Learning in the Household*

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February 1, 2021

Abstract

This paper studies information aggregation among household members in a situation with fully aligned incentives. We recruit 400 married couples in Chennai, India, for a lab experiment in which they play several rounds of a simple information aggregation task. Spouses are asked to guess the fraction of colored balls in an urn upon receiving noisy signals by making several draws from the urn. Husbands put substantially less weight in their guesses on relevant information that was collected by their wife, relative to their 'own' information. Wives do not display this behavior, but in a follow-up experiment with pairs of non-spouse (but opposite-gender) pairs, individuals of both genders put much more weight on their own information than on their partner's. This bias appears to explain why joint decision-making is no better than individual choices, keeping the information structure and content constant.

*We thank workshop audiences at Harvard, Berkeley, Warwick and the Workshop on Subjective Beliefs for helpful comments and feedback. We also thank Ned Augenblick, Arun Chandrasekhar, Katie Coffman, Ben Golub, David Laibson, Shengwu Li, Matthew Rabin, and Dmitry Taubinsky for helpful suggestions and comments. We thank Sangeetha Ramanathan and the entire team at the Behavioral Development Lab in Chennai for excellent research assistance. We thank all our study participants for their time and patience. We received IRB approval from MIT, protocol #1810538700. The experiment was pre-registered on the AEA registry, number AEARCTR-0004253.

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1 Introduction

Individual members of a household often possess different pieces of information which might be useful for making better household decisions. For instance, spouses might each have access to independent information regarding which school or doctor they should send their child to or which city they should move to. In other cases, one household member may have information which another member would benefit from learning. For instance, when two spouses tend different plots of land—as in common in many developing countries—each may be more successful if they learn from the other's experiences as well as their own. Making optimal decisions thus often requires household members to share and rationally aggregate their private information.

A large theoretical and empirical literature on household decision-making has studied joint decision-making by households and examined how the preferences of different members may be aggregated (Browning et al., 2014). This literature typically assumes that households have a technology for frictionless information-sharing within the household. Recent work has shown that individual household members can withhold information from each other for *strategic* reasons, with important consequences (Ashraf, 2009; Ashraf et al., 2014; Lowe and Mckelway, 2019). This paper instead studies how efficiently household members can learn from each other and aggregate their information in situations where their incentives are aligned.

To do so, we recruit 400 married couples for a lab experiment in Chennai, India, where they participate in a series of social-learning tasks. The common goal in the experiment is to guess the share of red balls in an urn of 20 balls. Before making their guesses, study participants receive noisy signals in the form of two sets of draws from the urn. In one round of our experiment, individuals receive all information on their own. In another round, the information is split between spouses, and they have a joint discussion after receiving their (separate) information but before making their final guesses. One guess is randomly chosen to be paid off based on its accuracy, and the payoff is split equally between the spouses. We can thus compare, in a situation of fully-aligned incentives, how identical information passes through to individuals' beliefs depending on whether some of it was gathered by their spouse, therefore requiring communication.

Our main finding is that husbands put more weight on information they gathered themselves than information that their wives gathered. Husbands "discount" information by 52 percent when it was only accessible via discussion with their wives, compared to information they collected themselves ($p < 0.01$). That is, husbands put less weight on their information that is otherwise identical in terms of predictiveness when it is collected by their wives. In contrast, wives put approximately equal weight on their husbands' information compared to their own. The difference in relative weights put on spouse' information by men and women is stark (52 percent vs. 10 percent) and statistically significant ($p = 0.06$).

We use additional experimental variations to disentangle whether the lower weight husbands place on their wives' information is due to a failure of communication or instead a failure of information processing. We find that husbands put less weight on their wives' information even when it is *directly* conveyed to them by the experimenter (before any discussion). In this case, husbands discount information collected by their wives by a striking 80 percent compared to information collected by themselves ($p < 0.01$), while wives again treat their spouses' information nearly identically to their own. We again reject the hypothesis that husbands and wives put equal weights on each others' information $p < 0.01$. This set of findings suggests that lack of communication between spouses or mistrust of (say) wives' memory does not explain husbands' behavior. Rather, husbands appear to treat information that they gathered themselves as intrinsically more informative than that gathered by their wives. In contrast, wives treat their own and their husbands' information close to equally.

To shed light on whether this type of behavior extends beyond married couples, we conduct a second experiment with 500 adults who played the task in mixed- and same-gender pairs of strangers. In this identical task, individuals of *both* genders respond much more strongly to their own information than to their partner's, including when this information is directly conveyed to them by the experimenter. Thus, it appears that husbands' responses to their wives' information is not unusual; rather, wives put more weight on their husbands' information than women put on the information of men to whom they are not married. We speculate that a norm of wives' deferring to their husbands may countervail the general tendency of individuals to overweight their own information.

Finally, we explore the consequences of these biases for the quality of joint household decision-making. An intuitive hypothesis is that discussions with spouses should help individuals make better guesses ("two heads are better than one"). Indeed, we find some evidence that, holding the information structure constant, discussions improve decision-making. Nonetheless, couples do no better (and husbands do worse) when they must rely on discussions to combine their disparate information, compared to a case where they gather all information and deliberate on their own. This finding suggests that there are significant costs to treating others' information differently from one's own.

This paper contributes to several strands of literature. First, our study contributes to a long literature on household decision-making, particularly in developing countries. Standard models of household bargaining assume that spouses — and sometimes other family members — have symmetric information and beliefs but potentially differing preferences (Pollak 2019 includes a review of these models).[1] Several recent papers have relaxed the assumption of perfect information sharing, exploring situations where one spouse may have strategic reasons to withhold information or hide actions from the other (Ashraf, 2009; Ashraf et al., 2014; Lowe and Mckelway, 2019; Ashraf et al., 2020). To our knowledge, however, ours is the first to study how couples aggregate information when their incentives are fully aligned.

Second, our study adds to the literature on social learning, group decision-making, and the role of gender.[2] Mobius et al. (2015) delineate two potential barriers to social learning: diffusion (whether private information reaches others) and deliberation (how, conditional on receiving it, individuals weigh different pieces information).[3] On the diffusion side, women are less likely to contribute their ideas in stereotypically male tasks (Coffman, 2014), particularly in mixed-gender groups (Bordalo et al., 2019; Chen and Houser, 2017). On the deliberation side, when women do contribute information, they are often perceived as less competent or worse communicators, even conditional on ability (Beaman and Dillon, 2018; Coffman et al., 2019; Mengel et al., 2019). Our experimental task is not particularly male-stereotyped (we provide evidence of this), and perhaps for this reason our results that husbands fail to appropriately incorporate their wives' information is not due to women failing to communicate their information to their husbands. Our results also do not appear driven by husbands' beliefs about their wives' competence or communication skills, since they exhibit the same behavior when the experimenter directly tells them their wives' information. Our finding that wives do not overweight their signal compared to their husbands', but that women do compared to non-husband mens', could be the result of social norms regarding wives

[1] For tests of these models, see, among others, Udry (1995), Peters et al. (2004), Bateman and Munro (2004), Iversen et al. (2011), and Ligon and Dubois (2012).

[2] There is a long literature in psychology on how people respond to advice (see Bonaccio and Dalal 2006 for a review) and on whether group or individual decision-making tends to produce more accurate judgments (see, e.g., Minson et al. 2018).

[3] Mobius et al. (2015) actually call this latter concept "aggregation," but we are reserving that term to denote more broadly how well, all told, individuals are able to combine disparate information to form their beliefs, including both diffusion and deliberation.

(see Jayachandran (2015) for a review of gender inequities and norms in developing countries).

Third, it provides stark new evidence that individuals appear to fundamentally treat information they have gathered as different from that gathered by others. Many studies find, usually in the context of sequential decisions where each individual gets a private draw from an urn of unknown contents (à la Bikhchandani et al. 1992 and Anderson and Holt 1997), that people appear to put more weight on private information than on what can seemingly be inferred from the actions of others (e.g. Weizsäcker 2010).[4] Perhaps relatedly, in a "treasure hunt" experiment among American undergraduates, Mobius et al. (2015) find that information decays rapidly along networks and that students put more weight on noisy signals they themselves received than on signals their conversation partners' received. Though these findings are consistent with our finding of intrinsic over-weighting of "own" information, they often also consistent with other (sometimes rational) explanations, such as mistrust of others' rationality (De Filippis et al., 2017), attenuation bias from imperfect measurement of social/conversation networks (Mobius and Rosenblat, 2014), altruism (March and Ziegelmeyer, 2016), base-rate neglect (Benjamin et al., 2019), or other behavioral biases (Guarino and Jehiel, 2013). Our finding that agents down-weight others' *signals*, not just their actions, along with other features of our experimental design, rules out these and other explanations.[5] Rather, subjects just treat their own information differently.

[4]See Stone and Zafar (2014) for an example of similar underweighting of public information in the context of sports rankings.

