	Building & construction of dwelling (laying bricks, plastering, thatching, bamboo work, roofing), maintenance and repairing.
		212	Construction and repair of animal shed, shelter for poultry etc.
		213	Construction of walls, storage facility, fencing etc.

**Table A.2:** Activities categorised as *market work* (continued)

2019		1998	
code	activity	code	activity
		214	Construction of public works/common infrastructure - roads, buildings, bridges, etc.
		217	Any other activity related.
		218	Sales and purchase related activity
		221	Food processing and cooking for sale - making pickles. spices and other products; canning fruits, jams & jellies; baking; beverage preparation, selling readymade food etc.
		222	Butchering, curing, processing, drying storing etc. of meat, fish etc.
		223	Manufacturing of textiles - spinning, weaving, processing of textiles; knitting, sewing, garment making of cotton, wool and other material.
		224	Making handicrafts, pottery, printing and other crafts made primarily with hands. (wood based leather based crafts, embroidery work etc.)
		225	Fitting, installing, tool setting, tool and machinery - moulding, welding, tool making
		226	Assembling machines, equipment and other products
		227	Production related work in large and small factories in different industries - as production workers, maintenance workers paid trainees and apprentices, sales, administration and management activities. Sale and purchase
		228	Related activity
		311	Buying and selling goods - such as capital goods, intermediate goods, consumer durables, consumer goods - in the organised and formal sectors.
		312	Petty trading, street and door to door vending, hawking, shoe cleaning etc.
		313	Transporting goods in trucks, tempos and motor vehicles.
		314	Transporting in hand carts, animal carts, cycle rickshaws etc. or manually
		315	Transport of passenger by motorized and non-motorised transports

**Table A.2:** Activities categorised as *market work (continued)*

2019		1998	
code	activity	code	activity
		317	Any other activity.
		321	Service in Government and semi government organisations (salaried)
		322	Service in-private organisations (salaried)
		323	Petty service: domestic servants, sweepers, washers, pujari, barber, cobbler, mali massaging, prostitution, (wages) watching and guarding
		324	Professional services: medical and educational services (private tuition, non formal teaching etc.), financial services and management and technical consultancy services
		325	Professional services: computer services, Xerox/photocopying services, beauty parlours, hair cutting saloons etc.
		326	Technical services: plumbing, electrical and electronic repair and maintenance and other related services
		327	Others
		611	Community organised construction and repairs: buildings, roads, dams, wells, ponds etc. community assets.
		621	Community organised work: cooking for collective celebrations, etc. .
		631	Volunteering with for an organisation (which does not involve working directly for individuals)
		641	Volunteer work through organisations extended directly to individuals and groups
		651	Participation in meetings of local and informal groups/caste, tribes, professional associations, union, fraternal and political organisations
		661	Involvement in civic and related responsibilities: voting, rallies, attending meeting\$, panchayat
		671	Informal help to other households
		681	Community services not elsewhere classified
		691	Travel related to community services
		various	Travel to work.

**Table A.3:** Activities categorised as *Home production*

2019		1998	
code	activity	code	activity
211	Growing crops and kitchen gardening, for own final use	140	Fetching of water
212	Farming of animals and production of animal products for own final use	141	Collection of fruits, vegetables, berries, mushrooms etc. edible goods
213	Hunting, trapping and production of animal skins for own final use	142	Collection of minor forest produce, leaves, bamboo, etc.
214	Forestry and logging for own final use	143	Collection of fuel/fuel wood/twigs.
215	Gathering wild products for own final use	144	Collection of raw material for crafts.
216	Fishing for own final use	145	Collection of building materials
217	Aquaculture for own final use	146	Collection of fodder
218	Mining and quarrying for own final use	147	Sale and purchase related activities
221	Making, processing food products, beverages and tobacco for own final use	148	Collection of other items
222	Making, processing textiles, wearing apparel, leather and related products for own final use	411	Cleaning food items, beverages and serving.
223	Making, processing of wood and bark products for own final use	421	Cleaning and upkeep of dwelling and surroundings
224	Making, processing bricks, concrete slabs, hollow blocks, tiles for own final use	422	Cleaning of utensils
225	Making, processing herbal and medicinal preparations for own final use	431	Care of textiles: sorting, mending, washing, ironing and ordering clothes and linen
226	Making, processing metals and metal products for own final use	441	Shopping for goods and non-personal services: capital goods, household appliances, equipment, food and various household supplies.
227	Making, processing of products using other materials for own final use	451	Household management: planning, supervising, paying bills, etc.
229	Acquiring supplies and disposing of products and other activities related to making and processing goods for own final use	461	Do-it-yourself home improvements and maintenance, installation, servicing and repair of personal and household goods.
230	Construction activities for own final use	481	Pet care

**Table A.3:** Activities categorised as *Home production (continued)*

2019		1998	
code	activity	code	activity
241	Gathering firewood and other natural products used as fuel for own final use	491	Travel related to household maintenance, management and shopping Household maintenance, management and shopping not elsewhere classified.
242	Fetching water from natural and other sources for own final use	511	Physical care of children: washing, dressing, feeding
250	Travelling, moving, transporting or accompanying goods or persons related to own-use production of goods	521	Teaching, training and instruction of own children
311	Preparing meals/snacks	531	Accompanying children to places: school, sports, lessons, etc./PHC/doctor
312	Serving meals/snacks	541	Physical care of the sick, disabled, elderly household members: washing, dressing, feeding, helping.
313	Cleaning up after food preparation/meals/snacks	551	Accompanying adults to receive personal care services: such as hairdresser's therapy sessions, temple, religious places etc.
314	Storing, arranging, preserving food stocks	561	Supervising children needing care - with or without other activities
319	Other activities related to food and meals management and preparation	562	Supervising adults needing care - with or without other activities.
321	Indoor cleaning	571	Travel related to care of children
322	Outdoor cleaning	572	Travel related to care of adults and others.
323	Recycling and disposal of garbage	581	Taking care of guests/visitors
324	Upkeep of indoor/outdoor plants, hedges, garden, grounds, landscape, etc.	591	Any other activity not mentioned above
325	Tending furnace, boiler, fireplace for heating and water supply		
329	Other activities related to cleaning and upkeep of dwelling and surroundings		
331	Do-it-yourself improvement, maintenance and repair of own dwelling		
332	Installation, servicing and repair of personal and household goods including ICT equipment		



**Table A.3:** Activities categorised as *Home production (continued)*

2019		1998	
code	activity	code	activity
333	Vehicle maintenance and repairs		
339	Other activities related to do-it-yourself decoration, maintenance and repair		
341	Hand/machine-washing		
342	Drying textiles and clothing		
343	Ironing/pressing/folding		
344	Mending/repairing and care of clothes and shoes; cleaning and polishing shoes		
349	Other activities related to care of textiles and footwear		
351	Paying household bills		
352	Budgeting, planning, organizing duties and activities in the household		
359	Other activities related to household management		
361	Daily pet care		
362	Using veterinary care or other pet care services (grooming, stabling, holiday or day care)		
369	Other activities related to pet care		
371	Shopping for/purchasing of goods and related activities		
372	Shopping for/availing of services and related activity		
380	Travelling, moving, transporting or accompanying goods or persons related to unpaid domestic services for household members		
390	Other unpaid domestic services for household members		
411	Caring for children including feeding, cleaning, physical care		
412	Providing medical care to children		
413	Instructing, teaching, training, helping children		
414	Talking with and reading to children		
415	Playing and sports with children		
416	Minding children (passive care)		

**Table A.3:** Activities categorised as *Home production (continued)*

2019		1998	
code	activity	code	activity
417	Meetings and arrangements with schools and child care service providers		
419	Other activities related to childcare and instruction		
421	Assisting dependent adults with tasks of daily living		
422	Assisting dependent adults with medical care		
423	Assisting dependent adults with forms, administration, accounts		
424	Affective/emotional support for dependent adults		
425	Passive care of dependent adult		
426	Meetings and arrangements with adult care service providers		
429	Other activities related to care for dependent adults		
431	Feeding, cleaning, physical care for non-dependent adult household members including for temporary illness		
432	Affective/emotional support for non-dependent adult household members		
439	Other activities related to care for non-dependent adult household members		
441	Travelling related to care-giving services for household members		
442	Accompanying own children		
443	Accompanying dependent adults		
444	Accompanying non-dependent adult household members		
490	Other activities related to unpaid caregiving services for household members		

**Table A.4:** Activities categorised as *Leisure*

2019		1998	
code	activity	code	activity
711	Talking, conversing, chatting	811	Participating in social events: wedding, funerals, births, and other celebrations'
712	Socializing/getting together/gathering activities	812	Participating in religious activities: Church services, religious ceremonies, practices, kirtans, singing, etc.
713	Reading and writing mail (including email)	813	Participating in community functions in music, dance etc.
719	Other activities related to socializing and communication	814	Socializing at home and outside the home.
721	Participating in community celebrations of cultural/historic events	821	Arts, making music, hobbies and related courses:
722	Participating in community rites/events (non-religious) of weddings, funerals, births and similar rites-of-passage	822	Indoor and outdoor sports participation and related courses
723	Participating in community social functions (music,dance, etc.)	831	Games and other past-time activities
729	Other activities related to community participation	832	Spectator to sports, exhibitions/museums, cinema/theatre/concerts and other performances and events
730	Involvement in civic and related responsibilities	841	Other related activities.
742	Participating in collective religious practice	851	Reading, other than newspaper and magazines.
749	Other activities related to religious practice	852	Watching television and video
750	Travelling time related to socializing and communication, community participation and religious practice	853	Listening to music/radio
790	Other activities related to socializing and communication, community participation and religious practice	861	Accessing information by computing
811	Attendance at organized/mass cultural events and shows	862	Visiting library
812	Attendance at parks/gardens	863	Reading newspaper, magazines
813	Attendance at sports events	871	Mass media use and entertainment not classified elsewhere

**Table A.4:** Activities categorised as *Leisure* (continued)

2019		1998	
code	activity	code	activity
819	Other activities related to attendance at cultural, entertainment and sports events	891	Travel related to social, cultural and recreational activities, social, cultural and recreational activities, Social, cultural and recreational activities not elsewhere classified, mass media use and entertainment.
821	Visual, literary and performing arts (as hobby)	892	Travel relating to search of jobs.
822	Hobbies	951	Talking, gossiping and quarreling
823	Playing games and other pastime activities	961	Doing nothing, rest and relaxation
829	Other activities related to cultural participation, hobbies, games		
831	Participating in sports		
832	Exercising		
841	Reading for leisure		
842	Watching/listening to television and video		
843	Listening to radio and audio devices		
849	Other activities related to mass media use		
850	Activities associated with reflecting, resting, relaxing		
860	Travelling time related to culture, leisure, mass-media and sports practices		
890	Other activities related to culture, leisure, mass-media and sports practices		

**Table A.5:** Activities categorised as *Learning*

2019		1998	
code	activity	code	activity
611	School/university attendance	711	General Education: School/university/other educational institutions attendance
612	Extra-curricular activities	721	Studies, homework and course review related to general education
613	Breaks at place of formal education	731	Additional study, non-formal education under adult education programmes.

