Spousal Concordance in Joint and Separate Households
Survey Evidence from Nepal

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Electronic copy available at: https://ssrn.com/abstract=3674103
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Spousal Concordance in Joint and Separate Households: Survey Evidence from Nepal

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Abstract: Using data from Nepal, we analyze patterns of concordance between spouses on survey questions regarding asset ownership and decision making separately for households in which a respondent couple lives with the husband’s parents and those in which they do not. We consider concordance regarding both the roles of women respondents and the roles of people other than the respondent couple. We find that discordance regarding women’s roles is both substantial and systematic; women are much more likely than men to report women’s participation in asset ownership and decision making, and this qualitative pattern is similar across household types. Regarding the role of others, the modal response in joint households is concordance that others own assets and make decisions. However, women are more likely than men to acknowledge this role of others. Next, we find that spousal concordance that women have a role, and wives reporting they have a role while their husbands say that they do not, are both correlated with some improved measures of well-being. In households with in-laws present, concordance that others are involved is correlated with worse outcomes for women. These results highlight that spousal concordance is not necessarily indicative of women's well-being, especially in joint households.

Keywords: intrahousehold; assets; decision making; measurement; intergenerational; Nepal

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1. Introduction

Husbands and wives often provide different responses when asked the same questions in a household survey. An extensive literature has found that their answers differ when asked questions about consumption, women’s autonomy, and asset ownership, among other topics. The variation in responses of different household members and the extent of their concordance may provide important information about intrahousehold dynamics and has been associated with improved outcomes for women and children. Research on concordance within the household has focused almost exclusively on the role of the primary couple within the household, despite the fact that concordance between husband and wife is shaped by the household structure in which they live. Globally, over a third of the population lives in extended family households, with rates of 45% in the Asia-Pacific region (Pew Research Center, 2019).

In this paper, we analyze how the concordance of responses of husbands and wives on asset ownership and decision making within the household is affected by the structure of the household in which they live. We consider responses to these questions because a growing body of evidence demonstrates the importance of women’s ownership and control over assets and decision making for improving the well-being of women and their children (Allendorf, 2007a; Beegle, Frankenberg, & Thomas, 2001; Doss, 2006; Duflo, 2003; Quisumbing & Maluccio, 2003; Reggio, 2011). Using data from Nepal, we analyze the patterns of concordance separately for households in which the couple lives with the husband’s parents (a joint household) and those in which they have formed a separate household. We then extend this analysis to consider how these patterns of concordance are associated with a set of women’s outcomes that are related to women’s bargaining power and ask whether these relationships differ across the two household types.
Asking the same set of questions to multiple household members generates a wealth of information, but it also creates the challenge of determining how to analyze multiple—and sometimes contradictory—answers to the same question. Frequently, studies find that husbands and wives provide different answers when asked the same survey questions, particularly on questions about consumption decisions and about women’s autonomy (Allendorf, 2007a; Ambler et al., 2021; Anderson, Reynolds, and Gugerty, 2016; Deere & Twyman, 2012; Becker, Fonseca-Becker, & Schenck-Yglesias, 2006; Ghuman, Lee, & Smith, 2006; Jejeebhoy, 2002). While many studies in Asia reveal that husbands report higher levels of wives’ involvement in decision making compared to wives’ reports (Ghuman, Lee, & Smith, 2006; Jejeebhoy, 2002), both Allendorf (2007a) for Nepal and Ambler, Doss, Kieran, & Passarelli (2021) for Bangladesh find that wives generally report that they have a larger role in decision making than their husbands acknowledge.

A smaller strain of literature uses patterns of concordance to further understand household dynamics. Ambler et al. (2021) study asset ownership and decision making in Bangladesh and develop a framework that investigates potential drivers of the observed discordance. Their findings suggest that while measurement error likely accounts for some portion of the discordance, asymmetric information in the form of hidden assets or decisions also contributes to the patterns seen in the data. Annan et al. (2019) take a different approach in which they conceptualize disagreement over the wife’s role in decision making as women “taking power” or men “giving power” depending on the direction of the discordance. They relate patterns of discordance in the wife’s role in decision making in Sub-Saharan Africa to theories of power, arguing that woman claiming power is an important element of empowerment. Their work does not extend to asset ownership. Both studies further show that women reporting their involvement when men disagree
is associated with improved outcomes for women, though the correlation is strongest when both spouses agree on women’s involvement.

Simply considering men’s or women’s responses to questions about asset ownership and decision making, however, fails to recognize the broader context of households and communities. In particular, whether or not a woman’s husband recognizes her property rights or decision-making roles may affect the extent to which she influences processes and outcomes within the household. According to both Sen (1990) and Agarwal (1994), bargaining power is conditioned by context, including policies, social norms, and perceptions about each household member’s contribution.

In South Asia, including in Nepal, the structure of the household and a woman’s social location within it influences how she is able to exercise her property rights (Pradhan, Meinzen-Dick, & Theis, 2019) and whether she has any say in household decisions. A daughter-in-law generally has much less bargaining power than either the men in the household or her mother-in-law. There is an extensive literature, mostly qualitative, on intergenerational struggles and the low status of daughters-in-law within households in South Asia (see Gram et al., 2018 for a review). However, to our knowledge, no studies have analyzed how a couple’s position within the household affects the concordance of their responses. In part, this may be because surveys with multiple respondents typically interview the household head and spouse. When a man is the head of household, even if his married sons live with him, neither they nor his daughters-in-law will be interviewed. Yet the decisions that a young couple makes may have significant impacts on the well-being of both the wife and of the children. Using a unique dataset that interviewed the parents of young children, we are able to compare the responses of couples living with the husband’s parents to the responses of couples living in a separate household.
The main contribution of this paper is to build upon existing work examining concordance between spouses to study how these patterns differ under different types of household structures. We further examine not just concordance regarding the role of the woman in asset ownership and decision making, but also the role of others in these actions. The second dimension of our analysis is to consider how concordance is correlated with outcomes of women’s well-being. While there is a limited literature on this issue, (Becker et al. (2006), Allendorf (2007b), Poutvaara & Schwefer (2018), Annan et al. (2019), and Ambler et al. (2021)), all of it focuses on the couple, without explicitly considering the household structure.

To analyze spousal concordance, we use responses to survey questions about asset ownership and decision making designed to calculate two components of the Women’s Empowerment in Agriculture Index (WEAI), a measurement of empowerment, agency, and inclusion of women in the agriculture sector (Alkire et al., 2013). First, we analyze the extent to which husbands and wives provide the same responses about who owns assets and makes decisions. We follow the typology used in Ambler et al. (2021) and focus on whether or not wives and husbands report the same information regarding women’s roles. We also adapt this typology to examine husbands' and wives’ reports regarding the role of others in the household. We find that discordance regarding women’s roles is both substantial and systematic; women’s participation in asset ownership and decision making are much more likely to be reported by women than by men. While women are more likely to be involved overall in households without in-laws, the qualitative pattern of discordance is the same across household types. Regarding the participation of others in households with the woman respondent’s in-laws, the modal response is concordance that others are involved in household decision making and asset ownership. However,
we also document a similar pattern of discordance in that women are more likely than men to acknowledge the role of others.