[5]Drehmann et al. (2005) include in their online experiment a treatment similar to Anderson and Holt (1997) but where subjects can see previous decision-makers' signals (a or b) as well as their choice of urns (A or B). Using their data, we find (analyses not shown) that, even conditional on the total number of a and b signals available to the agent (her signal and all previous players' signals), she is much more likely to choose urn A if "her" signal was a than if "her" signal was b. These results, while suggestive of and consistent with our finding of intrinsic over-weighting of "own" compared to "others"' information, cannot rule out that subjects put more weight on their own information because they receive it last, as models of base-rate neglect would in fact predict. Though Drehmann et al. (2005) note that people in this treatment choose the urn associated with their own signal more than theory would predict, their paper primarily focuses on the effect (in other experimental treatments) of adding asset prices to the Anderson and Holt (1997) paradigm.

2 Setting, Recruitment, and Study Sample

2.1 Setting, recruitment, and screening

All experimental sessions were implemented in our lab in central Chennai, India. The experimental sessions with married couples took place between June and November 2019, and the sessions with non-couples were conducted between July and December 2019. Recruitment was on a rolling basis, with about 2 to 5 pairs of people completing the experiment on a given day, and continued until we reached our pre-specified target of 400 couples and 500 individuals who had completed the experiment.

2.1.1 Recruitment of married couples

We recruited couples from low- to middle-income communities—specifically, people living in and around public housing complexes—within a reasonable travel time of the lab. We focused on these complexes to facilitate rapid canvassing of a large number of people for recruitment. Surveyors knocked on doors and asked if residents were willing to participate in an academic study on 'how decisions are made in the household'. For the couples sample, residents were also asked whether they were married and, if so, if they and their spouse were willing to participate.

Potential participants were told that the study consisted of a 'short game', as well as the approximate duration (2.5-3 hours) and the payment they could expect (Rs. 300-560 ($4-7.75) per couple or half of this per individual, plus travel expenses per couple of Rs. 100 ($1.40). No more specific information was provided at this point. Those who were interested but unable to come to the lab immediately were asked for their contact details and recontacted by phone.

About 5% of those we approached took part in the study. Low take-up rates were primarily due to (i) the rates of pay, which were relatively modest for this population, and (ii) the difficulty of finding a time at which both husband and wife were available.

In total, 422 couples came to our lab. Before enrollment into the experiment, couples completed a series of screening surveys. 3 couples were excluded at this stage: 1 who appeared to be pretending to be married (based on inconsistent answers to questions about their house, family and wedding), and 2 who had already taken part in a pilot version of the experiment. We also screened participants on whether they had prior knowledge of the experiment (for instance from a friend or neighbor who had already done it), but none had. After enrollment but before the first experimental round, we excluded 11 more couples who did not appear to understand the task. Finally, 8 couples dropped out mid-way through the experiment for other reasons. This leaves 400 couples who completed the experiment and form our sample.

2.1.2 Recruitment of non-couples

For our secondary non-couples design, we recruited strangers to do the experiment in both mixed- and same-gender pairs. We recruited individuals from different public housing complexes in demographically similar communities to the couples. Individuals were given the same information about the study as we gave to potential married couples.

In total, 508 individuals (254 men and 254 women) were enrolled. Of these, 4 men and 4 women pairs were excluded before starting the experiment who did not appear to understand the task or lacked sufficient numeracy. This leaves 500 individual (250 men and 250 women) forming our non-couple sample.

2.2 Study sample

Our primary experimental sample consists of 400 married couples in Chennai, India. The first two columns of Table 1 show background characteristics of the sample. The average participant is 34 years old, has been married to his/her partner for a little over 12 years, and has eight years of education. There is substantial heterogeneity along these dimensions in our sample, as indicated by the large standard deviations. Eighty-five percent of participants self-report that they are literate (in Tamil, the local language), and 41 percent are numerate (as measured by correctly answering "Can you tell me what 3 x 9 is?"). We see that husbands are somewhat more numerate than wives, more likely to work outside the home, and work more hours and earn more conditional on working.

At the end of the experiment, but before participants learned their payments, spouses were separately asked their opinion about whether men or women are in general better at the experimental task and, within the couple, which spouse is better. Table 1 shows that the most common answer participants of both genders give is that their partner is better than they are at the task.[6] Women are somewhat less likely than men to say that they are better than their partner at the task (and correspondingly

[6]This might be evidence of politeness rather than under-confidence.

more likely to say they are equally good). However, both husbands and wives tend to think that in general women are better than men at the task. We take these results to be evidence that our experimental task is not very gendered, and in particular not especially male-typed.

Our secondary, non-couple sample is broadly similar to our married couple sample, with the obvious exception of marriage rates. Columns 3 and 4 of table 1 describe this sample, which consisted of 500 individuals, 250 men and 250 women. Men and women in this sample are slightly more similar in age relative to our couples sample, and women are somewhat less educated relative to men, but these differences are small. The other noticeable difference is that men and women in the non-couple sample were also more likely to think that both genders would perform about the same at our task (both when asked about themselves and men/women in general).

3 Experimental Design

Our experiment involves 5 rounds of a balls-and-urns task similar to those used in a large previous literature (Benjamin, 2019). Each spouse (or partner in the non-couples sample) guesses the number of red balls in an urn based on up to two sets of balls drawn privately from the urn. Across rounds, we vary whether spouses make both sets of draws themselves, or make one set each and must learn about their spouse's set through discussion or the surveyor.

We first describe the task and its rounds as done by our main sample of couples. We then discuss briefly how we implemented the same design for our non-couple sample.

3.1 The task

Couples play multiple rounds of a task in which the goal is to guess the number of red balls in an urn of 20 balls, each of which is red or white. Each round is played with a new urn.

There is a common prior: we draw the true number of red balls in each round independently from a uniform distribution on 4 to 16 inclusive, and explain this to both spouses at the start of the experiment. We chose this prior to reduce the chance both spouses would get identical signals due to the urn being mostly one color.

Spouses learn about the urn's composition by drawing balls from it. Each set of draws consists of 1, 5 or 9 balls, sampled randomly with replacement.[7] Spouses draw the balls themselves, one at a time, under a surveyor's supervision without the other spouse present.

In every round, each spouse first makes one set of draws and then makes a guess immediately after, also without the other spouse present. Depending on the round, they then either make an additional set of draws and another guess themselves, or have a chance to discuss with their spouse or learn from a surveyor and then make more guesses. Participants cannot write down their draws or other information; we check before later guesses that they remember what they saw.[8]

All guesses are restricted to be integers between 4 and 16. Participants guess by placing a token on the scale shown in the upper panel of Appendix Figure A.I.

We incentivize all guesses. The couple's payoff is a piece-wise linear loss function based on one guess selected at random at the end of the experiment. Specifically, the couple receive (on top of their participation fee) an amount in Rupees (Rs.) equal to $\max\{210 - 30 \times |g - r|, 0\}$, where g is the selected guess and r the true number of red balls in the corresponding round. Rs. 210 is about \$3 and Rs. 30 is about \$0.40. We explained this incentive to participants with the help of the scale in the lower panel of Appendix Figure A.I.

To ensure that incentives are aligned as far as possible, we divide the payoff equally between the husband and wife, irrespective of who made the guess. Each spouse receives their half in a separate envelope at the end of the experiment. This means that at least under standard preferences, each person has an incentive to ensure that every guess is as accurate as possible. Withholding information from your spouse, for instance, only reduces your own expected payoff if their guess is selected for payment.

Each participant received some training in this game before the experiment started. They individually played two unincentivized practice rounds with two guesses in each, and received two 'tips' on making good guesses. The first tip explained that it makes sense to guess there are more red than white balls if you draw more red than white, and vice-versa. The second tip was that "the more balls you draw, the more confident you can be in your guess".

[7]To ensure that draws are independent of one another, a surveyor shakes the urn between each draw.

[8]84% of men and 86% of women remembered both the number and color of their draws.

3.2 Rounds

Couples first play two rounds in random order. We call these the *Individual* and *Discussion* rounds. Following these two rounds, couples play in random order another *Discussion* round plus two variations on it designed to test mechanisms behind our main aggregation result. Panel (a) of Figure 1 shows the five rounds.

The lower panel of Figure 1 summarizes the structure of the *Individual* and *Discussion* rounds. In the *Individual* round, both spouses make two sets of draws from the urn and a guess after each set[9]. All of this is done alone, without any opportunity to share information between the spouses.

In the *Discussion* round, each spouse makes one set of draws and a guess after. They are then prompted to decide together on a joint guess and given as long as they like to discuss. After their discussion and joint guess, each spouse makes one final, private guess. We do not restrict what they can discuss, nor do we encourage them to discuss anything in particular or tell them any information such as the other spouse's number of draws. We do however randomize whether a surveyor is present for the discussion.

To make the final guesses in the *Individual* and first *Discussion* rounds closely comparable, we choose the numbers of balls drawn to hold constant the total amount of information available to each person as well as how it is grouped together. Specifically, suppose the husband draws h balls and the wife w balls in the first *Discussion* round. Then, in the *Individual round*, the husband will first draw h and then w balls, while the wife will first draw w and then h balls. In both rounds, therefore, the husband gains access to h followed by w draws, while the wife gains access to w followed by h draws. The difference is that in the *Discussion* round each person must learn about the second group from their spouse. Across couples, we randomize h and w between 1, 5 or 9, subject to $h + w \leq 10$[10].