**Table A.5:** Activities categorised as *Learning (continued)*

2019		1998	
code	activity	code	activity
614	Self-study for distance education course work (video, audio, online)	741	Non formal education by children
619	Other activities related to formal education	751	Work-related training
620	Homework, being tutored, course review, research and activities related to formal education	761	Training under government programmes such as TRYSEM, DWCRA and others. Other
630	Additional study, non-formal education and courses	771	training/education
640	Travelling time related to learning	781	Learning not elsewhere classified
690	Other activities related to learning	791	Travel related to learning

**Table A.6:** Activities categorised as *Self-care*

2019		1998	
code	activity	code	activity
921	Eating meals/snack	921	Eating and drinking
922	Drinking other than with meal or snack	922	Smoking, drinking alcohol and other intoxicants.
931	Personal hygiene and care	931	Personal Hygiene and health
932	Health/medical care to oneself	932	Walking, exercise, jogging, yoga, etc.
939	Other activities related to personal hygiene and care	941	Receiving medical and personal care from professional
941	Receiving personal care from others	942	Receiving medical and personal care from household members.
942	Receiving health/medical care from others	971	Individual religious practices and meditation
949	Other activities related to receiving personal and health/medical care	981	Other activities
950	Travelling time related to self-care and maintenance activities	982	Resting/convalescing due to physical illness and physically unwell persons.
990	Other self-care and maintenance activities	992	Travel related to personal care and self-maintenance
741	Private prayer, meditation and other spiritual activities		

**Table A.7:** Activities categorised as *Sleep*

2019		1998	
code	activity	code	activity
911	Night sleep/essential sleep	911	Sleep and related activities
912	Incidental sleep/naps		
913	Sleeplessness		
919	Other sleep and related activities		

**Table A.8: National Industrial Classification, 2008**

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Code	Industry
01	Crop and animal production, hunting and related service activities
02	Forestry and logging
03	Fishing and aquaculture
05	Mining of coal and lignite
06	Extraction of crude petroleum and natural gas
07	Mining of metal ores
08	Other mining and quarrying
09	Mining support service activities
10	Manufacture of food products
11	Manufacture of beverages
12	Manufacture of tobacco products
13	Manufacture of textiles
14	Manufacture of wearing apparel
15	Manufacture of leather and related products
16	Manufacture of wood and products of wood and cork, except furniture;
17	Manufacture of paper and paper products
18	Printing and reproduction of recorded media
19	Manufacture of coke and refined petroleum products
20	Manufacture of chemicals and chemical products
21	Manufacture of pharmaceuticals, medicinal chemical and botanical products
22	Manufacture of rubber and plastics products
23	Manufacture of other non-metallic mineral products
24	Manufacture of basic metals
25	Manufacture of fabricated metal products, except machinery and equipment
26	Manufacture of computer, electronic and optical products
27	Manufacture of electrical equipment
28	Manufacture of machinery and equipment n.e.c.
29	Manufacture of motor vehicles, trailers and semi-trailers
30	Manufacture of other transport equipment
31	Manufacture of furniture
32	Other manufacturing
33	Repair and installation of machinery and equipment
35	Electricity, gas, steam and air conditioning supply
36	Water collection, treatment and supply
37	Sewerage
38	Waste collection, treatment and disposal activities; materials recovery
39	Remediation activities and other waste management services
41	Construction of buildings
42	Civil engineering
43	Specialized construction activities
45	Wholesale and retail trade and repair of motor vehicles and motorcycles
46	Wholesale trade, except of motor vehicles and motorcycles
47	Retail trade, except of motor vehicles and motorcycles
49	Land transport and transport via pipelines
50	Water transport
51	Air transport
52	Warehousing and support activities for transportation
53	Postal and courier activities
55	Accommodation
56	Food and beverage service activities
58	Publishing activities
59	Motion picture, video and television programme production, sound recording and music publishing activities
60	Broadcasting and programming activities
61	Telecommunications

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**Table A.8:** National Industrial Classification, 2008 (continued)

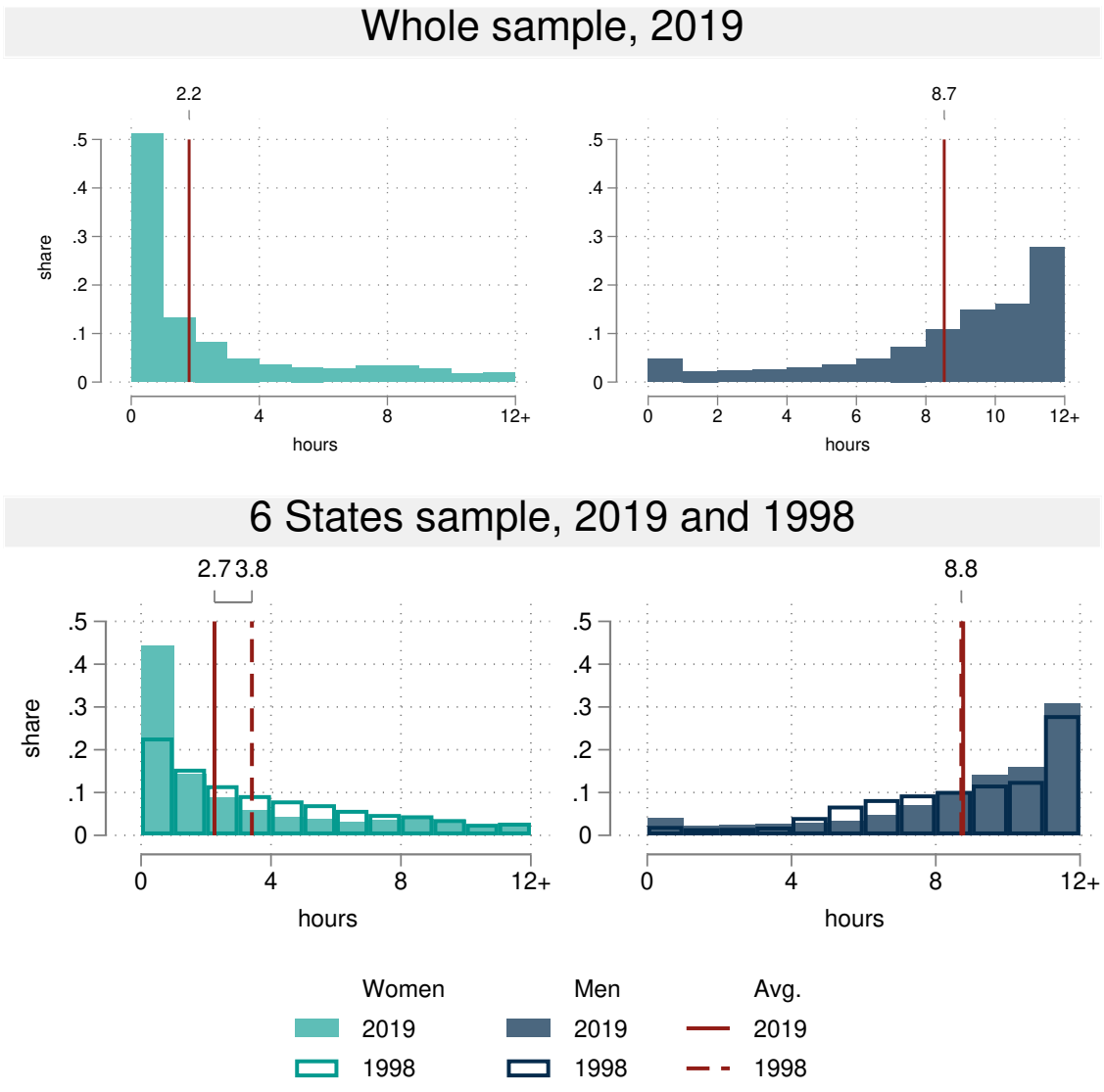
Code	Industry
62	Computer programming, consultancy and related activities
63	Information service activities
64	Financial service activities, except insurance and pension funding
65	Insurance, reinsurance and pension funding, except compulsory social security
66	Other financial activities
68	Real estate activities
69	Legal and accounting activities
70	Activities of head offices; management consultancy activities
71	Architecture and engineering activities; technical testing and analysis
72	Scientific research and development
73	Advertising and market research
74	Other professional, scientific and technical activities
75	Veterinary activities
77	Rental and leasing activities
78	Employment activities
79	Travel agency, tour operator and other reservation service activities
80	Security and investigation activities
81	Services to buildings and landscape activities
82	Office administrative, office support and other business support activities
84	Public administration and defence; compulsory social security
85	Education
86	Human health activities
87	Residential care activities
88	Social work activities without accommodation
90	Creative, arts and entertainment activities
91	Libraries, archives, museums and other cultural activities
92	Gambling and betting activities
93	Sports activities and amusement and recreation activities
94	Activities of membership organizations
95	Repair of computers and personal and household goods
96	Other personal service activities
97	Activities of households as employers of domestic personnel
98	Undifferentiated goods- and services-producing activities of private households for own use
99	Activities of extraterritorial organizations and bodies

Source: Ministry of Statistics and Programme Implementation, Government of India, New Delhi