Finally, we examine how these measures of concordance regarding women’s and other’s roles are correlated with measures of women’s well-being. One might expect households with higher levels of concordance to have better outcomes for women. Qualitative literature from a range of countries indicates that family harmony is often highly valued and may be correlated with better outcomes for women (Meinzen-Dick et al., 2019). On the other hand, concordance between spouses could also reflect more monitoring by a suspicious spouse. Evidence from a lab-in-the-field experiment suggests that, among individuals who exploit private information in the lab, greater knowledge about a spouse’s income or expenditures is associated with more opportunism in the lab (Hoel, 2015). The high levels of concordance in the survey data are driven by both spouses reporting that the wife does not own assets or participate in decision making. Previous work suggests that women acknowledging their role even though men do not is associated with improved outcomes for women, although it is better when both men and women acknowledge women’s roles (Ambler et al., 2021, Annan et al. 2019).

We document that spousal concordance that women have a role, and women reporting they have a role while men do not, are both correlated with some improved measures of well-being. In households with in-laws present, concordance that others are involved is correlated with worse outcomes for women. Additionally, when only the wife reports that others are involved in decision making, this correlation is even stronger. In other words, the involvement of others is associated with worse outcomes for women, and this is even more true when the husband is unaware of this involvement.
This paper proceeds as follows: Section 2 discusses the context and data. Section 3 provides a description of the extent of concordance and discordance in the data. Section 4 examines whether concordance on women’s or others’ asset ownership and decision making are correlated with women’s outcomes. Section 5 discusses the results and concludes.

2. Context and data

We analyze the Nepal Suaahara Baseline Survey, which includes the Women’s Empowerment in Agriculture (WEAI) modules. This survey is designed to evaluate Suaahara, a five-year USAID funded initiative that aims to improve nutritional status among children under five and their mothers in Nepal. The baseline survey was administered in 2012 to households with at least one child under five years of age in 16 districts spanning the three agroecological zones of mountains, hills, and the Terai lowlands. Enumerators administered a questionnaire to the mother of the index child (a randomly selected child under five) and a separate questionnaire to her husband, who is generally the father of the index child. Thus, we have answers to the same questions from the husband and wife. Because married sons often live with their parents in Nepal, almost 30% of the couples in the sample are the son and daughter-in-law of the household head.2 We restrict the sample to the 1,643 cases where both members of a married couple responded to the individual questionnaire and in which we can ascertain whether they live with the parents-in-law of the woman respondent.3 We conduct the analysis separately for households with the parents-in-law of the woman respondent (913 households) and without her parents-in-law (730 households).

2 Less than one percent of couples in this sample live with the wife’s parents.
3 This excludes 17 households in which we cannot determine whether the respondents live with the man respondent’s parents because the man respondent is the son-in-law, grandson, nephew, or “other relative” of the household head. We also exclude 34% of the surveyed households for which only a primary woman decision maker responded. The high proportion of households with no male respondents is due to substantial male outmigration (Malapit et al., 2015). Thus, our findings are not necessarily representative of households in which spouses live apart. A different survey methodology would be needed to address issues in households with migrant husbands.
2.1 Context

Although the current Constitution in Nepal decrees equality for all, and reforms have promoted gender equality over the last several decades, discriminatory practices and patriarchal norms persist (ADB, 2010). Until recently, daughters only had a claim to a share of their father’s property if they were not married and they traditionally relinquished their claims to other heirs if they married after inheriting property. The passage of the Gender Equality Act in 2006 granted married women the legal right to keep inherited property and gave women the right to use property without a male family member’s consent. Despite these efforts, women are much less likely than men to own property. According to the 2016 Demographic and Health Survey (DHS) in Nepal, just 8% of women own a house alone or jointly as compared to 19% of men. Similarly, 11% of women own land alone or jointly while 23% of men do (Ministry of Health, Nepal et al., 2017).

Findings from the DHS also suggest that women’s participation in household decision making in Nepal is limited. For example, 42% of currently married women between ages 15 and 49 say that they do not decide, either alone or jointly with their husbands, about their own health care. The comparable numbers for men are less than 15%. And notably, about one-fourth of women indicate that they do not decide, whether alone or jointly, how to use the inherited assets they receive before marriage, called pewa (Ministry of Health, Nepal et al., 2017; Pradhan, Meinzen-Dick, & Theis, 2019).

In Nepal, the social locations of women within households play a key role in determining women’s property rights and involvement in decision making (Allendorf, 2007a; Singh, 2016; Pradhan, Meinzen-Dick, & Theis, 2019). When a woman marries, she generally moves into a joint household with her parents-in-law. The couple may eventually split off from the joint household
to form a separate household, which may expand when the sons get married. Daughters-in-law in joint households generally have weak rights and little to no decision-making power over joint property of the household (Pradhan, Meinzen-Dick, & Theis, 2019). While their rights over personal property are stronger, even these rights are not guaranteed.

2.2 Description of variables and methods

Our analysis begins by assessing spousal concordance and discordance using two indicators of women’s empowerment: ownership of productive assets and decision making on household activities. We assess asset ownership using the survey question: “Who would you say owns most of the [productive capital]?“ The categories of productive capital include agricultural land, other land not used for agriculture, large livestock (e.g. cattle, horse), small livestock (e.g. goats, pigs, sheep, chickens), fish pond or fishing equipment, non-mechanized farm equipment, mechanized farm equipment, non-farm business equipment, house (and other structures), large consumer durables (e.g. fridge, TV, sofa), small consumer durables (e.g. radio, cookware), mobile phone, and transportation (e.g. bicycle, motorcycle, car, rickshaw, horse cart).

For decision making, we consider the question, “Who normally takes the decision regarding [activity]?“ The activities include agricultural production (what to grow and types of crops to plant), taking crops to market, livestock raising, non-farm business activity, major household expenditures (e.g. refrigerator, TV), minor household expenditures (e.g. food for daily consumption or other necessities), use of family planning products, and children’s health care.

4 The surveys also include the following questions on this topic: who can decide whether to sell [productive capital] most of the time; who can decide whether to give away [productive capital] most of the time; who can decide to mortgage or rent out [productive capital] most of the time; and who contributes most to decisions regarding a new purchase of [productive capital]. Our preliminary analyses showed that responses were similar across questions of who owns assets and the various rights of alienation. For simplicity, we chose to focus on asset ownership questions as representative of the responses found in this module.