The next three rounds consist of a further *Discussion* round, a *Guess-sharing + Discussion* round, and an *Info-sharing + Discussion* round. Appendix Figure A.II shows the structure of the *Guess-sharing + Discussion* and *Info-sharing + Discussion* rounds. In the *Guess-sharing + Discussion* round, after both spouses have drawn their set but before they discuss, the surveyor tells each person what their spouse's first

[9]They do this in the order '1-2-2-1', i.e. one spouse makes their first set of draws and first guess, then the other makes both sets of draws and guesses, then the first makes their second set and second guess. This generates variation in the waiting time between sets of draws, allowing us to check whether this affects our results.

[10]Precisely, we randomly choose the number of draws (h, w) with uniform probability from $\{(1, 1), (1, 5), (5, 1), (5, 5), (1, 9), (9, 1)\}$.

guess was and asks them to make another guess. The spouses then discuss, make a joint guess, and make a further private guess each just as in the *Discussion* round. The *Info-sharing + Discussion* round is the same, except the surveyor tells each person the number of red and white balls that their spouse drew, rather than their guess.

The number of draws for each person is randomized independently in each of the last three rounds, again between 1, 5 or 9 subject to maximum 10 draws total. Thus, they do not necessarily have the same number of draws as in the first two rounds.

We randomize the order in which couples play the first two and the last three rounds in a fully balanced manner to control for any order effects, such as guessing improving over time. We also randomize the spouse who draws and guesses first in each round, independently by round, so that one gender is not systematically being asked to remember older information.

We also take multiple steps to ensure that spouses know they are both drawing from the same urn, that we are not changing its contents, and that there is no opportunity to share information except during specified discussions. As well as telling them this directly, we keep the urn in one place and have them switch places to do their draws and guesses, such that at least one spouse is with the urn throughout. (Thus, spouses do their sets of draws one after the other, not simultaneously). As a result, they could easily spot any deception on our part. A surveyor is also present throughout to verify that spouses do not discuss information while changing places. Finally, we also color-code the urns themselves by round so spouses know that each round is a different urn.

3.3 Non-couples design

The pairs of strangers in our non-couple sample do the same 5 rounds of the same task as above. Participants do one of the two *Discussion* rounds, picked at random, in same-gender pairs, and the other four rounds in mixed-gender pairs.

4 Experimental Results

4.1 Empirical framework

Our primary goal is to test whether people respond similarly to information that they personally uncovered and equally-relevant information that their spouses (or team-mates in general) uncovered. Intuitively, we seek to estimate the "weights" participants put on different sources of information when communication is unfettered and incentives to share information are aligned. To accomplish this in a reduced-form way, we first define $\textit{First Info}_{ir}$ and $\textit{Second Info}_{ir}$ as the guesses a Bayesian would make given *only* the first or second set of signals—meaning draws from the urn—that individual i may receive in round r. We begin by estimating the following reduced-form specification separately by round using OLS:

$$\textit{Guess}_{ir} = \alpha + \beta_1 \cdot \textit{First Info}_{ir} + \beta_2 \cdot \textit{Second Info}_{ir} + \epsilon_i \tag{1}$$

where $\textit{Guess}_{ir}$ is i's final private guess of the number of red balls in the urn in round r, after having a chance to learn both sets of signals.[11] Since the number of draws in each round is randomly assigned, on average a Bayesian who noiselessly received both sets of signals would weight them equally, such that $\beta_1 = \beta_2$.

Participants always draw the first set of signals themselves, so β_1 is always the weight individuals put on signals they drew themselves. However, depending on the round $r \in \{Individual, Discussion\}$, they either draw the second set of signals themselves (in the individual round) or must try to learn about it through the discussion with their spouse (in the discussion round). To test whether participants weight information differently if they can only acquire it through a discussion with their spouse, we therefore estimate the following equation:

$$\begin{aligned} \textit{Guess}_{ir} = \alpha &+ \beta_1 \cdot \textit{First Info}_{ir} + \beta_2 \cdot \textit{Second Info}_{ir} \\ &+ \beta_3 \cdot \textit{Second Info}_{ir} \times \textit{Only Accessible via Discussion}_{ir} + \epsilon_i \end{aligned} \tag{2}$$

In Equation 2, the coefficient β_3 tests whether signals that must be uncovered through a discussion with one's spouse are weighted differently than those gathered oneself. $\beta_3 < 0$ would imply that participants do not learn their spouse's information through discussion, or that they down-weight this information relative to their own. Recall that both spouses have an incentive to share their information with each other and to make the most accurate guess they can, given the information.

Equations 1 and 2 are of course not structural. However, they allow for a simple test of the null hypothesis that couples effectively share simple information with each

[11] When estimating equation 2, we first subtract 10—the mean and median of the prior—from both $\textit{First Info}_i$ and $\textit{Second Info}_i$. The coefficients then denote how far above or below 10 red balls (which corresponds to 50% red balls) the Bayesian would have guessed. This allows us to interpret the constant in the equation as the guess the participant would have made without any information.

other when their incentives are aligned, and that individuals rationally aggregate their spouse's information with their own. Additionally, we can compare the estimates with a Bayesian benchmark, where instead of using participants' actual guesses as the dependent variable, we use the guesses that a Bayesian without information frictions would make given both sets of signals.

4.2 Individual performance, gender differences, and beliefs

Actual ability. We first establish that participants actually *do* have the ability to learn from signals and use them to make more accurate guesses. The upper panel of Figure 2 shows some basic statistics about participants' performance in the individual round, where they draw both sets of signals themselves. The figure compares participants' actual expected earnings—which increase in the accuracy of their guess—to two extreme benchmarks: a perfect risk-neutral Bayesian who saw the same signals, and someone who randomly guesses answers uniformly between 4 and 16.[12]

A few clear patterns emerge. First, participants' performance is roughly halfway between the performance of a random guesser and the perfect Bayesian.[13]

Second, participants' expected earnings increase with the randomly-assigned number of draws they receive, confirming that participants are able to use more signals to make better guesses. Third, gender differences in performance are modest. Men have slightly higher expected earnings than women in the individual rounds (Rs. 123 vs Rs. 120, p=0.325), but the difference is not significant. Normalizing the difference by the standard deviation of expected earnings among women, the mean gender difference in performance is 0.07 SD. In 48% of couples, the wife outperforms the husband.

Beliefs about ability. After completing the experimental rounds but before any performance was revealed, we elicited participants' beliefs about their own and their spouse's ability. Specifically, we asked participants to privately make quantitative predictions of their own and their spouse's expected earnings on average across all their private guesses. These predictions were incentivized – participants earned modest rewards based on their accuracy.[14] We complemented this measure with two simple qual-

[12]Expected earnings are defined throughout as the expected earnings of the guess respondents' made, conditional on his/her information set (i.e. the draws she has seen prior to making her guess).

[13]Instead of considering random guessing, we can compare individuals' actual earnings to what they would have earned if they always guessed that there were an equal number of red and white balls in the urn. Respondents *under*perform this benchmark when they only get two draws but outperform it with six and ten draws (results not shown).

[14]Specifically, for each participant, either their prediction of their own earnings or their prediction

itative questions regarding which spouse was better at the task (where being 'about equal' was one option) and whether men or women in general were better at the task.

The lower panel of Figure 2 reports the quantitative beliefs. First, participants in general are overconfident, expecting to earn Rs. 140 compared to their actual average performance across all rounds of Rs. 117. The difference is statistically significant ($p < 0.001$). Second, while men have slightly higher beliefs about their own performance (Rs. 144 for men versus Rs. 137 for women, p=0.019), men and women have similar levels of over-confidence (Rs. 27 for men vs Rs. 21 for women, p=0.067). Third, husbands accurately predict that their wives are about as good as they are (Rs. 144 for themselves vs. Rs. 142 for their wives). In contrast, women incorrectly predict that their husbands do Rs. 16 better than they do ($p < 0.001$).

Altogether, these findings suggest that the task is relatively gender-neutral. Men's and women's performance is similar on average. Both have similar degrees of over-confidence in their ability. The one exception to this gender-neutrality is that women (incorrectly on average) predict that their husbands are better than them, while men on average state that their wives are about as good as they are. This gap is also seen in the qualitative questions about the spouses' relative ability reported in Table 1. Intriguingly, however, this gap vanishes when participants are asked about men and women's performance at the task 'in general': then, women no longer state that men are better at the task. In fact, only about 20 percent on men and women each state that men are better at the task in general (Table 1). Women in our sample may sincerely believe their specific husbands are better than them, or may see this as the socially-desirable answer, worth stating even in private and with modest incentives for accurate predictions.

4.3 Do spouses weight each others' information equally?

Our main results compare the final private guesses individuals make in the *Discussion* and *Individual* rounds. We designed the experiment to hold equal the amount of information available to each individual in these two rounds. In the *Individual* round, the husband first receives h and then w draws privately, while the wife receives w and then h draws (where sometimes $h = w$). Each thus receives $h+w$ draws. In the *Discussion* rounds, the husband similarly receives h draws while the wife receives w draws at

of their spouse's earnings was randomly picked to be paid off. Participants earned Rs. 50 if their prediction was within Rs. 30 of the truth, and otherwise earned nothing. It was not revealed to participants which guess was paid off.

first, and then they embark on a discussion with each other where they are prompted to make a joint guess, and then make their final private guesses. Each spouse thus again has access (in principle) to $h + w$ draws, partly drawn oneself and partly learned from one's spouse.