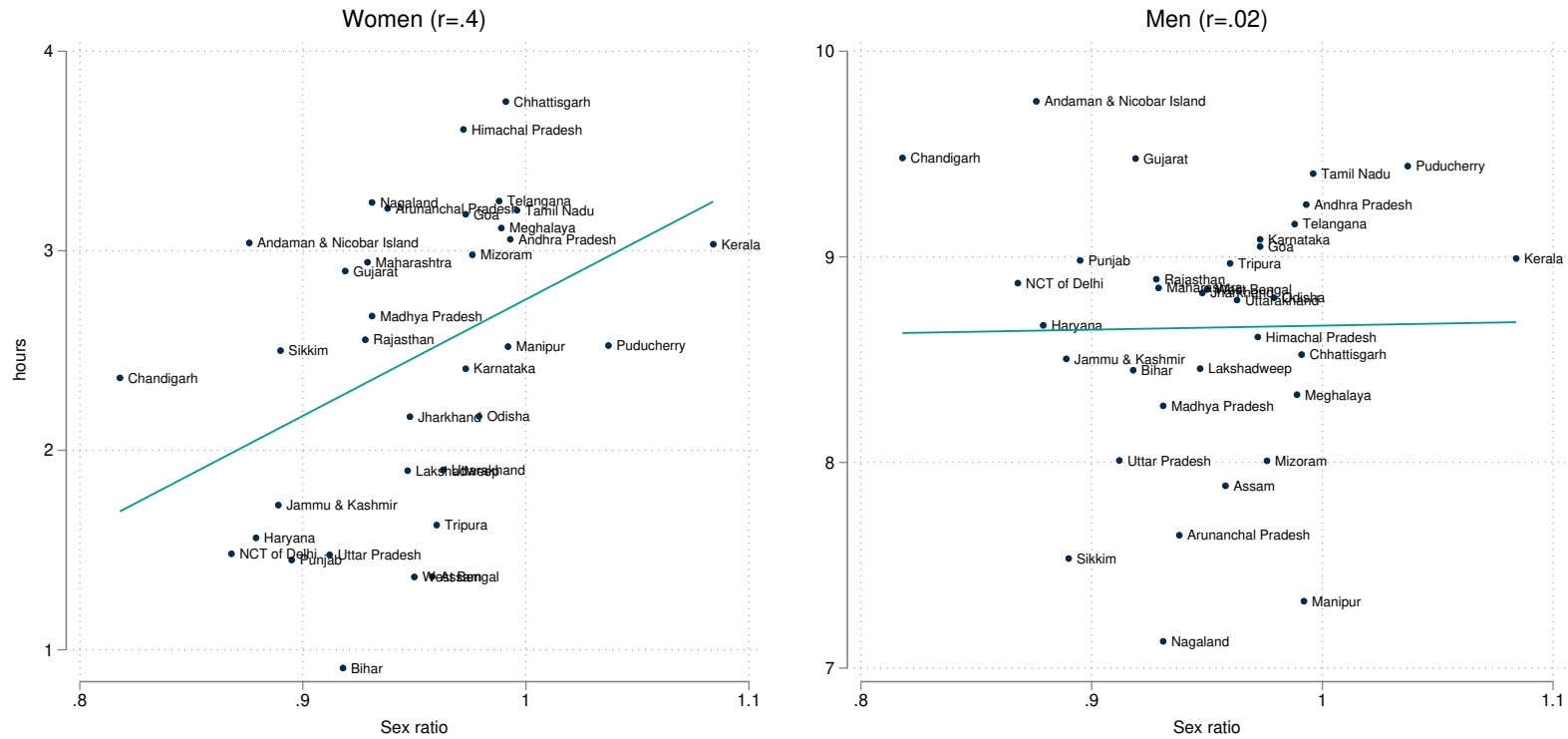
## **B Appendix Figures**

**Figure B.1:** Distribution of time outside the home, by gender



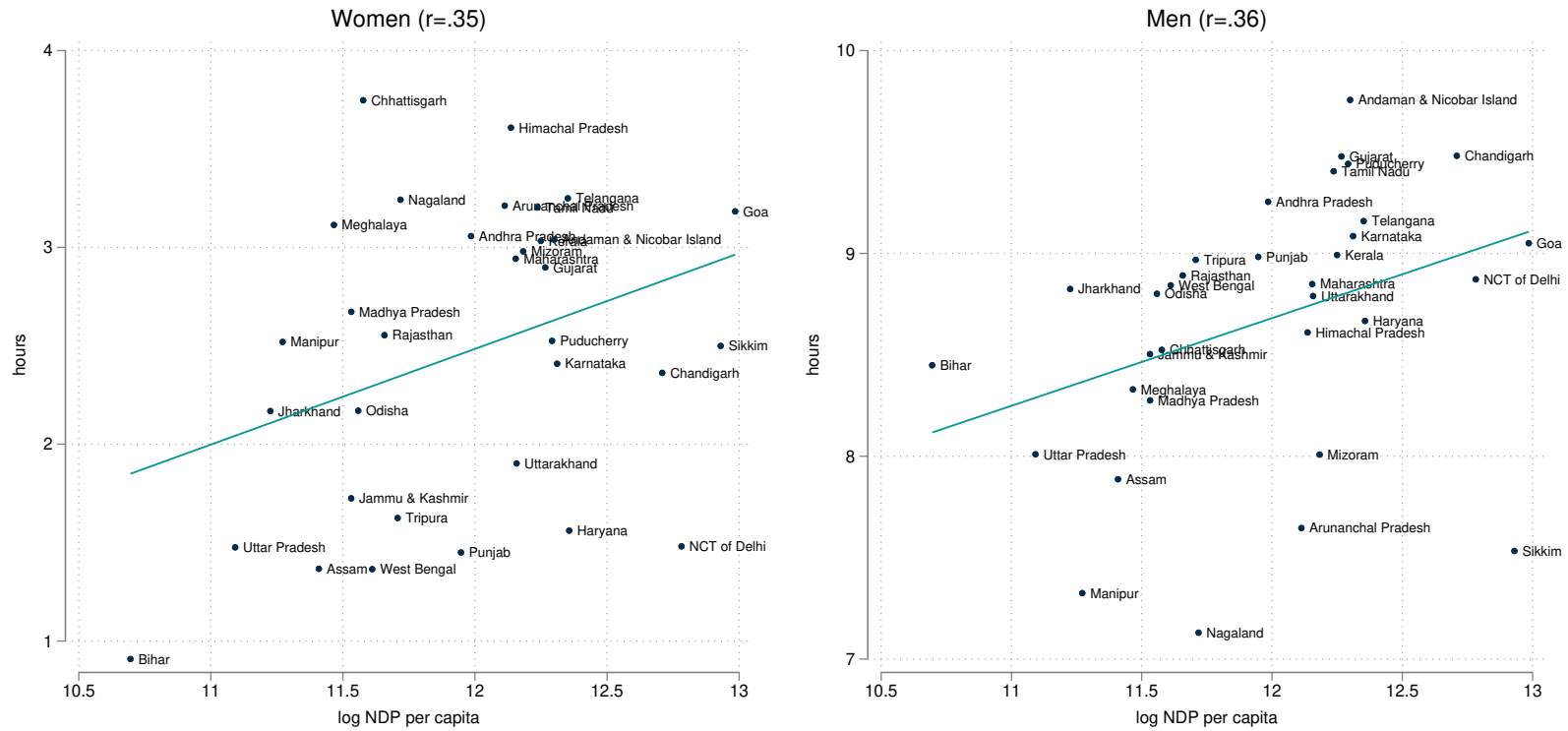
*Notes:* The sample is restricted to married women and men of age between 18 and 64 years old. The bottom panel restricts the analysis to the 6 States surveyed in 1998. Sampling weights used throughout.

**Figure B.2:** Correlations between seclusion and sex ratio, by state



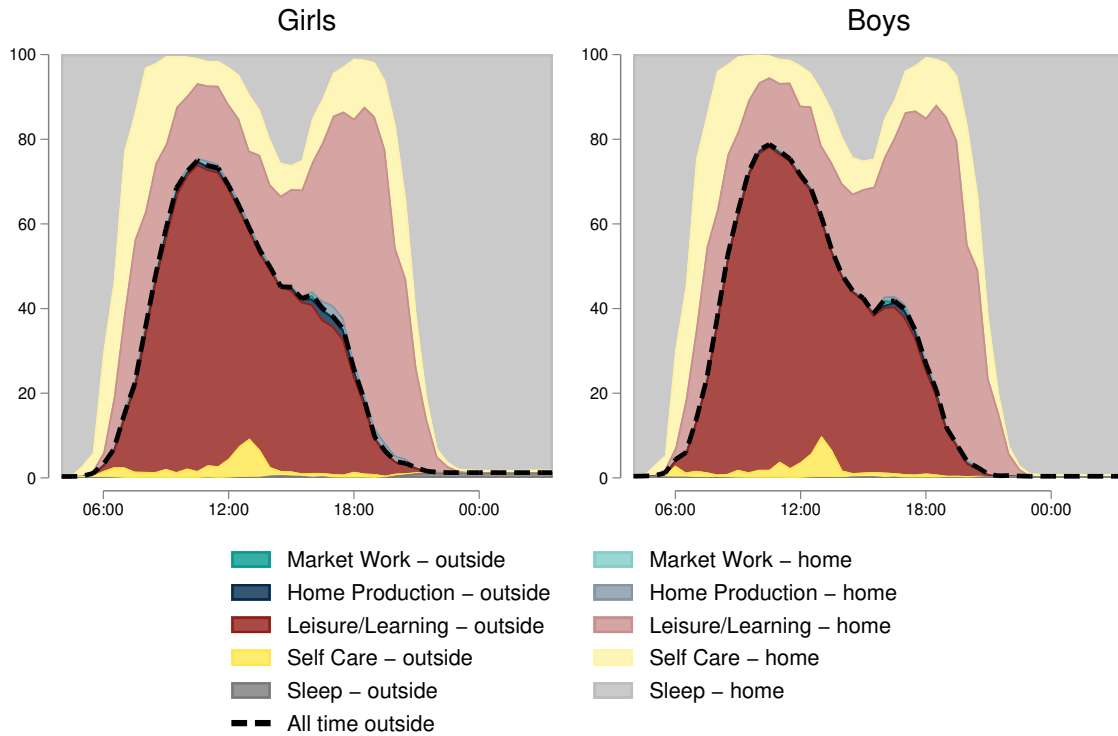
Notes: Graphs plot average time outside the home at the state level for married women (left) and men (right) against the 2011 Sex Ratio at the state level as measured in the 2011 census.

**Figure B.3:** Correlations between seclusion and economic development at the state level



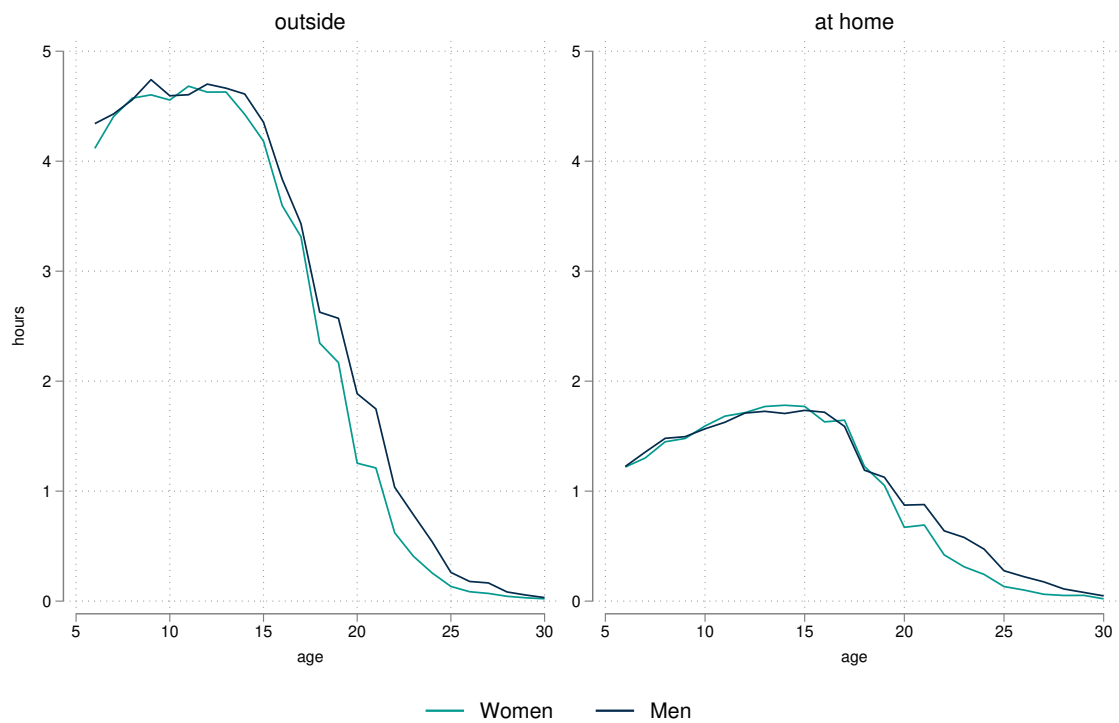
Notes: Graphs plot average time outside the home at the state level for married women (left) and men (right) against log of Net Domestic Product per capita at the state level.

**Figure B.4:** Time allocation through the day by gender at the state level



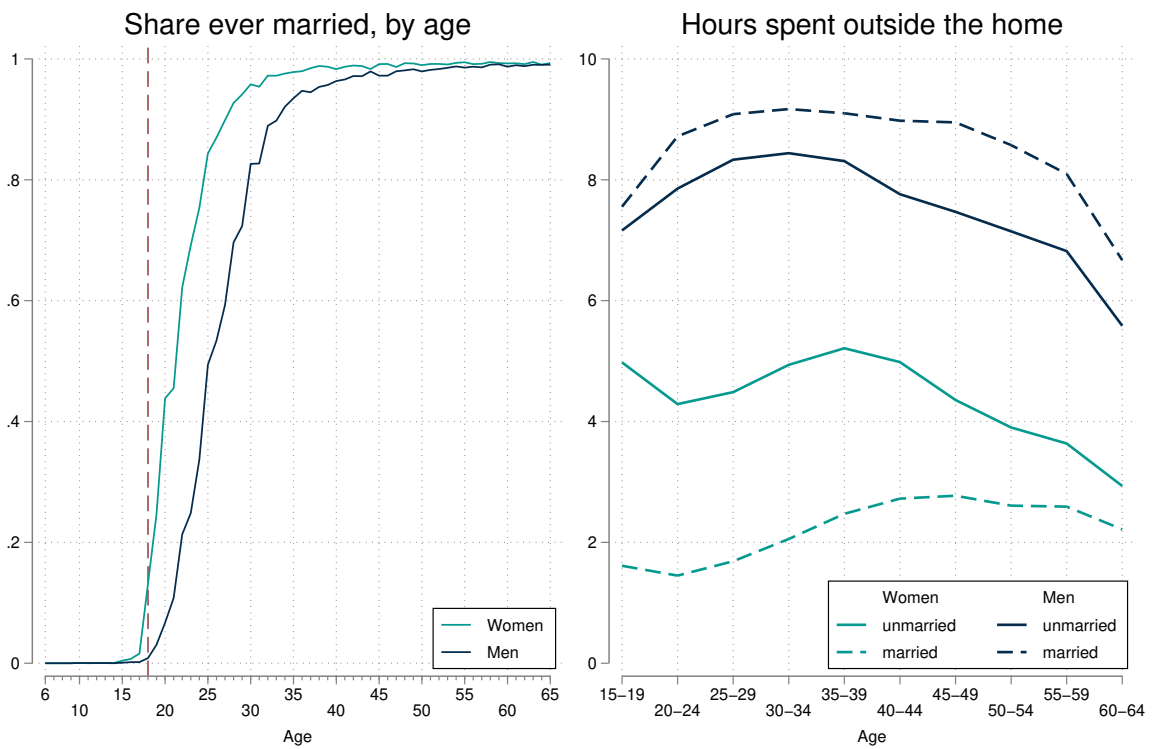
**Notes:** 2019 TUS data. The sample includes all respondents age 6. For each 30 minute interval, the graph reports the share of girls or boys engaged in each activity-location pair. Sampling weights used throughout.