5 We exclude activities that refer to personal rather than household decisions because they are not the same question across husband and wife. These include the following activities: your own (singular) wage or salary employment,
For all of these questions, the response options include: self; spouse; self and spouse jointly; other male household member; other female household member; self and other household member(s); spouse and other household member(s); self, spouse, and other household member(s); someone (or group of people) outside the household; self and other outside people; spouse and other outside people; and self, spouse, and other outside people.

Since the combinations of all possible responses of husbands and wives would be too numerous to effectively analyze, we collapse responses into a smaller number of categories. We are particularly interested in whether there is concordance in responses about the wife’s roles and thus we follow Ambler et al. (2021) and analyze the following categories: (1) neither spouse says the wife owns or decides; (2) both spouses say the wife owns or decides; (3) the wife says she owns or decides, but the husband reports that she does not; and (4) the husband says the wife owns or decides, but she reports that she does not. The first two categories represent measures of concordance, and the latter two represent discordance. Concordance does not necessarily mean that spouses provided exactly the same responses, but rather that they agreed on the wife’s involvement in ownership and decision making, either solely or jointly. Their responses may have differed regarding whether other people are joint owners of the assets or are involved in the decision. This approach focuses on meaningful variation and reduces measurement error.

In addition to analyzing concordance on responses regarding women’s ownership and involvement in decision making, we also analyze concordance on responses regarding the involvement of others – those other than couple, whether inside or outside the household – as owners or decision-makers. Given our focus on different household structures, this additional

your health and nutrition, how to keep yourself from domestic violence, and whether to go to your mother’s or friend’s house. Moreover, only women are asked about decisions regarding the last two activities. We also exclude decisions about feeding children because they are highly correlated with decisions about children’s health care.
analysis provides more information on how asset ownership and decision making varies by type of household. Similar to our approach for concordance regarding the wife’s involvement, we define four additional categories of concordance regarding whether other individuals own assets or make decisions. These include: (1) neither spouse says that others own or decide; (2) both spouses say that others own or decide; (3) the wife says that others own or decide, but the husband says they do not; and (4) the husband says that others own or decide, but the wife says they do not.

The questions regarding who owns assets and makes decisions were skipped when the respondent said that no one in the household possessed the asset or engaged in the activity. Thus, we occasionally have responses from only one spouse. In this situation, we use the information from the spouse who provided the information and assign a response of “wife or husband doesn’t own or make decision” to the other spouse per the approach of Ambler et al. (2021). We code the responses on whether others own or decide similarly.

The final dimension of our analysis is to consider the relationship between these various indicators of concordance within the household and a set of outcome measures. These outcomes have all been identified in the literature as related to women’s empowerment or bargaining power. The outcomes include the number of groups in which she is an active member (Alkire et al., 2013; Narayan, 2002), current use of any method to delay or avoid pregnancy (Schuler, Hashemi, & Riley, 1997), number of antenatal visits during her last pregnancy (Beegle et al., 2001), satisfaction with leisure time\(^6\) (Brown, 2009), and the proportion of decisions made in which she participates (Hou and Ma, 2013). All of these outcomes are only collected from woman respondents.

\(^6\) Our measure ranges from 1 for very unsatisfied to 5 for very satisfied.
2.3 Summary statistics

In Table 1, we present summary statistics on women’s outcomes as well as for the control variables included in the subsequent analyses. We disaggregate all results by whether or not the couple lives with the husband’s parents. All outcome variables are coded positively, so that a higher value is associated with greater well-being. The average number of groups in which woman respondents are active members, the use of contraceptive methods, and satisfaction with leisure time are similar across households with and without in-laws. By contrast, the number of antenatal visits during the woman respondent’s last pregnancy is higher in households with in-laws (3.7) than in households without (3.1), and the percentage of decisions made in which the woman respondent participates is lower in households with in-laws (55%) than in those without (76%).

Husbands are, on average, older and more educated than their wives. The age gap is larger in households without in-laws while the education gap is larger in households with in-laws. Not surprisingly, households with in-laws also have more land, a greater probability of access to electricity and finished roofing, more adults, more total household members, and more assets than households without in-laws.
Table 1: Summary Statistics

| VARIABLES                                                                 | Households with in-laws | Households without in-laws | Difference in means |
|---------------------------------------------------------------------------|--------------------------|---------------------------|---------------------|
|                                                                            | (1)          | (2)            | (3)          | (4)    | (5)          | (6)          | (7)          |
| N, Mean, Standard deviation                                               | N, Mean, Standard deviation |
| Outcome variables                                                         |              |                |              |        |              |              |              |
| Number of groups in which woman respondent is active member               | 730          | 0.23, 0.61     | 913          | 0.21   | 0.55         | -0.02        |
| Current use of method to delay or avoid pregnancy                         | 665          | 0.49, 0.50     | 856          | 0.53   | 0.50         | 0.04         |
| Number of antenatal visits during last pregnancy                          | 730          | 3.70, 2.02     | 911          | 3.06   | 2.05         | 0.63***      |
| Woman respondent’s satisfaction with leisure time                          | 729          | 3.60, 1.10     | 913          | 3.57   | 1.13         | -0.03        |
| Proportion of decisions made in which woman respondent participates       | 730          | 0.55, 0.25     | 913          | 0.76   | 0.25         | 0.28***      |
| Demographic variables                                                     |              |                |              |        |              |              |              |
| Age of husband                                                            | 730          | 29.15, 6.56    | 912          | 35.15  | 8.92         | 6.00***      |
| Age of wife                                                               | 730          | 25.68, 5.73    | 913          | 29.88  | 6.87         | 4.20***      |
| Age difference (husband-wife)                                             | 730          | 3.46, 3.58     | 913          | 5.26   | 5.56         | 1.79***      |
| Years of education for husband                                            | 729          | 7.26, 3.66     | 913          | 5.46   | 4.12         | -1.79***     |
| Years of education for wife                                               | 730          | 5.92, 5.01     | 913          | 4.97   | 5.40         | -0.95***     |
| Difference in years of education (husband-wife)                           | 729          | 1.33, 4.66     | 913          | 0.49   | 5.55         | -0.84***     |
| Proportion of woman-headed households                                     | 730          | 0.12, 0.33     | 913          | 0.00   | 0.07         | -0.12***     |
| Household size                                                            | 730          | 7.39, 2.50     | 913          | 5.14   | 1.66         | -2.25***     |
| Number of women in household ages 16+                                     | 730          | 2.40, 0.87     | 913          | 1.15   | 0.41         | 0.06***      |
| Number of men in household ages 16+                                       | 730          | 2.09, 0.94     | 913          | 1.13   | 0.42         | 0.09***      |
| Proportion of girls in household, ages 0-15                                | 730          | 0.20, 0.14     | 912          | 0.29   | 0.19         | -0.05***     |
| Proportion of women in household, ages 16+                                 | 730          | 0.34, 0.09     | 912          | 0.24   | 0.07         | -0.10***     |
| Proportion of boys in household, ages 0-15                                 | 730          | 0.18, 0.13     | 912          | 0.24   | 0.17         | -0.96***     |
| Proportion of men in household, ages 16+                                   | 730          | 0.29, 0.10     | 912          | 0.23   | 0.08         | -1.25***     |
| Hindu                                                                     | 730          | 0.91, 0.29     | 913          | 0.88   | 0.32         | -0.02        |
| Mountain region                                                           | 730          | 0.30, 0.46     | 913          | 0.30   | 0.46         | 0.01         |
| Hill region                                                               | 730          | 0.37, 0.48     | 913          | 0.43   | 0.50         | 0.06**       |
| Terai region                                                              | 730          | 0.33, 0.47     | 913          | 0.27   | 0.44         | -0.06***     |
| Acres of cultivable land                                                  | 730          | 0.61, 0.88     | 913          | 0.29   | 0.34         | -0.32***     |
| Access to electricity                                                     | 730          | 0.86, 0.35     | 913          | 0.80   | 0.40         | -0.06***     |
| Roof material                                                             | 730          | 0.79, 0.41     | 913          | 0.72   | 0.45         | -0.07***     |
| Number of assets owned by household (out of 12)                           | 730          | 8.11, 1.24     | 913          | 7.14   | 1.42         | -0.97***     |
| Number of decision categories made by household (out of 8)                | 730          | 6.24, 1.12     | 913          | 5.84   | 1.20         | -0.40***     |