Figure 3 shows the weights husbands and wives placed on each set of signals, separately by round. The height of the bars corresponds to the coefficients estimated from Equation 1. In the *Individual* round, husbands and wives behave very similarly. For both the first and the second set of draws, we cannot reject that husbands and wives place equal weight on information ($p = 0.94$ for the first set and $p = 0.57$ for the second set). On average, they place about 60% of the weight a Bayesian would on the information, indicating that they are conservative in their belief updating. This is consistent with findings from numerous lab-experiments on belief updating (see Benjamin 2019). Both husbands and wives place somewhat more weight on the second set of draws than the first, suggestive of some form of recency bias or base-rate neglect (Benjamin et al., 2019; Benjamin, 2019).

Husbands and wives differ greatly, however, in how they behave in the *Discussion* rounds. Wives final guesses put nearly identical weights on their own and their husbands' information. Wives' weights on these two sets of signals are similar to those they placed on their own information in the *Individual* round. In contrast, husbands put significantly less weight on information collected by their wives than on information they collected themselves. They thus put strikingly less weight on the second set of signals in the *Discussion* round compared to the *Individual* round.

The first three columns of Table 2 reports the estimates of Equation (2), which confirm the visual impressions from Figure 3. The key coefficient of interest is "Second Set of Signals $\times$ Accessible via Spouse", which estimates the *differential* weight that participants put on the second set of draws when it was collected by their spouse. Pooling all participants (column 1) shows a clear result: participants put 32 percent ($-0.16/0.50$) less weight on information that was collected by their spouse ($p < 0.01$).

Columns 2 and 3 of Table 2 show that this effect is primarily driven by husbands, who put 52 percent ($-0.27/0.52$) less weight on information gathered by their wives compared to information they gathered ($p < 0.01$). In contrast, the effect for wives is relatively small at 10 percent ($-0.05/0.48$) and statistically insignificant ($p = 0.50$). Husbands and wives thus place a very different 'discount' on information collected by their spouses: the interaction coefficients in Columns 2 and 3 are significantly different ($p = 0.06$).

Because spouse's signals are no less informative, absent information frictions a rational agent should treat her own and her spouse's information the same on average. Table A.I shows similar regressions to those in Table 2 but with the Bayesian (risk-neutral) optimal guess as the dependent variable. As expected, a Bayesian puts equal weight on average on her own and her spouse's information. The coefficients on the interaction terms denoting how the agent learned of the information are all precisely estimated and indistinguishable from zero.

This lower weight that individuals put on spouses' information could reflect two broad classes of failures of social learning: imperfect diffusion (failure to share information) or imperfect deliberation (failure to correctly process information once shared). Imperfect diffusion here implies communication failures despite face-to-face discussions between married partners who are prompted to share information and are free to take as much time as they wish. Despite this, husbands might simply not ask their wives what they learned (and wives might not volunteer the information themselves), while sharing their own information freely. Perhaps less plausibly, wives may attempt to out-compete their husbands by withholding information or providing misleading information to them. Imperfect deliberation could occur because of an egocentric bias where information one gathers oneself is more salient or considered inherently more valuable. Or it could be that men think their wives less capable than them of accurately remembering their draws, and thus place less weight on them. This, however, seems unlikely given that men correctly predict that their wives perform equally well at the task.

The experimental design attempts to make several other potentially confounding explanations irrelevant. For example, participants' beliefs about their spouse's ability to engage in Bayesian updating should not matter. As long as one's partner remembers the draws they saw mere minutes ago, one should be able to learn their information and weight it appropriately.[15] Unlike in many information cascade experiments, agents do not need to infer their partners' signals by interpreting their actions (e.g. Goeree et al. 2007 and De Filippis et al. 2017), since they can simply ask for their partners' signals. Nor do participants have any incentive to follow their own information in order to altruistically signal it to later agents (March and Ziegelmeyer, 2016). Instead, they have simple and economically-meaningful incentives to share information in each direction, since one guess by the husband or wife is randomly picked to be paid out,

[15]In any case, recall that men correctly believed that their wives are as good as them at the task, as we reported in Section 4.2. Thus, beliefs about relative competence cannot explain why husbands do not weight their wives' information equally.

and the earnings are divided equally between the spouses.

4.4 Mechanisms: Communication vs. information processing

We exploit additional experimental variations to disentangle whether participants place lower weight on their spouse's information due to a failure of communication or a failure to appropriately process their spouse's information. To do so, we turn to three additional rounds participants play after completing the *Individual* and *Discussion* rounds analyzed above. These consist of a *Draw-sharing* round, a *Guess-sharing* round, and another *Discussion* round for comparison, played in randomized order. The key treatment we focus on is the *Draw-sharing* round, which is identical to the *Discussion* round expect for one crucial difference: before participants enter the discussion with their spouse, they are provided their spouse's draws (both the number of draws and their composition) directly by the experimenter. They then make an additional private guess which can incorporate both sets of draws before entering the discussion with their spouse. The rest of the round proceeds as in the *Discussion* round — the spouses discuss their (now common-knowledge) information, make a joint guess, and then enter their final private guesses.[16] If participants still put less weight on their spouses' information after receiving the information perfectly, we can conclude that the failures of information aggregation observed so far are due to inappropriate processing of one's spouse's information, not due to failures of information sharing.

We first consider the private guesses participants make in the *Draw-sharing* round after being informed of their spouse's draws but *before* the joint discussion. The third set of bars in Figure 3 shows that the weights participants put on own vs. spouses information in the *Draw-sharing* round are quite similar to those in the *Discussion* round. As before, husbands puts almost three times as much weight (0.57 vs. 0.2) on their own information compared to their wives' information. This is remarkable since, by construction, it cannot be explained by failures to communicate or by beliefs about the spouses' memory, given that the spouses' draws were conveyed to each participant before the discussion. In contrast, we find only limited evidence of women engaging in

[16]The *Guess-sharing* round is similar except that, instead of informing participants of their spouse's draws, the experimenter informs them of their spouse's private guess and the number of draws this was based on. The *Draw-sharing* and *Guess-sharing* rounds were intended to isolate the roles of under-weighting a spouse's underlying signals versus under-weighting their guesses (say due to beliefs that they are weak at Bayesian updating) respectively. We do not discuss the *Guess-sharing* round in detail, since the findings of the *Draw-sharing* round render them relatively irrelevant.

this pattern of behavior. Unlike in the *Discussion* rounds discussed above, women do put slightly more weight on their own information compared to their husbands' (0.52 vs. 0.42) when it is conveyed to them by the experimenter. However, the difference in weights is not as pronounced as for husbands.

Columns 4 to 6 of Table 2 shows the corresponding regression results. The coefficients of interest are the interaction terms "Second Info × Only Informed by Experimenter", which captures the differential weight participants put on the second set of information when it is conveyed to them by the experimenter (compared to collecting it themselves). Remarkably, these coefficients closely resemble the coefficients for "Second Info × Only Accessible via Discussion". Pooling across men and women, participants put 38 percent ($-0.20/0.52$) less weight on the second set of draws when it is collected by their spouses compared to own collection ($p = 0.02$). Again, this effects is almost entirely driven by husbands who put a striking 80 percent ($-0.40/0.52$) less weight on their wives' information compared to their own ($p < 0.01$). In contrast, women treat their second set of own information essentially the same as their spouses' information.

Finally, we examine whether learning the spouse's information via the experimenter *and* having a subsequent discussion with the spouse might be able to mitigate the above effects. To do so, we consider the final private guesses made by participants *after* the discussion in the *Draw-sharing* round. The relevant coefficient in Table 2 is on the interaction term "Second Info × Informed by Experimenter and Discussion". We do not find significant differences in weights put on the own vs. the partners information when pooling across men and women (column 4). However, this overall effect masks heterogeneity by gender. Husbands in fact *continue* to put less weight on their wives' info even in this case (column 5) while women tend to do the mixed (column 6). While this coefficient is only statistically significant for men ($p = 0.06$), the coefficients for men and women are significantly different ($p = 0.04$).

We conclude from these analyses that husbands' asymmetric treatment of their own versus their wives' information is *not* primarily driven by their failure to learn their wives' signals but instead by how they process that information conditional on receiving it. That is, husbands appear to treat the data they generated themselves as inherently more informative than that gathered by their wives.

4.5 Is this behavior specific to married couples?

Our results so far have shown evidence of a striking gender asymmetry: men place less weight on their spouse's information, while women do not. Are these results specific to married couples, or would they emerge more generally in teams? Does this depend on the gender-composition of the team? To answer these questions, we turn to experiments with a sample of 500 adult strangers. Each such participant played an *Individual* round, one *Discussion* round and one *Draw-sharing* round each with a partner of the opposite gender, and one *Discussion* round with a partner of the same gender, in randomized order.

In the *Individual* rounds, this sample behaves very similarly to the men and women in the spouses sample, as shown in the grey bars Figure 4. As before, both men and and women are roughly in between the Bayesian and the random guesser, and both put more weight on the second set of guesses than on the first set.