**Figure B.5:** Average daily hours spent in learning activities, by location and gender, 2019



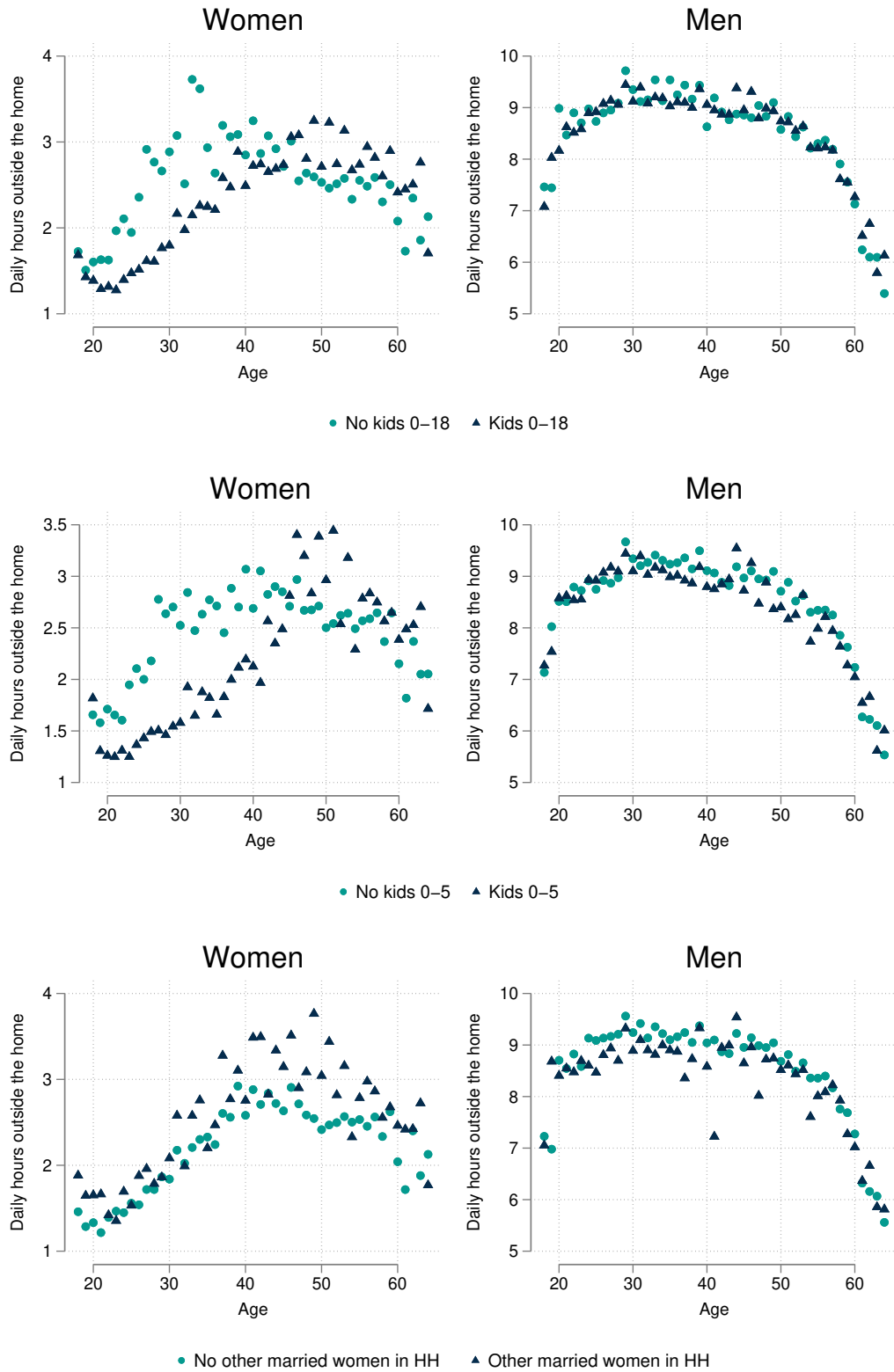
**Notes:** 2019 TUS data. The sample includes all respondents age 6. For each 30 minute interval, the graph reports the share of girls or boys engaged in each activity-location pair. Sampling weights used throughout.

**Figure B.6: Marriage and time outside the home**



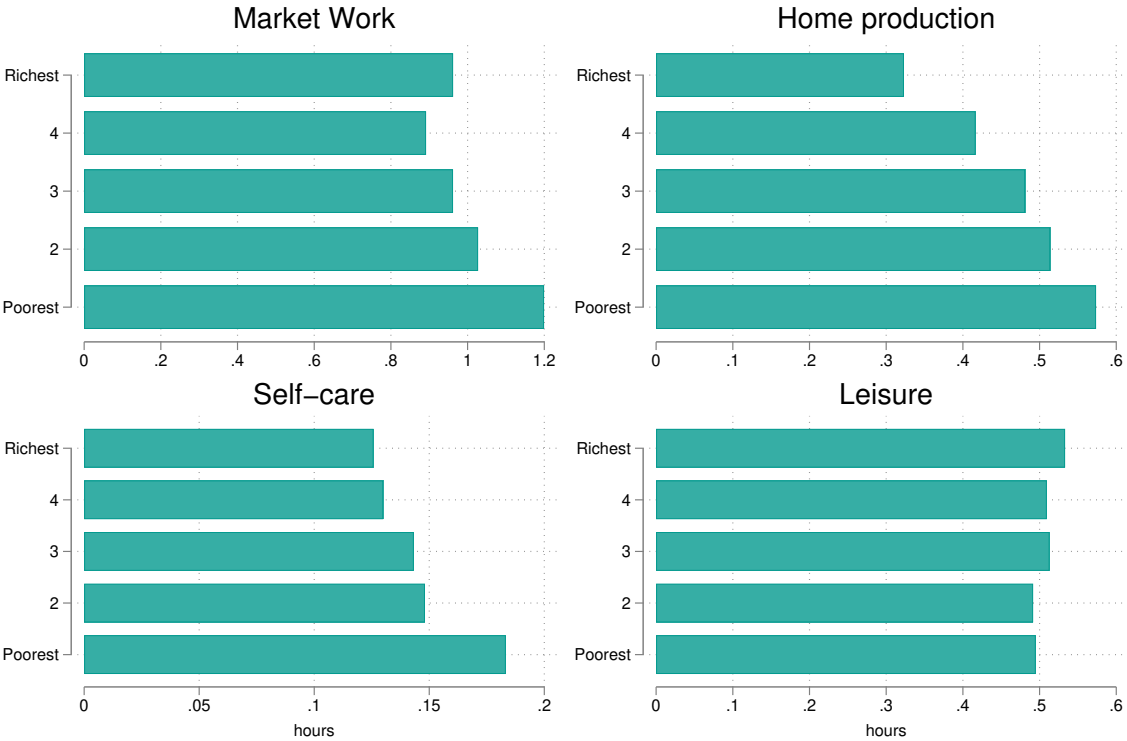
**Notes:** Panel A reports the share of individuals who were ever married, including widows (6.1%) and divorced (0.5%). The dashed vertical line represents the statutory minimum marriage age of 18 years old.

**Figure B.7: Time outside of the home by caring responsibilities**



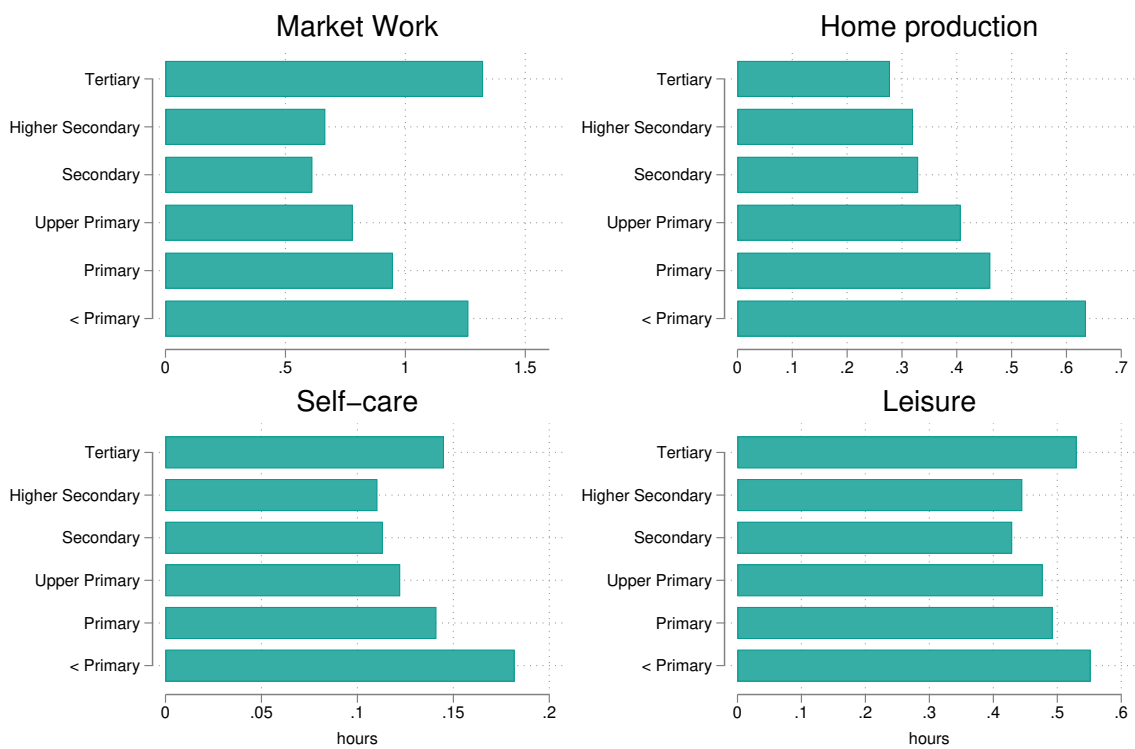


**Figure B.8:** Hours spent outside by women, by activity and household expenditure quintile, 2019



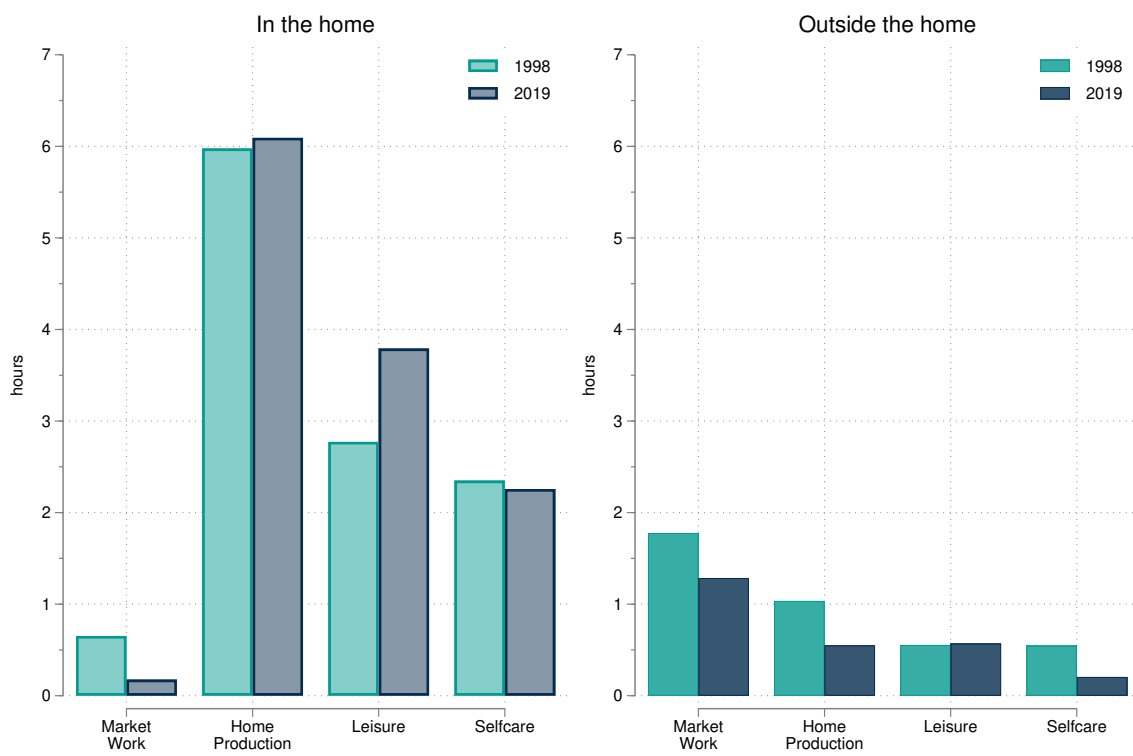
**Notes:** Sample restricted to married women of age between 18 and 64 years old. Sampling weights used throughout.