Notes: *** p<0.01, ** p<0.05, * p<0.1
3. Spousal concordance

In this section, we assess spousal concordance on whether the wife owns assets and makes decisions and the role of people other than the respondent couple.

3.1 Concordance on wives’ role in the household

The patterns of concordance regarding the assets owned by the wife are presented in Table 2, disaggregated by household structure. Each asset is listed in a separate row, with each column representing one of the four response categories. We first show the proportion of couples who agree that the wife does not own each asset type and the proportion who agree that she does. We then present the proportion of couples in which the wife reports that she owns the asset, but her husband does not, followed by the proportion of couples in which the husband reports that his wife owns the asset, but she does not. Finally, we sum the first two columns to present total concordance. The number of observations represents households where at least one spouse reports that the household owns the asset. Following the same structure, Table 3 displays information regarding the wife’s involvement in decision making.
|                              | Panel A: Households with in-laws |                  | Panel B: Households without in-laws |                  |
|------------------------------|----------------------------------|------------------|-------------------------------------|------------------|
|                              | C: Wife does not own             | C: Wife owns     | D: Wife says wife owns, husband does not | D: Husband says wife owns, wife does not | Total concordance | Number of observations | Total concordance | Number of observations |
| Agricultural land            | 0.84 0.12 0.04 0.01 0.96         | 713              | 0.68 0.19 0.08 0.04 0.88            | 833              |
| Non-agricultural land        | 0.87 0.07 0.05 0.01 0.94         | 329              | 0.74 0.13 0.08 0.04 0.87            | 365              |
| Large livestock              | 0.49 0.16 0.30 0.05 0.65         | 657              | 0.24 0.34 0.34 0.07 0.59            | 629              |
| Small livestock              | 0.43 0.19 0.31 0.07 0.62         | 623              | 0.24 0.38 0.29 0.08 0.62            | 637              |
| Fish pond or fishing equipment | 0.47 0.13 0.30 0.11 0.59      | 64               | 0.64 0.06 0.10 0.20 0.70            | 50               |
| Farm equipment (non mechanized) | 0.32 0.23 0.39 0.06 0.54     | 724              | 0.22 0.41 0.29 0.08 0.63            | 874              |
| Farm equipment (mechanized)  | 0.83 0.08 0.04 0.04 0.92         | 24               | 0.44 0.11 0.33 0.11 0.56            | 9                |
| Non-farm Business Equipment  | 0.68 0.11 0.15 0.06 0.79         | 80               | 0.50 0.18 0.21 0.11 0.68            | 84               |
| House                        | 0.75 0.16 0.06 0.02 0.92         | 727              | 0.63 0.17 0.12 0.08 0.79            | 874              |
| Large durables               | 0.41 0.19 0.32 0.08 0.59         | 395              | 0.27 0.30 0.32 0.11 0.57            | 371              |
| Small durables               | 0.31 0.23 0.36 0.11 0.54         | 722              | 0.22 0.43 0.23 0.12 0.65            | 899              |
| Mobile phone                 | 0.47 0.13 0.35 0.05 0.60         | 639              | 0.47 0.23 0.22 0.08 0.70            | 682              |
| Means of Transportation      | 0.63 0.20 0.12 0.05 0.83         | 223              | 0.75 0.06 0.16 0.04 0.80            | 216              |

**Notes:** We sum the first two columns of each panel to present total concordance. The number of observations represents households where at least one spouse reports that the household owns the asset.
Table 3: Concordance and discordance regarding wife's decision making (share of households)

|                          | C: Wife does not decide | C: Wife decides | D: Husband says wife decides, husband does not | D: Wife says wife decides, wife does not | Total concordance | Number of observations |
|--------------------------|-------------------------|-----------------|-----------------------------------------------|------------------------------------------|-------------------|------------------------|
| Panel A: Households with in-laws |                         |                 |                                               |                                          |                   |                        |
| Agricultural production | 0.57                    | 0.13            | 0.20                                          | 0.02                                    | 0.78              | 706                    |
| Taking crops to market  | 0.74                    | 0.21            | 0.11                                          | 0.03                                    | 0.86              | 262                    |
| Livestock raising       | 0.51                    | 0.21            | 0.24                                          | 0.04                                    | 0.72              | 701                    |
| Non-farm business activity | 0.70          | 0.12            | 0.16                                          | 0.02                                    | 0.82              | 396                    |
| Major household expenditures | 0.58            | 0.18            | 0.20                                          | 0.04                                    | 0.76              | 420                    |
| Minor household expenditures | 0.49            | 0.23            | 0.23                                          | 0.05                                    | 0.72              | 730                    |
| Use of family planning  | 0.20                    | 0.30            | 0.42                                          | 0.08                                    | 0.50              | 610                    |
| Health care of children | 0.28                    | 0.27            | 0.44                                          | 0.02                                    | 0.55              | 730                    |
| Panel B: Households without in-laws |                 |                 |                                               |                                          |                   |                        |
| Agricultural production | 0.34                    | 0.23            | 0.40                                          | 0.02                                    | 0.57              | 803                    |
| Taking crops to market  | 0.54                    | 0.10            | 0.28                                          | 0.08                                    | 0.64              | 249                    |
| Livestock raising       | 0.27                    | 0.26            | 0.41                                          | 0.05                                    | 0.54              | 753                    |
| Non-farm business activity | 0.63          | 0.07            | 0.25                                          | 0.04                                    | 0.71              | 502                    |
| Major household expenditures | 0.42            | 0.18            | 0.36                                          | 0.05                                    | 0.59              | 443                    |
| Minor household expenditures | 0.34            | 0.23            | 0.36                                          | 0.07                                    | 0.58              | 913                    |
| Use of family planning  | 0.21                    | 0.37            | 0.34                                          | 0.08                                    | 0.58              | 753                    |
| Health care of children | 0.37                    | 0.38            | 0.23                                          | 0.02                                    | 0.75              | 913                    |

Notes: We sum the first two columns of each panel to present total concordance. The number of observations represents households where at least one spouse reports that the household owns the asset.
Overall, there are high levels of concordance in responses. For all assets and decisions, there is concordance among at least 50% of couples, with particularly high rates for the ownership of land (both agricultural and non-agricultural), housing, and means of travel. For most assets and decisions, levels of concordance about the wife’s role in ownership and decision making are higher in households with in-laws than in households without in-laws. This is driven by high levels of concordance that the wife does not own assets or make decisions when in-laws are present, presumably because other household members play a role in ownership and decision making.