The remaining bars in Figure 4 show the weights women (upper panel) and men (lower panel) put on own and their partner's information in the *Discussion* rounds. Both women and men put distinctly more weight on their own information compared to the strangers they are paired with when the partner's information can only be accessed via discussion. This is the case when pooling mixed-gender and same-gender pairs but also when considering them separately.

Table 3 presents regression results for the *Discussion* rounds for strangers, first showing the overall results (columns 1 to 3) pooling across same-gender and mixed-gender pairs. Column 1 reveals that strangers on average behave quite similarly to the husbands in the couples sample. Pooling both male and female participants, the second set of draws gets slightly less than half the weight when it is accessible only via discussion with a stranger (column 1). This effect is slightly more pronounced for men (column 2) compared to for women (column 3) but this difference is not statistically significant.

Considering the same-gender and mixed-gender pairs separately, we find that overall, strangers behave very similarly in same-gender and mixed-gender pairs (columns 4 and 7 of Table 3). If anything, the effect is slightly more pronounced for same-gender pairs, although this difference is not significant. Comparing men and women in same-gender pairs reveals some interesting heterogeneity: men almost entirely discount their male partner's information (column 5), while we cannot reject that women weight their female partner's information equally with their own information (column 6). When placed in mixed-gender teams with strangers, instead, men and women behave similarly. Both under-weight their opposite-gender partner's information substantially, and to a similar extent (columns 7 to 9).

Finally, we also implemented *Draw-sharing* rounds, but only for mixed-gender pairs of strangers. As in the case of spouses, simply providing each participant with their partner's draws does not increase the weight placed on their partner's information (comparing the "Only Informed by Experimenter" and "Only Accessible via Discussion" coefficients in column 7). However, combining perfectly shared draws (through the experimenter) with a discussion leads to slightly more weight placed on the partner's information, although the gain is not significant (comparing the "Informed by Experimenter and Discussion" and "Only Accessible via Discussion" coefficients in column 7). The table further breaks down these results by gender, but the results are relatively under-powered, and we do not discuss them here.

The main take-away from the analysis of same- and mixed-gender pairs of strangers is that both men and women appear to look rather similar to the husbands in the spouses sample when playing with strangers. Participants of both genders substantially under-weight the information provided to their partners. This finding casts the results from the experiment with spouses in a slightly different light. It suggests that over-weighting one's own information—likely due to its greater salience or some other form of egocentric bias—is a general phenomenon when individuals have a chance to share information and learn from each other, even in a very simple experimental setup with incentives to learn. The exception to this rule is women with respect to their spouses, where we speculate that a social norm of deferring to one's husband or (incorrect and in any case irrelevant) beliefs about one's husband being more able might counteract the general tendency to underweight others' information relative to one's own.[17]

4.6 Joint decisions

So far, we have examined participants' private beliefs to determine how much they respond to information provided to them versus to their spouse. This sheds light on the extent to which different household members learn from each other, and whether information flows freely within the household. However, our experiment also allows us

[17]Column 6 of Table 3 provides suggestive evidence that all-women team also weight information rationally. However, these results are relatively imprecise and we cannot rule out substantial under-weighting of partners' information even in this sample.

to study how a household makes *joint decisions*—here, the joint guess—which benefit from aggregating each member's information.

Joint guesses may be better than individual guesses for various reasons. Joint deliberation might help uncover mistakes in reasoning and point couples towards better decisions.[18] Even if the two spouses disagree on the correct guess, a process of bargaining between the two of them might bring them closer to the optimal action if their beliefs are noisily distributed around the Bayesian benchmark. On the other hand, if information is not shared in the discussion or if joint decisions place excessive weight on an individual (say, the husband) whose beliefs are poorly calibrated (say, because he does not place much weight on his spouse's information), joint decisions might be worse than providing all the information to just one member and asking then to decide unilaterally. In addition, if both partners are similarly biased in their information processing (e.g. if they are both too conservative relative to a Bayesian), then bargaining over the answer might *not* move them towards the truth and could even move them further from the truth. It is therefore ambiguous ex ante whether joint decisions will be better or worse than individual decisions.

We begin by comparing joint decisions made by married couples in the *Discussion* round with the final individual guesses of husbands and wives in the *Individual* round, as reported in Table A.V. Recall that the total amount of information available is the same in each case, so any differences in performance should be due to the kinds of factors discussed above. We find that joint decisions are no better than individual decisions. In fact, husbands when deciding alone (in the individual round) earn Rs. 4.5 more than couples deciding jointly, a difference which is statistically significant (p=0.06) and equal to 0.13 times the standard deviation of expected earnings from individual guesses. Women do not do significantly better than the joint guess (+Rs. 0.50, 0.015 SD, p=0.84). Altogether, these results imply that the benefits of joint deliberation do not exceed the information-processing frictions created by dividing information between the two spouses. Two heads, each containing part of the information set, are weakly worse than one head containing all the information.

We next turn to examining how the joint guess weights the information each spouse uncovered. Figure 5 shows that, perhaps surprisingly, couples put very similar weights on husbands' and wives' information (upper panel). In fact, couples put slightly more weight on women's information compared to men's information in the *Discussion*

[18]In our experiment, these should also be reflected in participants' final private guesses, made after the joint discussion.

rounds, though the difference is not statistically significant. In draw-sharing rounds, where draws are common-knowledge before the discussion begins, husbands' weights are slightly larger compared to wives', though again this difference is not statistically significant.[19]

Table 4 shows the corresponding regressions and also reports heterogeneity by relative ability, beliefs about ability and by a proxy for household decision-making power. Consistent with Figure 5, wives' and husbands' information receives very similar weight in the joint guess (column 1). The joint decision weights more heavily the signals of the spouse who is better at the task. This is true for objective measures of performance (column 2) as well as for the subjective beliefs of the couple (column 3). Finally, the signals drawn by the households' "primary household decision-maker" (as reported by the husband) also receive significantly more weight (column 4). While all these patterns seem intuitive—higher ability and greater household bargaining weights lead to greater weight on one's information—it is worth emphasizing that these factors should not (necessarily) matter. As long as participants can recall their draws, such that their information can be aggregated with their spouse's, joint decisions should *not* weight their information differently.[20]

5 Conclusion

We construct a simple two-person balls-and-urn task in which participants' incentives are fully aligned and they have an unrestricted opportunity to share information with each other. We find that husbands' guesses are biased towards their 'own' rather than their wives' information, while individuals of both genders overweight their own information relative to an opposite-gender stranger. This effect is not justified by any gender bias in the task itself, nor does it stem from a failure to share information (imperfect diffusion). Instead, it seems to reflect an intrinsic treatment of one's own information as more important ('imperfect deliberation'). Moreover, it appears to affect the quality of decision-making.

[19]Similarly, mixed-gender strangers put nearly identical weight on men's compared to women's information (lower panel of Figure 5). However, a difference emerges in the draw-sharing rounds, where men's information gets significantly more weight.

[20]Draw-sharing appears to mitigate these heterogeneity patterns (columns 5 to 8). While we find that the information of spouses who perform better in the *Individual* gets more weight in joint decisions ($p = 0.01$, column 6), there are no clear pattern of heterogeneity by spouses' perceived performance (column 7) and by the gender of the main household decision-maker (column 8).

A key question for future research is whether similar effects can be found in a field setting, such as small-scale farming, in which households make 'real' economic decisions as a unit. If gender-based over-weighting of information has economically significant consequences in such decisions, this could have important implications for the design of policies that involve providing information to households, particularly in settings with strong intra-household gender norms.

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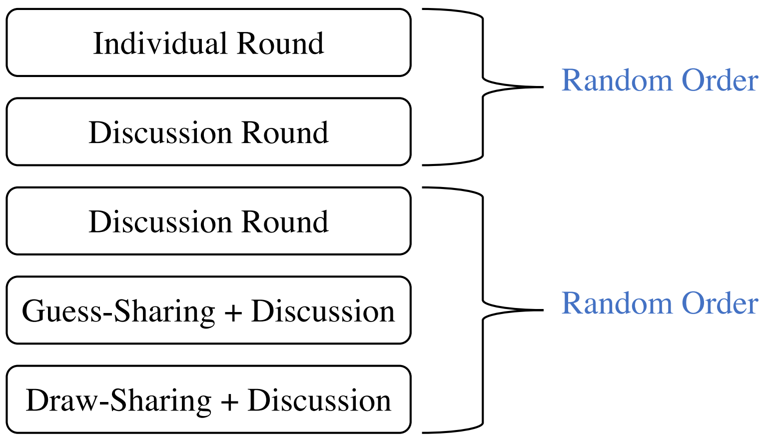
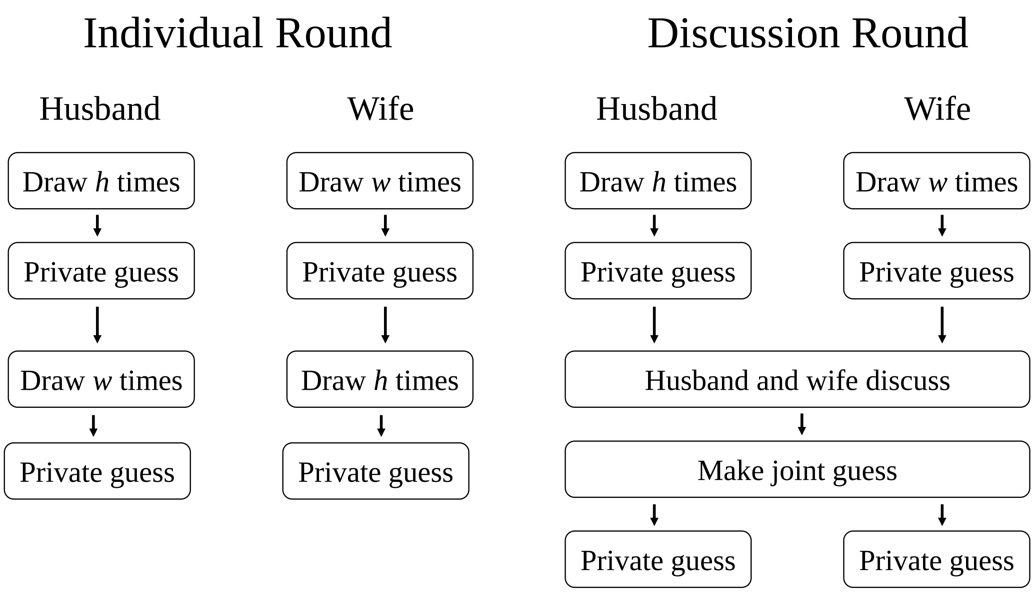
6 Figures and Tables