**Figure B.9:** Hours spent outside by women, by activity and education, 2019



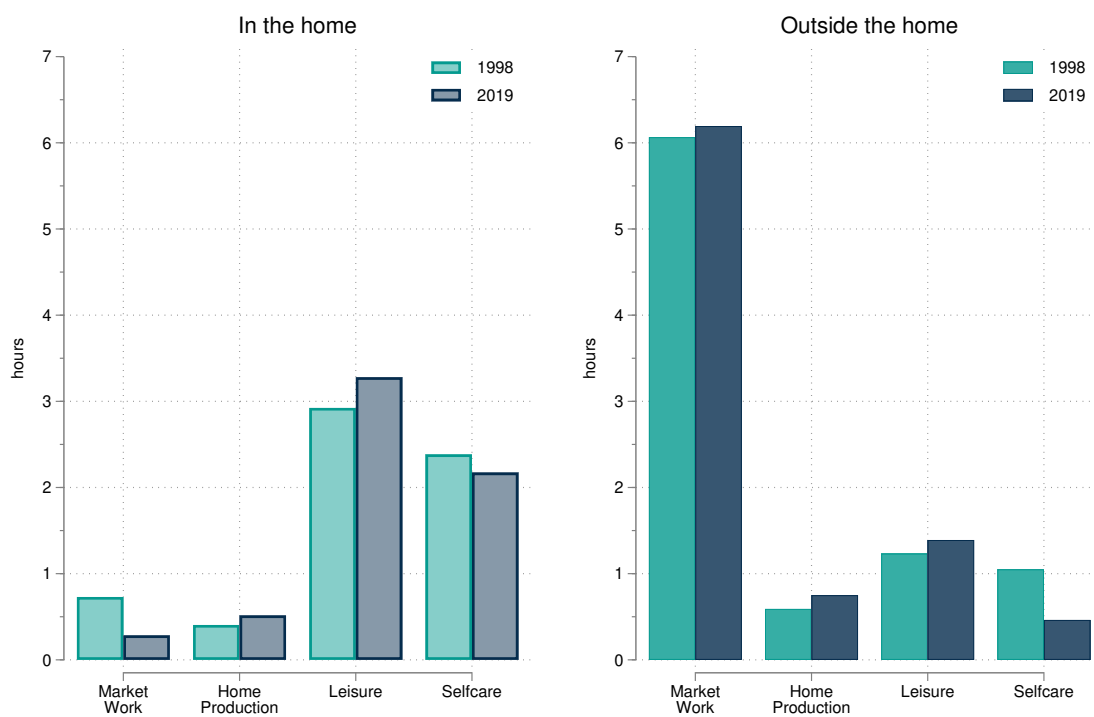
**Notes:** Sample restricted to married women of age between 18 and 64 years old. Sampling weights used throughout.

**Figure B.10: Time allocation by activity and location, women**



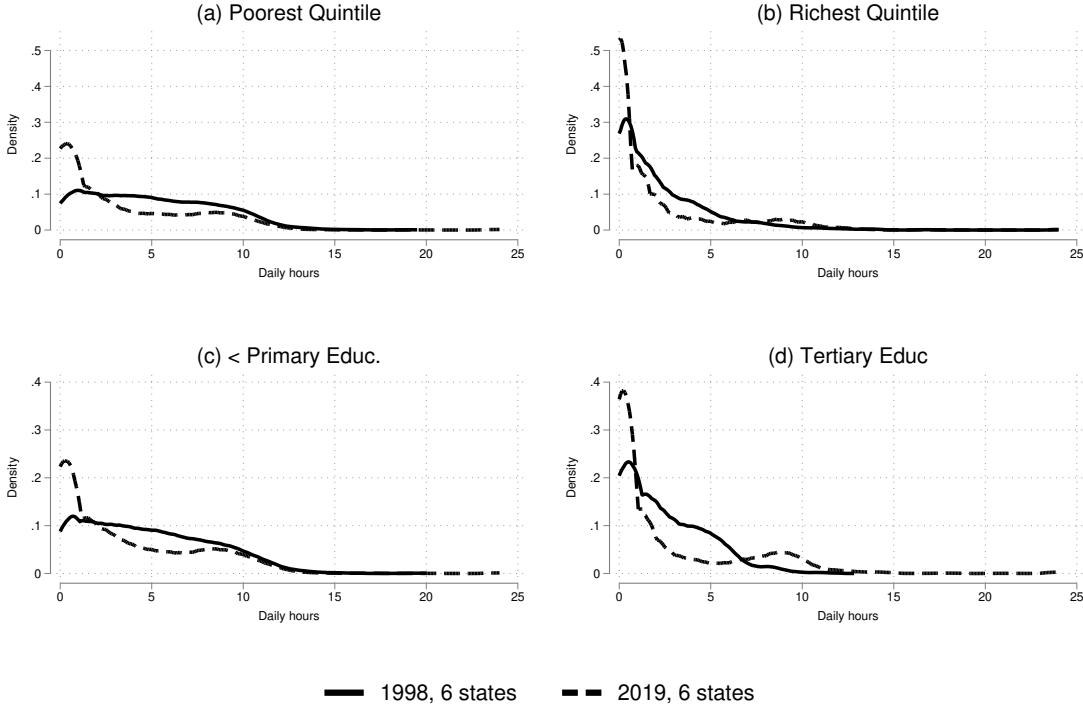
*Notes:* the sample includes married women, aged 18-64, from the six States of: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya. The activities excluded from this graph are *Learning* and *Sleep*.

**Figure B.11: Time allocation by activity and location, men**



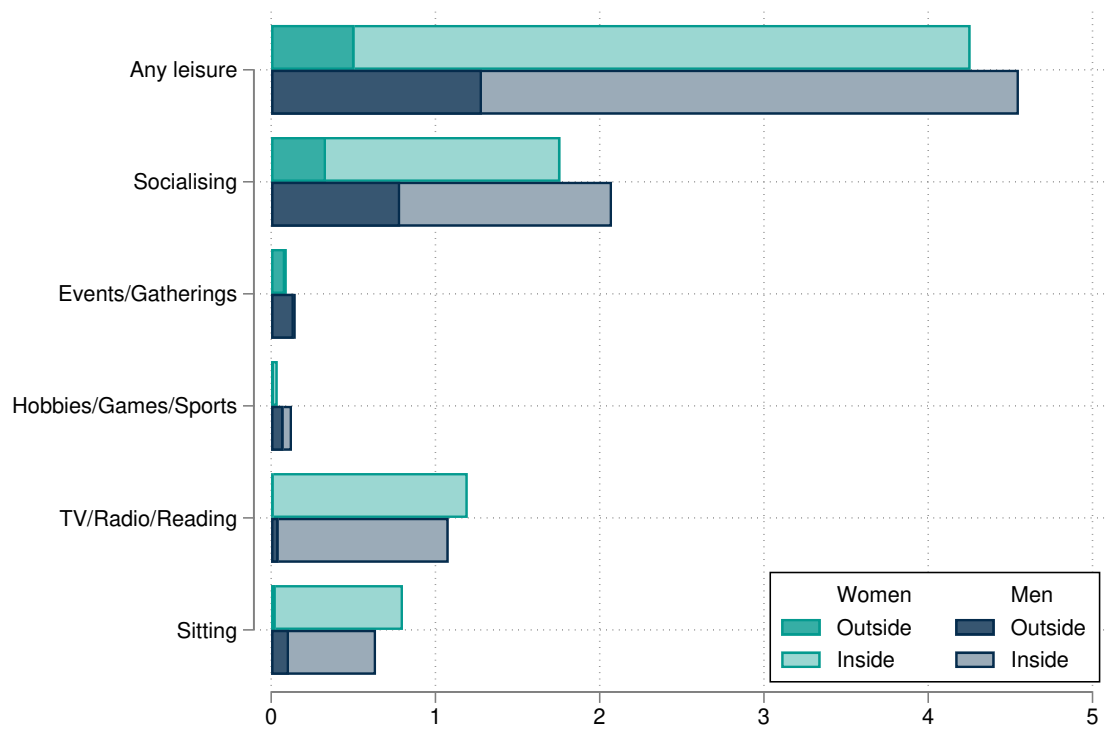
*Notes:* the sample includes married men, aged 18-64, from the six States of: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya. The activities excluded from this graph are *Learning* and *Sleep*.

**Figure B.12:** Density of women’s daily hours outside the home in 1998 and 2019 by expenditure quintile and education



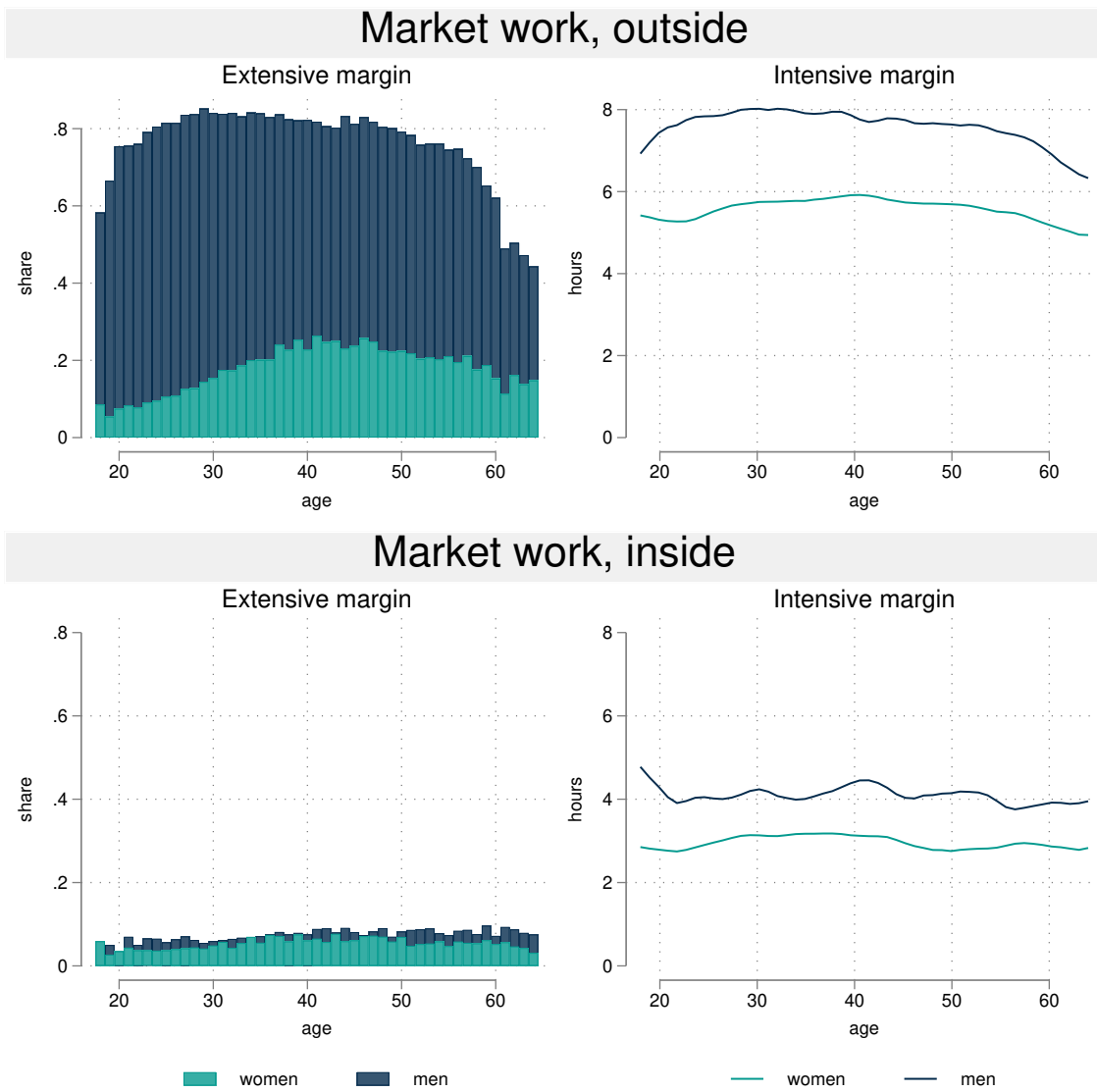
*Notes:* the sample includes married men, aged 18-64, from the six States of: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya.