Conversely, there is more concordance that wives own assets when in-laws are not present, suggesting that women are able to take a greater role when there is less competition from more senior household members. The only exceptions are fish ponds/fishing equipment and means of transportation. Similarly, there is more concordance that wives make decisions when in-laws are not present. The exceptions are taking crops to market and non-business farm activities. For both minor and major household expenditures, the proportion of couples who agree that the wife decides is approximately the same across household types.

Only in households without in-laws do we ever see that the most common response is concordance that the wife owns assets. We see this only for small livestock, non-mechanized farm equipment, and small durables—which are all small assets. Living in an extended family prevents women from participating even in activities typically performed by women.

Discordance is also frequent and systematic. Across both household types, the most common form of discordance is for the wife to say that she owns the assets or makes the decisions, but her husband says that she does not. There is substantial variation in discordance across types of assets and activities. These discordance patterns are consistent with the evidence
presented in Ambler et al. (2021) from Bangladesh, which found that discordance is likely a function of both measurement error and the presence of asymmetric information in the household.

In general, discordance is higher in households without in-laws than households with in-laws—possibly because women’s lesser roles are well understood when in-laws are present. Women are also, in general, more likely to report that they own assets or participate in decisions when in-laws are not present. Although the levels differ, the patterns described above are similar across household types. Discordance systematically favors wives’ roles and there is variation across types of assets and decisions.

3.2 Concordance on the role of others in the household

Table 4 presents spousal concordance regarding the roles of other individuals in asset ownership, while Table 5 focuses on others’ role in decision making. The patterns of concordance differ dramatically across households with and without in-laws. In households with in-laws, others play a large role in asset ownership, and the most common response is concordance that others own assets. The exceptions are for non-farm business equipment, mobile phones, and means of transportation. The most common response regarding decision making in households with in-laws is concordance that that others decide for agricultural production, taking crops to market, livestock raising, and minor household expenditures, and concordance that others do not decide for non-farm business activities, major household expenditures, use of family planning, and childcare. Concordance is far from universal, with rates ranging from near 60 percent to 90 percent across assets and activities. Total concordance on others’ role compared to total concordance regarding the wife’s role varies as well; concordance is sometimes higher regarding the role of others and sometimes higher regarding the role of wives.
By contrast, households without in-laws generally agree that others do not own assets and do not make decisions. There is some involvement of others in the ownership of land and houses, but in more than 80 percent of cases there is concordance that others do not own assets. In general, concordance that others do not participate in decision making is over 90 percent. This is due to the fact that these households typically do not have other adults living in them. However, it does indicate a level of independence from extended family. Households without in-laws have very different dynamics than households with in-laws in that asset ownership and decision making are limited to the husband and wife.

Discordance on the involvement of others is higher in households with in-laws than in those without. When there is discordance regarding asset ownership and decision making by others, it is more common that the wife says that others own the asset or make the decision, but the husband does not. This pattern could be further evidence of asymmetric information in the household. If wives are interacting frequently with their mothers-in-law, the husband may not be fully aware of the extent to which his mother owns assets or participates in decisions. The one interesting exception is regarding the care of children. In 29% of households with in-laws, the husband says that others are involved in these decisions, but only 8% of wives report others being involved. This could be evidence of a similar pattern, where husbands believe others are taking on a larger role in childcare than they actually are. However, the systematic nature of this difference across categories (i.e. the extent to which women acknowledge others’ involvement and men do not is greater than vice versa) is much smaller than when considering the responses regarding women’s roles.
Table 4: Concordance and discordance regarding other's asset ownership (share of households)

|                        | Panel A: Households with in-laws | Panel B: Households without in-laws |
|------------------------|----------------------------------|-----------------------------------|
|                        | C: Others do not own | C: Others own | D: Wife says others own, husband does not | D: Husband says others own, wife does not | Total concordance | Number of observations | C: Others do not own | C: Others own | D: Wife says others own, husband does not | D: Husband says others own, wife does not | Total concordance | Number of observations |
| Agricultural land      | 0.09 | 0.81 | 0.08 | 0.02 | 0.90 | 713 | 0.46 | 0.39 | 0.11 | 0.05 | 0.85 | 833 |
| Non-agricultural land  | 0.13 | 0.61 | 0.16 | 0.11 | 0.74 | 329 | 0.54 | 0.27 | 0.12 | 0.07 | 0.80 | 365 |
| Large livestock        | 0.11 | 0.74 | 0.10 | 0.06 | 0.84 | 657 | 0.86 | 0.04 | 0.07 | 0.03 | 0.90 | 629 |
| Small livestock        | 0.13 | 0.65 | 0.14 | 0.09 | 0.77 | 623 | 0.88 | 0.03 | 0.06 | 0.04 | 0.90 | 637 |
| Fish pond or fishing equipment | 0.27 | 0.36 | 0.25 | 0.13 | 0.63 | 64 | 0.92 | 0.00 | 0.02 | 0.06 | 0.92 | 50 |
| Farm equipment (non mechanized) | 0.09 | 0.75 | 0.11 | 0.04 | 0.85 | 724 | 0.84 | 0.04 | 0.08 | 0.04 | 0.88 | 874 |
| Farm equipment (mechanized) | 0.08 | 0.50 | 0.25 | 0.17 | 0.58 | 24 | 0.67 | 0.11 | 0.11 | 0.11 | 0.78 | 9 |
| Non-farm Business Equipment | 0.46 | 0.21 | 0.15 | 0.18 | 0.68 | 80 | 0.89 | 0.02 | 0.04 | 0.05 | 0.92 | 84 |
| House                  | 0.10 | 0.78 | 0.09 | 0.03 | 0.88 | 727 | 0.57 | 0.26 | 0.10 | 0.07 | 0.83 | 874 |
| Large durables         | 0.24 | 0.43 | 0.18 | 0.15 | 0.67 | 395 | 0.86 | 0.02 | 0.06 | 0.05 | 0.88 | 371 |
| Small durables         | 0.11 | 0.66 | 0.13 | 0.10 | 0.77 | 722 | 0.86 | 0.03 | 0.05 | 0.06 | 0.89 | 899 |
| Mobile phone           | 0.44 | 0.30 | 0.13 | 0.13 | 0.74 | 639 | 0.87 | 0.05 | 0.04 | 0.04 | 0.92 | 682 |
| Means of Transportation| 0.48 | 0.18 | 0.19 | 0.15 | 0.66 | 223 | 0.91 | 0.02 | 0.03 | 0.05 | 0.93 | 216 |