Figure 1: Design Overview



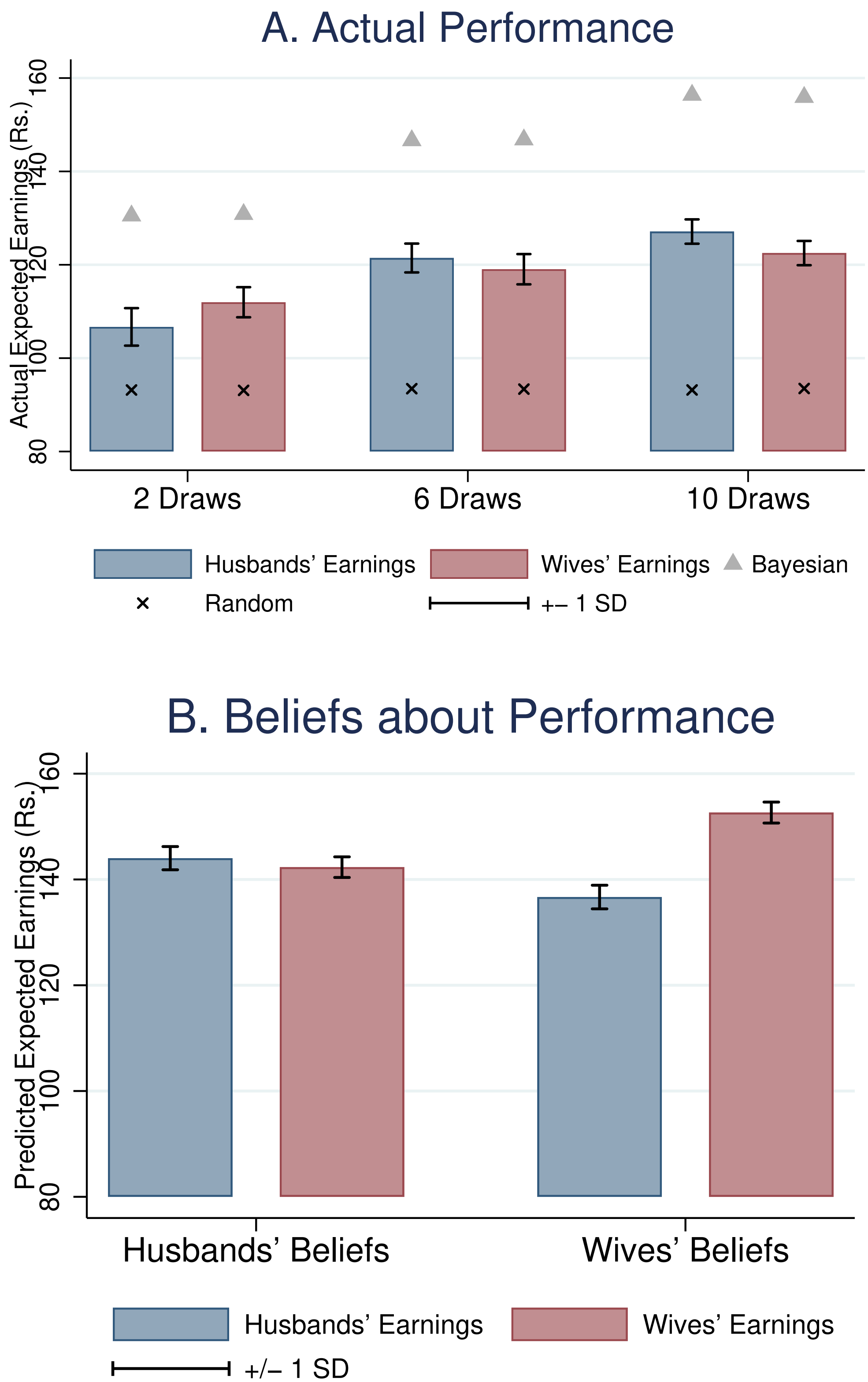
(a) Round structure



(b) Individual and Discussion rounds

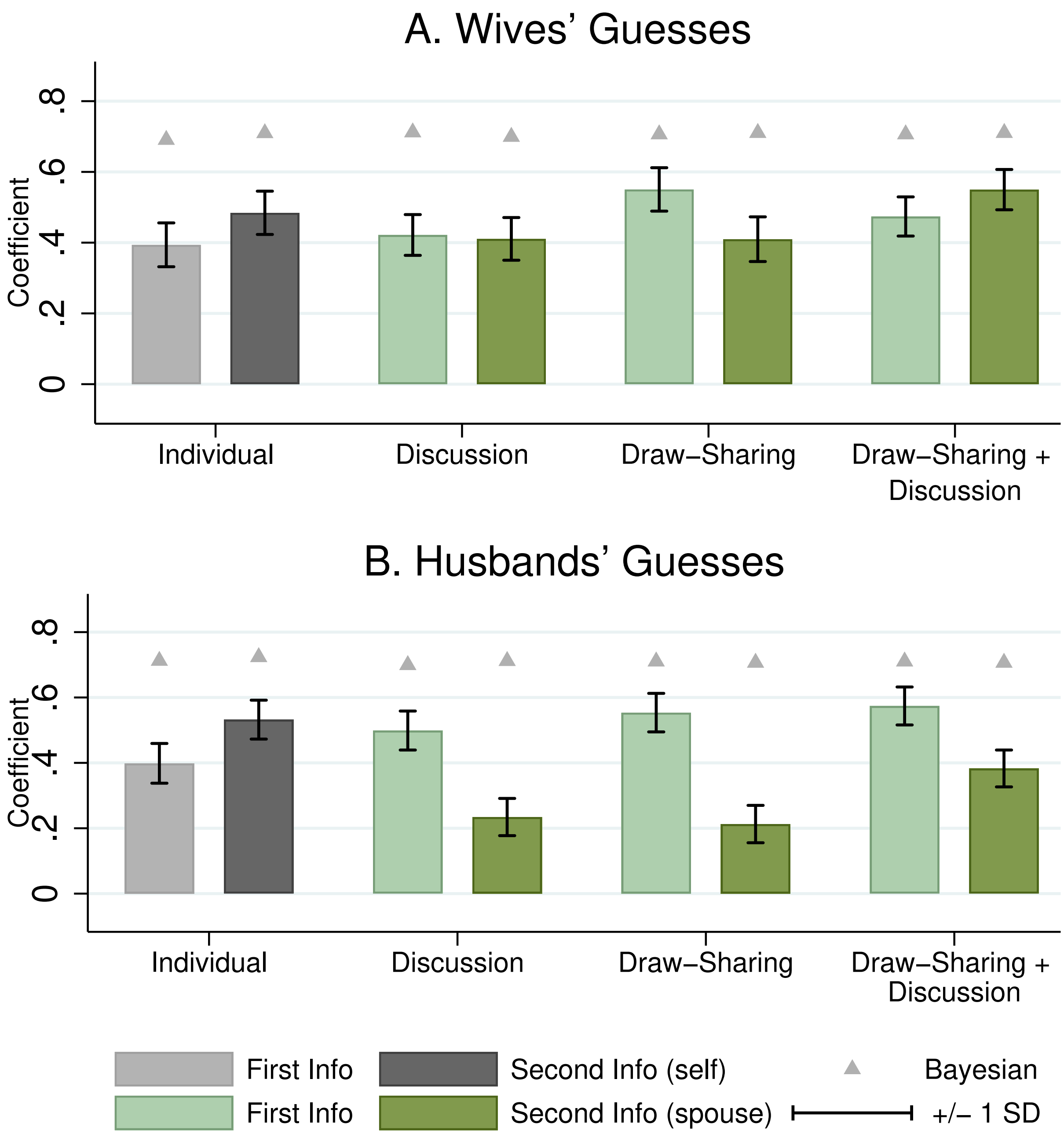
Notes: Panel (a) shows the five rounds of our experiment. Panel (b) describes the structure of the *Individual* and *Discussion* rounds. In the *Individual* round, each spouse guesses based on two sets of draws they make from the urn. In the *Discussion* round, each spouse makes one set of draws, but they can discuss afterwards before making more guesses. The *Guess-sharing + Discussion* and *Draw-sharing + Discussion* rounds are like the *Discussion* rounds, except that before discussing, spouses are directly told either their spouse's guess or draws and then make a pre-discussion guess. The value of (h, w) varies across couples but is the same across the first two rounds.