**Figure B.13:** Leisure by gender and location, average hours per day, 2019



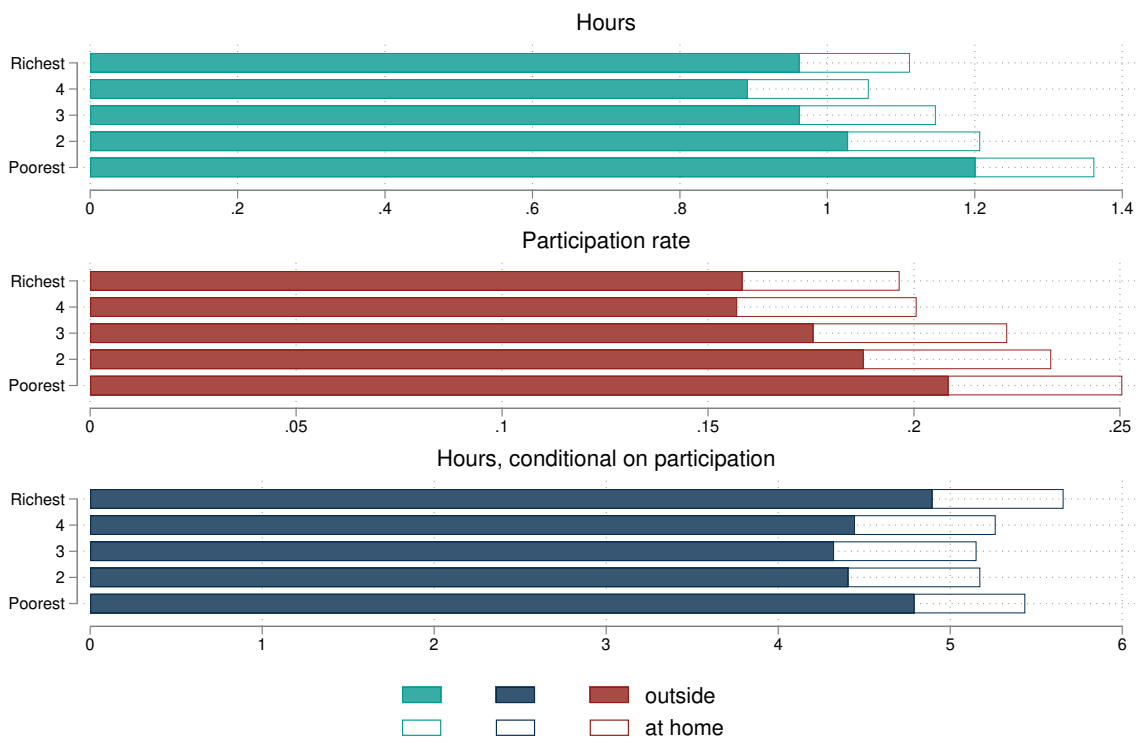
*Notes:* The sample includes married women and men, aged 18-64.

**Figure B.14: Market work by age and gender**



Notes: The sample includes married women and men, aged 18-64.

**Figure B.15: Market Work, women by expenditure deciles**



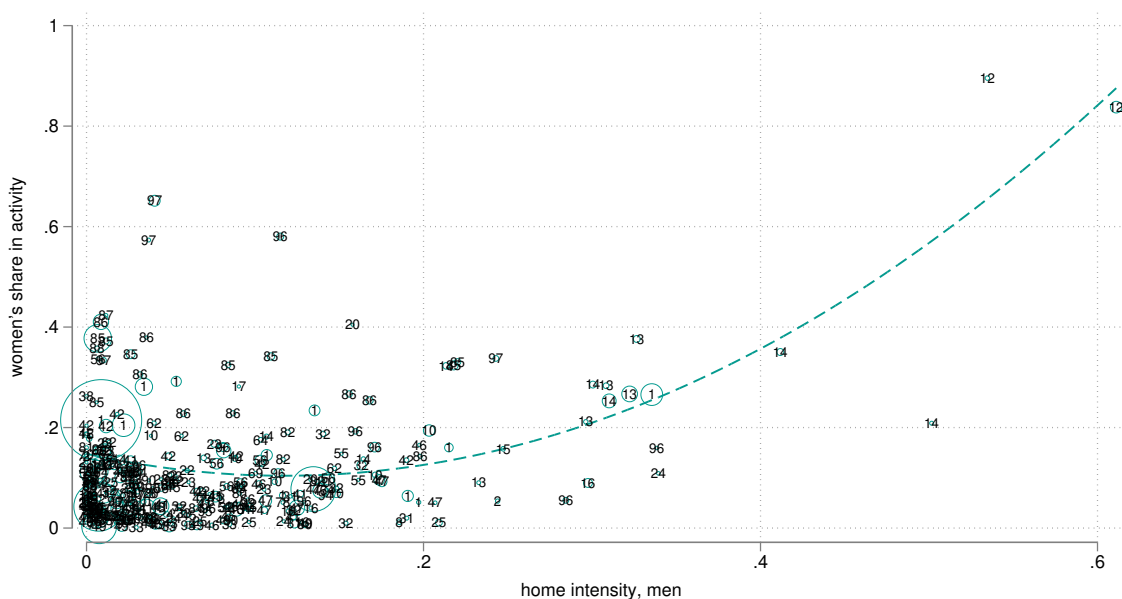


**Figure B.16: Market Work, women by educational attainment**



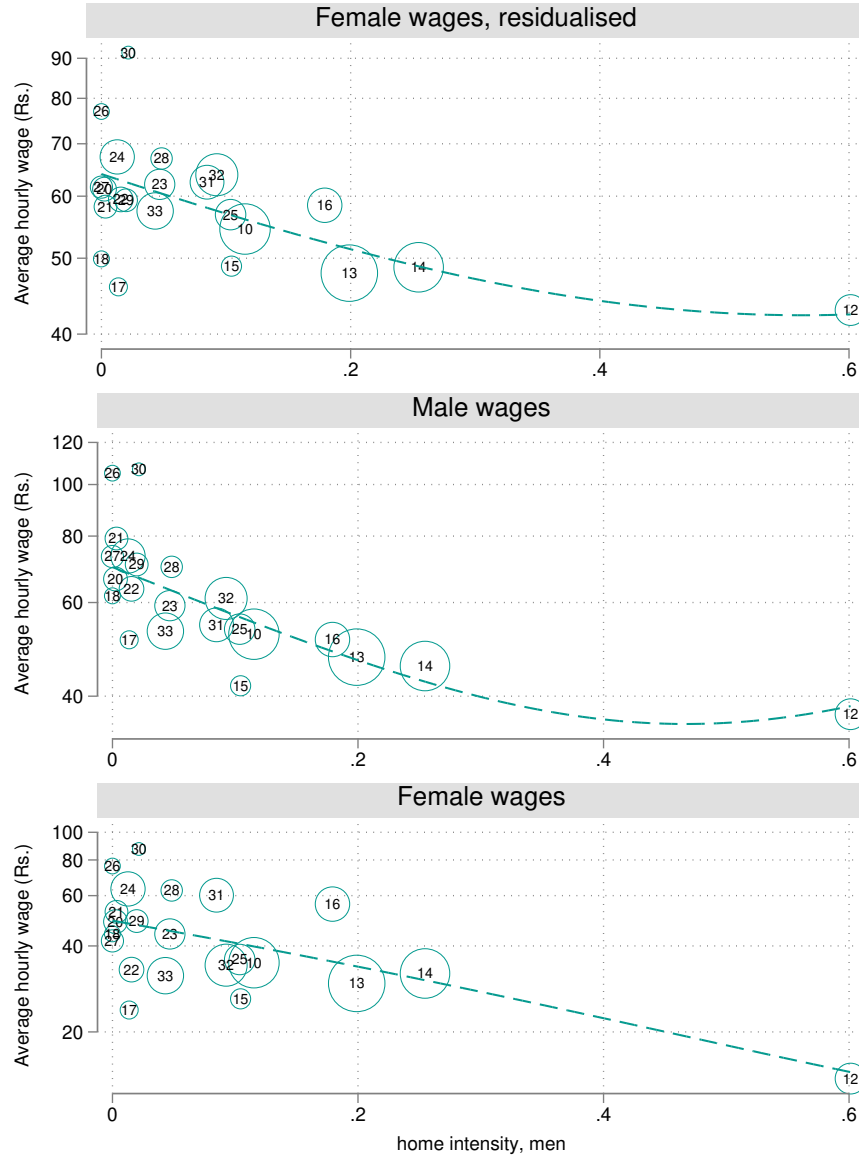
Notes: The sample includes married women and men, aged 18-64.

**Figure B.17: Paid work and jobs' home suitability (all industries)**



**Notes:** Each observation is a *job*, i.e. a unique combination of industry (following NIC 2008 classification) and task (3-digit activity code). *Home intensity* on the horizontal axis represents the share of times men are observed to be at home when engaged in each task according to the 2019 TUS survey. The vertical axis reports, for each job, the share of women in total hours.

**Figure B.18: Home working and wages**



**Notes:** Each observation is a manufacturing industry, following NIC 2008 definitions. *Home intensity* on the horizontal axis represents the share of times men are found at home when engaged in tasks related to each specific industry. The vertical axis reports average wages in each industry, and each panel focuses on a different measure of prevailing wages. The first panel uses average female wages, residualised against age, educational attainment, and state-by-urban fixed effects. The second and third panel, instead, use raw average wages for men and women respectively. Wage data from the Periodic Labour Force Survey, 2019. Markers' size is proportional to the frequency of each industry in TUS 2019 data.

**Table B.1:** Distribution of time outside, by gender

a. Time outside, 2019

		Women	Men
	mean	2.21	8.72
	median	0.50	9.50
hours:	0	0.454	0.041
	(0,2]	0.243	0.042
	(2,4]	0.099	0.051
	(4,6]	0.059	0.073
	(6,8]	0.061	0.139
	>8	0.083	0.654

b. Time outside, 2019 vs 1998

	year:	Women		Men	
		2019	1998	2019	1998
	mean	2.68	3.98	8.94	9.08
	median	1.00	3.17	9.50	9.45
hours:	0	0.375	0.116	0.034	0.011
	(0,2]	0.258	0.272	0.040	0.027
	(2,4]	0.119	0.197	0.052	0.031
	(4,6]	0.069	0.155	0.068	0.103
	(6,8]	0.069	0.113	0.138	0.182
	>8	0.110	0.148	0.668	0.646

**Notes:** The sample includes all married women and man, aged 18-64. *Time outside* includes time spent outside of the respondent's dwelling while engaged in any type of activity. In panel (b), we restrict the sample to those 6 States surveyed in 1998. Sampling weights used throughout.