Notes: We sum the first two columns of each panel to present total concordance. The number of observations represents households where at least one spouse reports that the household owns the asset.
Table 5: Concordance and discordance regarding other’s decision making (share of households)

|                          | **Panel A: Households with in-laws** | **Panel B: Households without in-laws** |                  |                  |                  |                  |                  |                  |
|--------------------------|--------------------------------------|-----------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                          | C: Others do not decide | C: Others decide | D: Wife says others decide, husband does not | D: Husband says others decide, wife does not | **Total concordance** | **Number of observations** | C: Others do not decide | C: Others decide | D: Wife says others decide, husband does not | D: Husband says others decide, wife does not | **Total concordance** | **Number of observations** |
| Agricultural production  | 0.21 | 0.62 | 0.12 | 0.04 | 0.84 | 706 | 0.92 | 0.02 | 0.03 | 0.02 | 0.94 | 803 |
| Taking crops to market   | 0.26 | 0.43 | 0.19 | 0.13 | 0.68 | 262 | 0.95 | 0.00 | 0.02 | 0.02 | 0.96 | 249 |
| Livestock raising        | 0.20 | 0.61 | 0.13 | 0.06 | 0.82 | 701 | 0.94 | 0.01 | 0.03 | 0.02 | 0.95 | 753 |
| Non-farm business activity | 0.60 | 0.17 | 0.13 | 0.10 | 0.77 | 396 | 0.96 | 0.01 | 0.02 | 0.02 | 0.96 | 502 |
| Major household expenditures | 0.40 | 0.27 | 0.21 | 0.12 | 0.67 | 420 | 0.96 | 0.00 | 0.02 | 0.01 | 0.96 | 443 |
| Minor household expenditures | 0.30 | 0.46 | 0.14 | 0.10 | 0.76 | 730 | 0.96 | 0.01 | 0.01 | 0.02 | 0.97 | 913 |
| Use of family planning   | 0.99 | 0.00 | 0.00 | 0.01 | 0.99 | 610 | 1.00 | 0.00 | 0.00 | 0.00 | 1.00 | 753 |
| Care of children         | 0.53 | 0.10 | 0.08 | 0.29 | 0.63 | 730 | 0.97 | 0.00 | 0.01 | 0.03 | 0.97 | 913 |

Notes: We sum the first two columns of each panel to present total discordance. The number of observations represents households where at least one spouse reports that the household owns the asset.
4. Is concordance related to outcomes?

The previous section demonstrated that although spouses often give the same answers to questions regarding who owns assets and who makes decisions, they do not always do so. In addition, the patterns differ based on whether the couple lives with their in-laws. In this section, we consider whether these patterns of concordance are correlated with outcomes of the wife’s well-being.

Given the large number of assets and decisions in our data, we follow the approach used in Ambler et al. (2021) to create a set of aggregate measures. For household asset ownership, we use a measure of the total number of assets for which the couple agreed on the wife’s [others] ownership, as a proportion of the total number of assets that they both reported were possessed by the household. We create similar measures for household decision making.

We conduct OLS regressions to examine the correlations of concordance on asset ownership or decision making with women’s well-being, clustering standard errors at the level of the primary sampling unit and controlling for a set of demographic and income/wealth variables, including the woman respondent's age, the difference between her age and her husband’s age, her education level, the difference between her education level and that of her husband, her height, whether the household has access to electricity, acres of cultivable land, roof material, household size and composition based on age and sex, whether the household is Hindu, region, and whether the household has a woman head. In addition, we control for the number of assets spouses agree that the household owns or the number of activities for which they agree that the household makes decisions.

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7 The couple may be living in a household with just the mother-in-law who may be considered the head.
We include the two sets of categorical measures of concordance on wives’ and others’ involvement (as described in Section 2.2) in each regression, with concordance that wife is not involved and concordance that others are not involved as the omitted categories. In each table, Panel A displays results for households with in-laws while Panel B displays results for households without in-laws. Table 6 addresses asset ownership while Table 7 presents the same information for decision making. In this section, we describe the results from this analysis and provide further discussion in Section 5.
Table 6: Correlation of concordance on wives' and others' asset ownership with wives' outcomes

| Panel A: Households with in-laws | Panel B: Households without in-laws |
|---------------------------------|-----------------------------------|
|                                 | (1) Mean percent of assets (2) Group participation (3) Current use of birth control (4) Antenatal visits during last pregnancy (5) Satisfied with leisure time (6) Participation in decisions | (7) Mean percent of assets (8) Group participation (9) Current use of birth control (10) Antenatal visits during last pregnancy (11) Satisfied with leisure time (12) Participation in decisions |
| Concordance on wives' ownership |                                   |                                   |
| Both: Wife does not own (omitted) | 54                                 | 42                                 |
| Both: Wife owns                  | 17                                 | 29                                 |
| W: Wife owns                     | 24                                 | 21                                 |
| H: Wife does not own             | 5                                  | 8                                  |
| W: Others own                    | 18                                 | 76                                 |
| W: Others do not own             | 62                                 | 12                                 |
| H: Others do not own             | 12                                 | 7                                  |
| W: Others do not own             | 8                                  | 5                                  |
| H: Others owns                   | 8                                  | 5                                  |
| R-squared                        | 0.100                              | 0.100                              |
| Observations                     | 729                                | 729                                |
| DV mean                          | 0.23                               | 0.21                               |