Figure 2: Actual and Perceived Performance



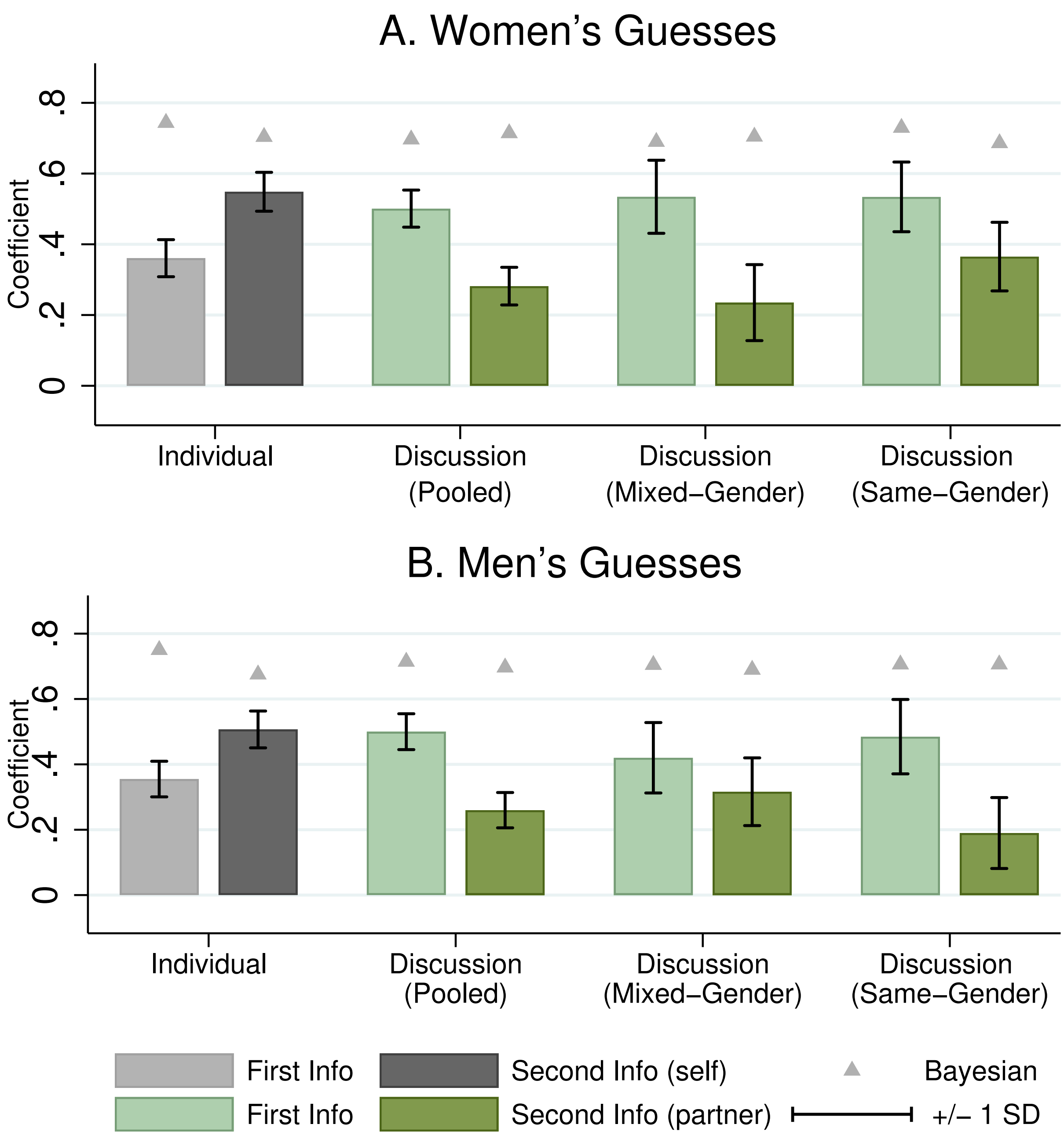
Notes: Panel A shows the mean expected earnings of the final guesses in the *Individual* round by the total number of draws in the round. Blue and red bars indicate the mean expected earnings for the husbands and wives. Triangles indicate the mean expected earnings for Bayesian risk-neutral optimal guesses conditional on the same draws, and crosses indicate the mean expected earnings if guessed randomly. Whiskers indicate standard errors.
Panel B shows the results of asking participants to predict how much their and spouse's guesses would earn on average. These predictions were incentivized by a Rs. 50 reward for being within Rs. 30 of the actual average. Blue and red bars show the average of the predicted expected earnings for husbands and wives. Whiskers indicate

Figure 3: Weights on Own vs. Spouse's Information



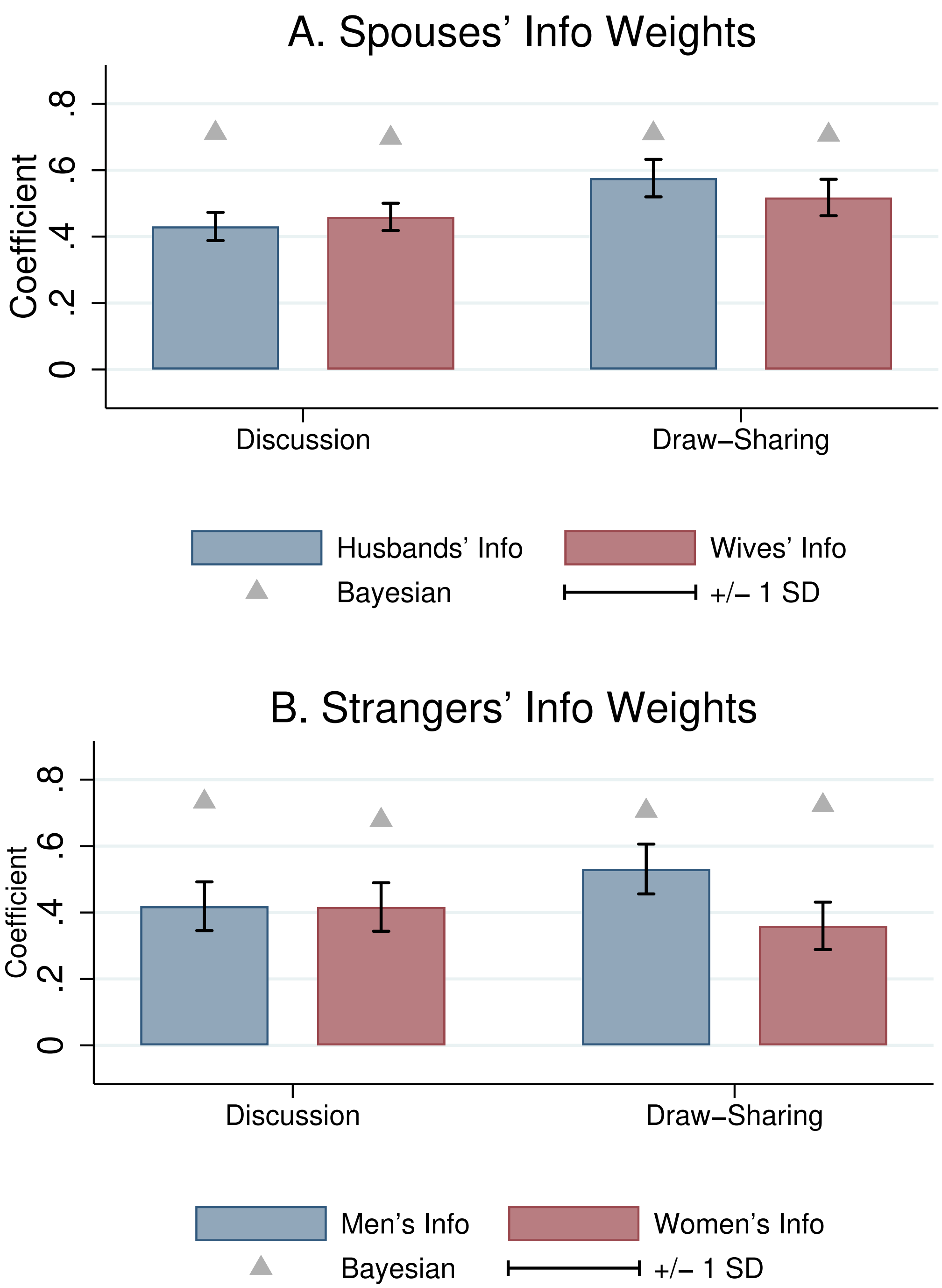
Notes: This figure shows the weights wives (*Panel A*) and husbands (*Panel B*) put on different pieces of information. We estimate coefficients from equation (1), using four types of private guesses: (a) *Individual*, where participants collect all information on their own; (b) *Discussion*, in which participants collect the first set of information on their own and the second set is only accessible via discussion; (c) *Draw-Sharing*, where participants receive the second set of information directly from the experimenter; (d) *Draw-Sharing + Discussion*, in which participants receive the second set of information directly *and* have the chance to discuss it with their spouse. For each of these types of guesses, we estimate two coefficients for each spouse: (i) the weight they put on the first set of information (collected by themselves) and (ii) the weight they put on the second set of information (collected themselves or accessed via their partner). "Bayesian" denotes the coefficients we would estimate for a perfectly Bayesian participant. The lighter bars show the first set of information and the darker bars show the second set of information. Whiskers indicate standard errors.