**Table B.2:** Time use, women aged 18-64

	2019		2019, 6 States		1998, 6 States	
	sample: Married	Unmarried	Married	Unmarried	Married	Unmarried
	N: 128,628	34,909	28,435	8,143	18,148	4,162
Time outside	2.21	4.21	2.68	4.79	3.98	4.69
Market work	Inside 0.17	0.24	0.18	0.22	0.65	0.63
	Outside 1.02	1.63	1.28	2.02	1.78	2.16
Home production	Inside 6.47	3.13	6.09	2.95	5.98	3.60
	Outside 0.48	0.37	0.55	0.42	1.04	0.73
Leisure	Inside 3.43	3.73	3.47	3.72	0.73	1.12
	Outside 0.49	0.77	0.55	0.82	0.19	0.34
Learning	Inside 0.01	0.64	0.01	0.48	0.01	0.18
	Outside 0.02	1.11	0.02	1.05	0.01	0.22
Self-care	Inside 2.80	2.80	2.58	2.54	4.39	4.88
	Outside 0.16	0.26	0.22	0.37	0.91	1.17

**Table B.3:** Time use, men aged 18-64

	2019		2019, 6 States		1998, 6 States	
	sample: Married	Unmarried	Married	Unmarried	Married	Unmarried
	N: 117,049	45,698	26,307	10,609	17,386	5,450
Time outside	8.72	7.79	8.94	8.30	9.08	8.31
Market work	Inside 0.32	0.23	0.28	0.19	0.73	0.65
	Outside 6.16	4.09	6.19	4.50	6.06	4.68
Home production	Inside 0.68	0.52	0.52	0.45	0.40	0.44
	Outside 0.73	0.40	0.75	0.41	0.59	0.37
Leisure	Inside 2.93	3.28	2.95	3.23	0.87	1.30
	Outside 1.18	1.49	1.26	1.65	0.41	0.81
Learning	Inside 0.02	0.68	0.01	0.43	0.01	0.35
	Outside 0.02	1.24	0.02	1.04	0.02	0.37
Self-care	Inside 2.67	2.55	2.51	2.36	4.44	4.21
	Outside 0.53	0.46	0.59	0.56	1.87	1.95

**Table B.4:** Time outside the home (hours), OLS estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gender:	Women	Men	Women	Men	Women	Men	Women	Men
Year:	2019	2019	2019	2019	2019	2019	2019	2019
<i>Caste Group</i>								
Other (omitted)								
Scheduled tribe	1.241***	0.035					1.020***	0.149***
	(0.043)	(0.044)					(0.043)	(0.045)
Scheduled caste	0.418***	0.263***					0.265***	0.343***
	(0.028)	(0.034)					(0.029)	(0.035)
<i>Religion</i>								
Hinduism (omitted)								
Islam			-0.810***	0.308***			-0.620***	0.343***
			(0.027)	(0.041)			(0.028)	(0.042)
Christianity			0.499***	0.145			0.313***	0.094
			(0.102)	(0.102)			(0.099)	(0.103)
Sikhism			-0.459***	0.048			-0.571***	0.108
			(0.095)	(0.153)			(0.096)	(0.153)
Jainism			0.559***	-0.007			0.367**	-0.226
			(0.163)	(0.149)			(0.163)	(0.150)
Buddhism			0.041	0.055			-0.141	-0.025
			(0.143)	(0.198)			(0.138)	(0.199)
<i>Location</i>								
Rural (omitted)								
Urban					-0.813***	0.375***	-0.697***	0.384***
					(0.024)	(0.028)	(0.024)	(0.028)
Observations	127,838	116,271	127,838	116,271	127,838	116,271	127,838	116,271

Notes: Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. All regressions control for age, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.

**Table B.5:** Time outside the home (hours), 2019 VS 1998, OLS estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gender:	Women	Women	Women	Women	Women	Women	Women	Women
Year:	2019	1998	2019	1998	2019	1998	2019	1998
<i>Caste Group</i>								
Other (omitted)								
Scheduled tribe	1.586*** (0.081)	2.229*** (0.105)					1.301*** (0.080)	1.686*** (0.090)
Scheduled caste	0.534*** (0.068)	1.542*** (0.092)					0.388*** (0.069)	1.156*** (0.091)
<i>Religion</i>								
Hinduism (omitted)								
Islam			-1.448*** (0.078)	-1.801*** (0.113)			-1.002*** (0.080)	-0.899*** (0.104)
Christianity			0.520** (0.250)	-0.482* (0.212)			0.356 (0.229)	-0.368 (0.243)
Sikhism			-0.559** (0.291)	-1.156*** (0.322)			-0.601** (0.302)	-0.951*** (0.319)
Jainism			-0.129 (1.478)	-0.684 (1.190)			-1.052 (1.629)	-1.305 (1.181)
Buddhism			-1.194*** (0.304)	-0.612** (0.296)			-0.988*** (0.306)	-0.327 (0.237)
<i>Location</i>								
Rural (omitted)								
Urban					-1.119*** (0.052)	-2.671*** (0.073)	-0.919*** (0.053)	-2.333*** (0.074)
Observations	28,397	18,134	28,397	18,134	28,397	18,134	28,397	18,134

Notes: Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. Additionally, we use data only the following 6 States: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. All regressions control for age, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.



**Table B.6:** Time outside the home (hours), 2019 VS 1998, OLS estimates

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gender:	Men	Men	Men	Men	Men	Men	Men	Men
Year:	2019	1998	2019	1998	2019	1998	2019	1998
<i>Caste Group</i>								
Other (omitted)								
Scheduled tribe	0.274*** (0.078)	0.537*** (0.091)					0.336*** (0.000)	0.329*** (0.091)
Scheduled caste	0.286*** (0.069)	0.810*** (0.088)					0.431*** (0.070)	0.673*** (0.089)
<i>Religion</i>								
Hinduism (omitted)								
Islam			0.337*** (0.115)	-0.074 (0.145)			0.393*** (0.118)	0.349** (0.151)
Christianity			0.461** (0.181)	-1.083*** (0.205)			0.363** (0.117)	-0.958*** (0.202)
Sikhism			-0.237 (0.348)	0.504 (0.323)			-0.218 (0.347)	0.618* (0.317)
Janism			-2.731 (1.794)	-1.276 (1.756)			-2.890 (1.781)	-1.548 (1.632)
Buddhism			0.899 (0.934)	-1.038*** (0.282)			0.804 (0.941)	-0.833*** (0.258)
<i>Location</i>								
Rural (omitted)								
Urban					.220*** (0.055)	-1.229*** (0.093)	0.239*** (0.056)	-1.220*** (0.094)
Observations	26,270	17,372	26,270	17,372	26,270	17,372	26,270	17,372

Notes: Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. Additionally, we use data only the following 6 States: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. All regressions control for age, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.

**Table B.7:** Time outside the home (hours), 2019 VS 1998  
OLS estimates, no controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Women	Women	Women	Women	Women	Women
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	-0.284*** (0.033)	-0.423*** (0.078)	-0.454*** (0.097)			
3rd quintile	-0.358*** (0.034)	-0.551*** (0.080)	-0.903*** (0.096)			
4th quintile	-0.513*** (0.036)	-0.893*** (0.081)	-1.893*** (0.113)			
5th quintile	-0.509*** (0.037)	-1.151*** (0.080)	-2.732*** (0.101)			
<i>Education</i>						
Primary				-0.585*** (0.035)	-0.816*** (0.079)	-1.584*** (0.099)
Upper Primary				-0.845*** (0.033)	-1.268*** (0.073)	-2.259*** (0.103)
Secondary				-1.118*** (0.032)	-1.645*** (0.073)	-2.832*** (0.092)
Higher secondary				-1.027*** (0.040)	-1.535*** (0.087)	-2.857*** (0.125)
Tertiary				-0.265*** (0.043)	-0.963*** (0.091)	-2.443*** (0.126)
Observations	127,836	28,396	18,134	127,836	28,396	18,134

Notes: Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. Sampling weights used throughout, together with robust standard errors.

**Table B.8:** Time outside the home (hours), 2019 VS 1998.  
OLS estimates, with state, age and month-of-survey controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Women	Women	Women	Women	Women	Women
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	-0.305*** (0.032)	-0.452*** (0.075)	-0.452*** (0.097)			
3rd quintile	-0.439*** (0.032)	-0.659*** (0.078)	-1.061*** (0.094)			
4th quintile	-0.636*** (0.034)	-1.048*** (0.079)	-1.868*** (0.112)			
5th quintile	-0.687*** (0.036)	-1.355*** (0.080)	-2.770*** (0.101)			
<i>Education</i>						
Primary				-0.641*** (0.035)	-0.806*** (0.078)	-1.588*** (0.101)
Upper Primary				-0.909*** (0.033)	-1.207*** (0.073)	-2.258*** (0.105)
Secondary				-1.291*** (0.033)	-1.611*** (0.075)	-2.850*** (0.095)
Higher secondary				-1.152*** (0.040)	-1.493*** (0.091)	-2.900*** (0.124)
Tertiary				-0.461*** (0.042)	-0.998*** (0.093)	-2.468*** (0.130)
Observations	127,836	28,396	18,134	127,836	28,396	18,134

*Notes:* Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. All regressions control age dummies, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.

**Table B.9:** Time outside the home (hours), 2019 VS 1998  
OLS estimates, no controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Men	Men	Men	Men	Men	Men
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	-0.059 (0.039)	-0.101 (0.079)	-0.045 (0.090)			
3rd quintile	-0.018 (0.040)	-0.071 (0.080)	-0.223** (0.089)			
4th quintile	0.006 (0.042)	-0.042 (0.083)	-0.606*** (0.113)			
5th quintile	0.014 (0.045)	-0.096 (0.095)	-1.761*** (0.131)			
<i>Education</i>						
Primary				0.162*** (0.045)	0.302*** (0.087)	0.028 (0.101)
Upper Primary				0.179*** (0.040)	0.405*** (0.082)	-0.573*** (0.113)
Secondary				0.174*** (0.042)	0.326*** (0.085)	-0.852*** (0.118)
Higher secondary				0.020 (0.051)	0.321*** (0.099)	-1.461*** (0.136)
Tertiary				-0.061 (0.045)	0.227** (0.093)	-2.316*** (0.117)
Observations	116,269	26,269	17,372	116,271	26,270	17,372

Notes: Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. Sampling weights used throughout, together with robust standard errors.

**Table B.10:** Time outside the home (hours), 2019 VS 1998  
 OLS estimates, with state, age and month-of-survey controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Men	Men	Men	Men	Men	Men
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	-0.007 (0.037)	-0.054 (0.077)	0.061 (0.090)			
3rd quintile	0.064* (0.039)	-0.034 (0.078)	-0.159* (0.090)			
4th quintile	0.135*** (0.041)	-0.010 (0.081)	-0.511*** (0.109)			
5th quintile	0.223*** (0.045)	-0.021 (0.091)	-1.560*** (0.129)			
<i>Education</i>						
Primary				-0.054 (0.044)	0.062 (0.085)	-0.062 (0.100)
Upper Primary				-0.095** (0.039)	0.104 (0.081)	-0.748*** (0.120)
Secondary				-0.192*** (0.042)	-0.107 (0.086)	-1.014*** (0.114)
Higher secondary				-0.319*** (0.050)	-0.142 (0.099)	-1.639*** (0.131)
Tertiary				-0.392*** (0.044)	-0.247*** (0.093)	-2.323*** (0.117)
Observations	116,269	26,269	17,372	116,269	26,269	17,372

*Notes:* Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. All regressions control for religion, caste group (SC, ST, other), rural/urban, age dummies2, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.

**Table B.11:** Share of women spending any time outside the home, 2019 VS 1998.  
OLS estimates, no controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Women	Women	Women	Women	Women	Women
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	-0.032*** (0.005)	-0.039*** (0.010)	-0.026** (0.007)			
3rd quintile	-0.039*** (0.005)	-0.057*** (0.010)	-0.025*** (0.008)			
4th quintile	-0.070*** (0.005)	-0.110*** (0.011)	-0.116*** (0.012)			
5th quintile	-0.068*** (0.006)	-0.139*** (0.011)	-0.159*** (0.014)			
<i>Education</i>						
Primary				-0.072*** (0.006)	-0.071*** (0.011)	-0.083*** (0.012)
Upper Primary				-0.104*** (0.005)	-0.111*** (0.011)	-0.127*** (0.014)
Secondary				-0.164*** (0.005)	-0.178*** (0.011)	-0.180*** (0.019)
Higher secondary				-0.171*** (0.006)	-0.203*** (0.013)	-0.186*** (0.024)
Tertiary				-0.106*** (0.006)	-0.155*** (0.012)	-0.170*** (0.023)
Observations	127,836	28,396	18,134	127,836	28,396	18,134

*Notes:* Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. All regressions control age dummies, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.