Notes: Robust standard errors in parentheses are clustered at the PSU level. All regressions include the controls described in section 2.2. *** p<0.01, ** p<0.05, * p<0.1
Table 7: Correlation of concordance on wives' and others' decision making with wives' outcomes

|                  | Panel A: Households with in-laws |                  | Panel B: Households without in-laws |                  |
|------------------|----------------------------------|------------------|------------------------------------|------------------|
|                  | (1) Mean percent of decisions    | (2) Group participation | (3) Current use of birth control | (4) Antenatal visits during last pregnancy | (5) Satisfied with leisure time | (6) Mean percent of decisions | (7) Group participation | (8) Current use of birth control | (9) Antenatal visits during last pregnancy | (10) Satisfied with leisure time |
| Concordance on wives' decision making |                    |                  |                                    |                    |                                    |                                    |                  |                                    |                                    |                    |                    |
| Both: Wife does not decide (omitted) | 47                  |                  |                                    |                    |                                    | 36                        |                  |                                    |                                    |                    |                    |
| Both: Wife decides | 22                  | 0.195             | 0.209*                         | -0.327             | 0.282                          | 26                        | 0.169*             | 0.381***                      | 0.220                           | 0.264                  |                    |
| W: Wife decides   | 27                  | 0.237**           | 0.184*                        | -0.753**           | 0.065                          | 33                        | 0.206**           | 0.098                         | -0.269                          | -0.099                  |                    |
| H: Wife does not decide | 4                  | 0.139             | -0.128                         | -0.246             | -0.010                         | 5                         | 0.237             | 0.027                         | -0.430                          | -0.592                  |                    |
| Concordance on others' decision making |                    |                  |                                    |                    |                                    |                                    |                  |                                    |                                    |                    |                    |
| Both: Others do not decide (omitted) | 44                  |                  |                                    |                    |                                    | 96                        |                  |                                    |                                    |                    |                    |
| Both: Others decide | 35                  | -0.037            | -0.175**                       | -0.051             | -0.443**                       | 1                         | -0.061            | 0.177                         | 1.247                           | 0.385                   |                    |
| W: Others decide  | 12                  | -0.328**          | -0.394***                      | -0.354             | -0.212                         | 2                         | -0.426***         | -0.167                         | -0.954                          | 0.319                   |                    |
| H: Others do not decide | 10                  | -0.084            | -0.049                         | -0.578             | -0.374                         | 2                         | -0.194            | -0.165                         | -1.409*                          | 0.094                   |                    |
| R-squared         | 0.106               | 0.125             | 0.255                          | 0.080              |                                | 0.093                      | 0.082             | 0.212                         | 0.062                           |                    |                    |
| Observations      | 729                 | 664               | 729                            | 728                |                                | 911                        | 854               | 909                            | 911                |                    |                    |
| DV mean           | 0.23                | 0.49              | 3.69                           | 3.60               |                                | 0.21                       | 0.53              | 3.06                           | 3.57               |                    |                    |

Notes: Robust standard errors in parentheses are clustered at the PSU level. All regressions include the controls described in section 2.2. *** p<0.01, ** p<0.05, * p<0.1
4.1 Concordance on women’s asset ownership and women’s outcomes

In Table 6, we first consider the association between the concordance of responses on the wife’s asset ownership and her outcomes. Wives reporting that they own more types of assets is positively correlated with their participation in decision making, whether or not her husband agrees. This is true whether or not in-laws are present in the household. In addition, in households with in-laws present, the husband reporting that the wife owns assets is positively correlated with her participation in decision making, even when she disagrees. For households with in-laws, the wife reporting asset ownership when her husband does not is also positively correlated with her group participation (see Panel A). In households without in-laws, the husband reporting that his wife owns assets when his wife reports that she does not is negatively correlated with antenatal visits (see Panel B).

4.2 Is concordance on others’ asset ownership correlated with wives’ outcomes?

Table 6 also presents correlations between the concordance of responses on others’ asset ownership and the wife’s outcomes, revealing important differences between households with and without the parents-in-law of the wife. In households with in-laws, concordance that others own assets is negatively correlated with current use of birth control, satisfaction with leisure time, and participation in decisions (see Panel A). In households without in-laws, concordance that others own assets is not correlated with women’s outcomes. It is only in households without in-laws that there is any relationship between wives saying that others own assets while their husbands disagree and women’s outcomes (see Panel B). That response pattern is correlated with decreased use of birth control and less participation in decisions. Across household types, when the husband claims that others own but the wife disagrees, wives are less satisfied with their time available for leisure activities.
4.3 Is concordance on wives’ decision making correlated with wives’ outcomes?

Table 7 reveals that, for households with in-laws, concordance that the wife participates in decisions is associated with greater use of birth control, compared to concordance that the wife does not decide (see Panel A). The patterns are similar for households without in-laws, but the coefficient on group participation is also statistically significant (see Panel B). In households with in-laws, the wife reporting that she decides while her husband disagrees is positively correlated with both current use of birth control and group membership but is negatively correlated with the number of antenatal visits (see Panel A). In households without in-laws, the wife reporting that she decides while her husband disagrees only shows a statistically significant positive correlation with group participation (see Panel B). The husband reporting that his wife decides while she disagrees is not significantly correlated with any outcomes for wives in either type of household.

4.4 Is concordance on others’ decision making correlated with wives’ outcomes?

Finally, we examine the relationship between the concordance of spouses’ responses regarding others’ involvement in decision making and wives’ outcomes. Table 7 demonstrates that the difference between households with and without in-laws is also evident in the proportion of decisions made by others (see Table 7). While spouses in households with in-laws agree that others do not make 44 percent of household decisions, spouses in households without in-laws agree that others do not make 96 percent of the decisions, on average. As such, households without in-laws are not of interest in this particular analysis.

In households with in-laws, concordance that others decide is negatively correlated with current use of birth control and satisfaction with leisure time. Wives claiming that others decide when their husbands disagree is negatively correlated with group participation and use of birth control (see Panel A).
5. Discussion and conclusion

Our results demonstrate several patterns related to couples’ concordance and discordance on who owns assets and makes decisions, how couples’ responses are affected by the presence of in-laws, and how concordance pertains to measures of wives’ well-being.

First, although overall concordance between spouses is relatively high in Nepal for both assets and decision making, this often comes from concordance that the wife does not own assets or make decisions; thus, such concordance may be indicative of a wife’s disempowerment. Similar to the findings from Ambler et al. (2021) in Bangladesh, responses that wives own assets and make decisions are more common from wives than from husbands in Nepal. This, combined with the observation that these patterns are different across different assets and decisions, provides further support for the framework presented in Ambler et al. (2021) that suggests these patterns of discordance are partly driven by information asymmetries in the form of hidden assets and decisions.

Second, we observe systematically different patterns of concordance regarding asset ownership and decision making based on the presence or absence of the husband’s parents. The levels of concordance are higher in households with in-laws, primarily driven by higher levels of concordance that the wife does not own assets or make decisions. Women are much more likely to report asset ownership and decision making among households without their in-laws, which could indicate a higher degree of their empowerment and bargaining power. It may also be true that women residing in households without in-laws are inherently more empowered; for example, women with higher bargaining power are better able to form an independent household with their husbands. Young married couples in Nepal often cooperate with one another to hide income from their in-laws in order to gain sufficient financial autonomy to form a separate household (Gram et
al., 2018). However, once the intergenerational power struggle is resolved, wives are under the financial guardianship of their husbands and may have incentives to hide information from him.

In households without in-laws, we see relatively low levels of decisions being made by people other than the husband or wife. This suggests that when couples form their own households, they are relatively independent and the decisions are not being made by in-laws or other family members. Our results also show decision making among households with in-laws indicate a division of labor in which the in-laws are responsible for agricultural decisions, which has similarly been found in previous work (Pradhan, Meinzen-Dick, & Theis, 2019).