**Table B.12:** Share of women spending any time outside the home, 2019 VS 1998.  
OLS estimates, with state, age and month-of-survey controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Women	Women	Women	Women	Women	Women
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	-0.036*** (0.005)	-0.046*** (0.010)	-0.016** (0.007)			
3rd quintile	-0.051*** (0.005)	-0.072*** (0.010)	-0.048*** (0.008)			
4th quintile	-0.087*** (0.005)	-0.130*** (0.011)	-0.111*** (0.012)			
5th quintile	-0.091*** (0.006)	-0.162*** (0.011)	-0.159*** (0.014)			
<i>Education</i>						
Primary				-0.073*** (0.005)	-0.066*** (0.011)	-0.057*** (0.012)
Upper Primary				-0.100*** (0.005)	-0.095*** (0.011)	-0.108*** (0.014)
Secondary				-0.161*** (0.006)	-0.163*** (0.012)	-0.163*** (0.020)
Higher secondary				-0.162*** (0.006)	-0.179*** (0.013)	-0.177*** (0.024)
Tertiary				-0.104*** (0.006)	-0.141*** (0.012)	-0.158*** (0.023)
Observations	127,836	28,396	18,134	127,836	28,396	18,134

*Notes:* Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. All regressions control age dummies, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.

**Table B.13:** Share of men spending any time outside the home, 2019 VS 1998.  
OLS estimates, no controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Women	Women	Women	Women	Women	Women
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	-0.032*** (0.005)	-0.039*** (0.010)	-0.026*** (0.007)			
3rd quintile	-0.039*** (0.005)	-0.057*** (0.010)	-0.025*** (0.008)			
4th quintile	-0.070*** (0.005)	-0.110*** (0.011)	-0.116*** (0.012)			
5th quintile	-0.068*** (0.006)	-0.139*** (0.011)	-0.159*** (0.014)			
<i>Education</i>						
Primary				-0.072*** (0.006)	-0.071*** (0.011)	-0.083*** (0.012)
Upper Primary				-0.104*** (0.005)	-0.111*** (0.011)	-0.127*** (0.014)
Secondary				-0.164*** (0.005)	-0.178*** (0.011)	-0.180*** (0.019)
Higher secondary				-0.171*** (0.006)	-0.203*** (0.013)	-0.186*** (0.024)
Tertiary				-0.106*** (0.006)	-0.155*** (0.012)	-0.170*** (0.023)
Observations	127,836	28,396	18,134	127,836	28,396	18,134

Notes: Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. Sampling weights used throughout, together with robust standard errors.



**Table B.14:** Share of men spending any time outside the home, 2019 VS 1998.  
OLS estimates, with state, age and month-of-survey controls

	(1)	(2)	(3)	(4)	(5)	(6)
Gender:	Men	Men	Men	Men	Men	Men
Year:	2019	2019	1998	2019	2019	1998
Sample:	Whole	6 States	6 States	Whole	6 States	6 States
<i>Household expenditure</i>						
2nd quintile	0.001 (0.002)	-0.000 (0.004)	0.002 (0.003)			
3rd quintile	-0.000 (0.002)	-0.000 (0.004)	0.002 (0.003)			
4th quintile	-0.004* (0.002)	0.000 (0.004)	-0.001 (0.004)			
5th quintile	-0.005** (0.002)	-0.012** (0.005)	0.004 (0.003)			
<i>Education</i>						
Primary				-0.000 (0.002)	0.003 (0.004)	-0.002 (0.003)
Upper Primary				-0.004* (0.002)	-0.000 (0.004)	-0.003 (0.003)
Secondary				-0.007*** (0.002)	-0.008* (0.004)	0.001 (0.003)
Higher secondary				-0.014*** (0.003)	-0.007 (0.005)	-0.002 (0.004)
Tertiary				-0.010*** (0.003)	-0.005 (0.004)	0.004 (0.003)
Observations	127,836	28,396	18,134	116,269	26,269	17,372

Notes:

Standard errors in parentheses, \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Sample restricted to married individuals of age between 18 and 64 years old. The 6 States sample includes data from: Haryana, Madhya Pradesh, Gujarat, Orissa, Tamil Nadu and Meghalaya, i.e. the States surveyed during the 1998 wave. All regressions control age dummies, State and month of survey fixed effects. Sampling weights used throughout, together with robust standard errors.

**Table B.15:** Leisure by gender and location, average hours per day

	Women			Men			
	Location:	Any	Home	Outside	Any	Home	Outside
Any leisure		4.257	3.751	0.506	4.552	3.269	1.283
Talking, conversing, chatting		1.662	1.454	0.208	1.949	1.414	0.535
Watching/listening to television and video		1.281	1.267	0.014	1.092	1.070	0.022
Activities associated with reflecting, resting, relaxing		0.866	0.836	0.030	0.702	0.585	0.117
Drinking other than with meal or snack		0.401	0.384	0.017	0.603	0.471	0.132
Socializing/getting together/gathering activities		0.247	0.108	0.139	0.396	0.098	0.298

*Notes:* Sample includes married women and men, of age between 18 and 64. The table reports both total hours engaged in leisure activities, as well as the five most common leisure activities performed by women, by gender and location.

## C Between and Within variation

This section describes how we decompose the gender gap in seclusion between the component accruing from gendered specialization between activities and gendered preferences in location within activities. For each cohort  $j$  and gender  $g \in \{f, m\}$ , we can re-write the number of hours spent outside  $h_{jg}$  as:

$$h_{jg} = \sum_a t_{jg}^a \times \omega_{jg}^a$$

where  $t_{jg}^a$  is the average time spent in activity  $a$ , and  $\omega_{jg}^a$  is the average share of time in activity  $a$  spent out of the home. Using this formulation, we can carry out two simple thought experiments. The first asks: what would the gap in seclusion be if women carried out their chosen activities in the same location where men perform these functions? That is, we compute the following:

$$\bar{h}_{jf} = \sum_a t_{jf}^a \times \omega_{jm}^a$$

The second experiment asks: what would the gap in seclusion amount to if women allocated their time similarly to men, but under the same mobility restrictions? That is, we compute the following:

$$\tilde{h}_{jf} = \sum_a t_{jm}^a \times \omega_{jf}^a$$

Remembering that this does not amount to a counterfactual based on the estimation of structural parameters,  $\bar{h}_{jf}$  provide a first indication as to what the data would look like if we shut down the *within* activity channel, and assumed that women chose the location of their activities similarly to men. On the other hand,  $\tilde{h}_{jf}$  represents an analogous exercise where we shut down the *between* activity source of variation across genders.<sup>15</sup>

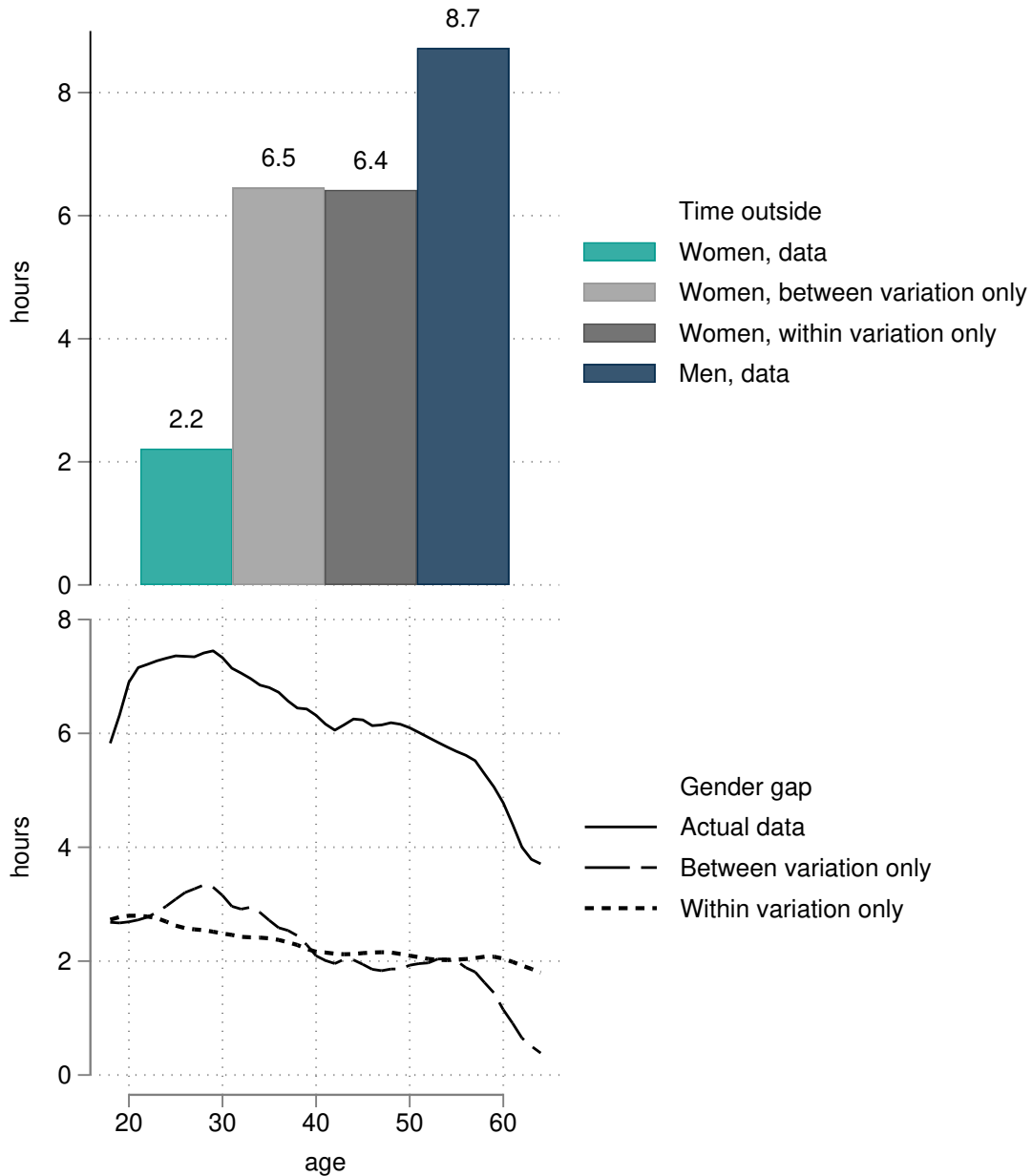
We carry out this exercise starting from the 6 macro groups of time use activities used in most of the paper: market work, home production, leisure, learning, self-care, and sleep. We

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<sup>15</sup>This approach is analogous to the one used in Levison (2009), and Copeland et al (2022)

focus on women and men, aged 18-64 years old and married. Figure C.1 show the result. First of all, shutting down either source of variation would drastically reduce women seclusion and approximately halve the gap with men. Yet, this exercise suggest that differences in time allocation between groups of activities is the largest contributor to the seclusion gap we observe in the data. If women allocated their time to the same activities that men engage in, the gender seclusion gap would fall by 63% and the amount of time spent outside the home would rise to 6.3 hours per day. Location restrictions, conditional on activity choice – the *within* variation – remain however important. Conditional on the activities chosen, if women were able to perform these activities out of the home at the same rate as men, their time outside would increase to 5.5 hours per day and the seclusion gender gap would fall by 51%.

**Figure C.1: Within & between variation**



*Note:* 2019 data, sample restricted to married women and man of age between 18 and 64 years old. The top panel reports average daily hours spent outside by men and women, together with two counterfactuals. The first counterfactual – *between variation only* – shows the number of average daily hours women would spend outside maintaining their allocation of time between activities unchanged, but assuming that these activities would be performed out of the home as often as men do. The second counterfactual – *within variation only* – shows the average daily hours women would spend out of the home if their allocation of time across activities was the same as men’s, but applying to each activity the home intensity observed for women. Panel (b) shows how each of these two margins – between and within variation – contributes to the gender gap in seclusion, by age.