Third, when observing the associations between concordance and women’s well-being, we see stronger relationships with concordance about decision making compared to asset ownership. We find that, in general, responses indicating that the wife owns an asset or makes a decision are positively associated with her well-being, including group participation, current use of birth control, and participation in decisions. The negative relationship between the wife’s decision making and antenatal visits during the last pregnancy (Table 7, Panels A) remains perplexing; it could be related to the fact that women who make more decisions are overburdened and thus have less time to seek clinical care, or perhaps they are already healthier and therefore do not seek preventive care. In contrast with past work, our results do not indicate that the correlation with outcomes of women’s well-being is stronger for concordance that wives are involved than for discordance in which the wife says she is involved and the husband does not.

Concordance on others making decisions is negatively associated with current use of birth control and satisfaction with leisure time in households with the husbands’ parents. Social norms put pressure on women to have sons as soon as possible after marriage (Gram et al., 2018) and women who fail to do so in the first few years of their marriage may be abandoned by their husband’s family (Clarke et al., 2014). Since women respondents who live with their in-laws are
younger than those living in separate households, they most likely feel a higher sense of reproductive pressure. In addition, the expectations of their domestic responsibilities in joint households may prevent them from having leisure time. A study in Nepal found that women in couples who separated from the joint household frequently described how this separation allowed them to make autonomous decisions about their leisure time (Gram et al., 2018).

While the fact that spouses agree on others’ involvement could indicate a more cooperative and efficient household, which in turn could lead to improved outcomes for wives, we do not observe this pattern. Wives living with their in-laws are generally worse off when they report that others decide, regardless of whether their husband agrees or disagrees. We also see that husbands’ responses on whether others decide are less associated with women’s outcomes compared to whether the wife says that others decide. It is not surprising that women’s perceptions of bargaining dynamics within the household are more indicative of her well-being than her husband’s perceptions. Information asymmetries may also play a role in these descriptions of others’ roles. Recall that women were more likely than men to report that others owned assets or were involved in decision making. One possibility is that women are interacting with their mothers-in-law in ways that are unobserved by their husbands. The regression analysis suggests that women may be worse off when this occurs.

In general, we find that wives’ and husbands’ reports of the wife’s asset ownership and decision making appear to be positively associated with her welfare regardless of household structure, and concordance on others owning assets and making decisions appears to be negatively associated with her welfare, especially when the husbands’ parents are present. When a woman lives under the roof of her husband’s family, a situation where both the husband and wife acknowledge that she owns few assets or plays little to no role in decision-making clearly indicates a negative environment for her well-being.
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### Appendix Table 1: Correlation of wives' and others' asset ownership with wives' outcomes

| Panel A: Households with in-laws | Panel B: Households without in-laws |
|----------------------------------|------------------------------------|
| (1) Mean percent of assets       | (7) Mean percent of assets          |
| (2) Group participation          | (8) Group participation             |
| (3) Current use of birth control | (9) Current use of birth control    |
| (4) Antenatal visits during last pregnancy | (10) Antenatal visits during last pregnancy |
| (5) Satisfaction with leisure time | (11) Satisfaction with leisure time |
| (6) Participation in decisions   | (12) Participation in decisions     |

#### Wives' responses

|            | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------|------|
| Wife owns  | 35  | 0.201** | 0.134* | -0.248 | 0.295 | 0.453*** | 53  | 0.031 | -0.004 | 0.282 | 0.066 | 0.379*** |
| Others own | 77  | 0.048  | -0.177** | -0.135 | -0.071 | -0.082* | 20  | -0.107 | -0.064 | 0.118 | -0.183 | 0.000 |
| R-squared  | 0.100 | 0.086 | 0.233 | 0.058 | 0.380 | 0.082 | 0.025 | 0.203 | 0.057 | 0.264 |

#### Husbands' responses

|            | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|------|------|
| Wife owns  | 16  | 0.127 | 0.0743 | -0.0403 | 0.152 | 0.225*** | 39  | 0.022 | -0.051 | -0.444* | 0.063 | 0.201*** |
| Others own | 71  | 0.0729 | -0.102 | 0.0630 | -0.349** | -0.0694* | 18  | -0.020 | 0.023 | -0.007 | -0.337 | 0.061 |
| R-squared  | 0.093 | 0.081 | 0.227 | 0.062 | 0.269 | 0.083 | 0.025 | 0.203 | 0.058 | 0.164 |

#### Notes:
- Robust standard errors in parentheses are clustered at the PSU level. All regressions include the controls described in section 2.2.
- *** p<0.01, ** p<0.05, * p<0.1

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### Appendix Table 2: Correlation of wives’ and others’ decision making with wives’ outcomes

|                      | Panel A: Households with in-laws | Panel B: Households without in-laws |
|----------------------|----------------------------------|-------------------------------------|
|                      | (1) (2) (3) (4) (5)              | (6) (7) (8) (9) (10)               |
| **Wives’ responses** |                                  |                                     |
| Mean percent of decisions |                                  |                                     |
| Group participation | 0.214** (0.101)                  | 0.142* (0.076)                     |
| Current use of birth control | 0.218*** (0.076)               | 0.184** (0.077)                    |
| Antenatal visits during last pregnancy | -0.778** (0.325)      | -0.130 (0.301)                     |
| Satisfaction with leisure time | 0.244 (0.188)                  | 0.069 (0.173)                      |
|                      |                                  |                                     |
| **Husbands’ responses** |                                  |                                     |
| Mean percent of decisions |                                  |                                     |
| Group participation | 0.186 (0.129)                   | 0.0560 (0.0652)                    |
| Current use of birth control | 0.185** (0.0867)            | 0.257*** (0.0611)                  |
| Antenatal visits during last pregnancy | -0.0877 (0.371)       | 0.190 (0.225)                      |
| Satisfaction with leisure time | 0.354* (0.198)             | 0.122 (0.135)                      |
|                      |                                  |                                     |
| DV Mean              | 0.098 (0.0859)                  | 0.083 (0.163)                      |
|                      | 0.110 (0.0759)                  | 0.071 (0.145)                      |
|                      | 0.247 (0.278)                   | 0.206 (0.511)                      |
|                      | 0.086 (0.176)                   | 0.054 (0.390)                      |
| R-squared            | 0.23 (0.23)                     | 0.49 (0.46)                        |
|                      | 0.49 (0.46)                     | 0.206 (0.25)                       |
|                      | 0.247 (0.247)                   | 0.086 (0.086)                      |
|                      | 0.086 (0.086)                   | 0.206 (0.206)                      |
| Observations         | 729 (729)                       | 728 (728)                           |
|                      | 664 (664)                       | 911 (911)                           |
|                      | 729 (729)                       | 909 (909)                           |

Notes: Robust standard errors in parentheses are clustered at the PSU level. All regressions include the controls described in section 2.2. *** p<0.01, ** p<0.05, * p<0.1
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