Figure 4: Strangers' Weights on Own vs. Others' Information



Notes: This figure shows the weights women (*Panel A*) and men (*Panel B*) put on different pieces of information. We estimate coefficients from equation (1), using two types of private guesses: (a) *Individual*, where participants collect all information on their own; and (b) *Discussion*, in which participants collect the first set of information on their own and the second set is only accessible via discussion. For each of these types of guesses, we estimate two coefficients for each participant: (i) the weight they put on the first set of information (collected by themselves) and (ii) the weight they put on the second set of information (collected themselves or accessed via their partner). We also weight the information by the pair. *Discussion (Pooled)* pools the data for the *Discussion* round across the pairs, while *Discussion (Mixed-Gender)* and *Discussion (Same-Gender)* focus on the mixed-gender and same-gender pairs respectively. "Bayesian" denotes the coefficients we would estimate for a perfectly Bayesian participant. The lighter bars indicate the first set of information and the darker bars indicate the second set of information. Whiskers indicate standard errors.

Figure 5: Weights in Joint Decisions



Notes: We estimate coefficients from a version of equation (1) with the *joint* guess as the dependent variable. We estimate the weights on each participant's information in two types of joint guess: (a) *Discussion*, in which participants collect the first set of information on their own and the second set is only accessible via discussion; (b) *Draw-Sharing*, where participants receive the second set of information directly from the experimenter; For each round of the joint guesses, we estimate two coefficients: (i) the weight put on the husbands' or men's information and, (ii) the weight put on the wives' or women's information. The *Discussion* bars pool data from both *Discussion* round. Panel A shows the estimates for couples, and Panel B shows the estimates for mixed-gender strangers. "Bayesian" denotes the coefficients we would estimate for a perfectly Bayesian participant. The blue and red bars indicate husbands' (men's) and wives' (women's) information. Whiskers indicate standard errors.

Table 1: Sample Characteristics

	Couples		**Non-Couples**	
	Husbands	Wives	Men	Women
Marriage & Age				
Married	1.00	1.00	0.56	0.85
Years married | Married	12.33	12.23	13.00	15.09
	(8.47)	(8.45)	(7.65)	(8.66)
Age	36.46	31.86	34.92	34.39
	(9.10)	(8.34)	(8.69)	(8.48)
Education				
Highest grade attended	7.86	8.11	7.77	7.26
	(3.31)	(3.29)	(3.54)	(3.44)
Reads Tamil	0.86	0.83	0.77	0.75
Multiplied correctly	0.48	0.33	0.52	0.36
Work				
Works (at least 1 day/week)	1.00	0.42	1.00	0.54
Daily work hours | Works	8.23	5.56	7.93	4.40
	(2.74)	(3.61)	(3.18)	(3.65)
Days working per week | Works	5.73	5.90	5.27	5.75
	(1.05)	(1.15)	(1.26)	(1.31)
Daily earnings | Works	571.41	279.72	577.38	281.64
	(269.33)	(195.59)	(299.94)	(210.39)
"Who in general is better at the task?"				
Men	0.21	0.22	0.13	0.14
Women	0.40	0.39	0.27	0.26
About the same	0.39	0.39	0.60	0.59
"Which of you is better at the task?"				
Man	0.34	0.49	0.21	0.34
Woman	0.42	0.21	0.36	0.19
About the same	0.23	0.30	0.43	0.46
N	400	400	250	250

This table shows averages of key background characteristics for the couples and non-couples samples. Standard deviations for non-binary variables are in parentheses. Columns 1 and 2 describe our main experimental sample of 400 married couples; columns 3 and 4 describe our secondary sample of 500 individuals. "Highest grade attended" refers to the highest school grade attended out of 12. Tamil is the local language. "Multiplied correctly" equals 1 if the participant knew the answer to 3×9. " | " means "conditional on". Earnings are in Indian Rupees (US\$1 $\approx$ 70 Rupees).

Table 2: Spouses' Weights on Own vs. Others' Information

	Pooled (1)	Husbands (2)	Wives (3)	Pooled (4)	Husbands (5)	Wives (6)
First Info	0.42***	0.45***	0.40***	0.40***	0.45***	0.36***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.06)	(0.06)
Second Info	0.50***	0.52***	0.48***	0.52***	0.52***	0.52***
	(0.04)	(0.06)	(0.06)	(0.05)	(0.08)	(0.08)
Second Info X Only Accessible via Discussion	-0.16***	-0.27***	-0.05	-0.16***	-0.27***	-0.05
	(0.06)	(0.08)	(0.08)	(0.06)	(0.08)	(0.08)
Second Info X Only Informed by Experimenter				-0.20**	-0.40***	-0.00
				(0.09)	(0.12)	(0.11)
Second Info X Informed by Experimenter and Discussion				-0.06	-0.22*	0.11
				(0.09)	(0.12)	(0.12)
Constant	10.42***	10.31***	10.50***	10.28***	10.17***	10.37***
	(0.09)	(0.11)	(0.12)	(0.12)	(0.15)	(0.15)
Observations	1600	800	800	4000	2000	2000
p-value: First interaction term equal for husbands and wives		0.06			0.05	
p-value: Second interaction term equal for husbands and wives					0.01	
p-value: Third interaction term equal for husbands and wives					0.04	
Includes Info X Order FEs	No	No	No	Yes	Yes	Yes

Table shows OLS regressions. The dependent variable is participants' final private guess. "First Info" indicates the Bayesian risk-neutral optimal guess after observing only the participants' own set of draws (in the Discussion round) or their first set of draws (in the Individual rounds). Similarly, "Second Info" indicates the Bayesian guess given only the participant's spouse's draws or her second set of draws. "Accessible via Spouse" is an indicator that equals one when the second set of draws were drawn by the participant's spouse and then (potentially) communicated to her through discussion, and equals zero when the participant drew the second set of draws herself. "Only informed by Experimenter" equals one when the participant was directly told their spouse's information but has not yet discussed it with their spouse, while "Informed by Experimenter and Discussion" equals one when the participant has both been told the information and discussed with their spouse. Columns 1-3 include guesses from the first *Discussion* round and the *Individual* round only, while Columns 4-6 additionally include guesses from the second *Discussion* round and the *Draw-sharing + Discussion* round. Columns 4-6 also include order fixed effects interacted with "First Info" and "Second Info". Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

Table 3: Strangers' Weight on Own vs. Others' Information

	All Strangers			**Same-Gender Strangers**			**Mixed-Gender Strangers**		
	Pooled (1)	Men (2)	Women (3)	Pooled (4)	Men (5)	Women (6)	Pooled (7)	Men (8)	Women (9)
First Info	0.47*** (0.05)	0.42*** (0.08)	0.53*** (0.07)	0.48*** (0.06)	0.41*** (0.10)	0.52*** (0.08)	0.46*** (0.06)	0.39*** (0.08)	0.53*** (0.08)
Second Info	0.49*** (0.07)	0.50*** (0.11)	0.48*** (0.10)	0.47*** (0.07)	0.57*** (0.11)	0.40*** (0.09)	0.47*** (0.07)	0.50*** (0.10)	0.45*** (0.11)
Second Info X Only Accessible via Discussion	-0.24*** (0.08)	-0.28** (0.11)	-0.20* (0.11)	-0.27*** (0.10)	-0.46*** (0.14)	-0.10 (0.14)	-0.21** (0.10)	-0.20 (0.14)	-0.24* (0.13)
Second Info X Only Informed by Experimenter							-0.30** (0.14)	-0.26 (0.19)	-0.36* (0.19)
Second Info X Informed by Experimenter and Discussion							-0.15 (0.14)	-0.06 (0.19)	-0.25 (0.18)
Constant	10.73*** (0.14)	10.77*** (0.21)	10.69*** (0.19)	10.71*** (0.17)	10.56*** (0.27)	10.79*** (0.21)	10.76*** (0.16)	10.94*** (0.22)	10.59*** (0.21)
Observations	1490	743	747	1000	496	504	1986	993	993
p-value: First interaction term equal for women and men		0.62			0.06			0.85	
p-value: Second interaction term equal for women and men								0.71	
p-value: Third interaction term equal for women and men								0.45	
Includes Info X Order FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table shows OLS regressions. The dependent variable is participants' final private guess in the first Discussion round, the Individual round, and (for mixed-gender pairs) the Draw-Sharing round. Columns 1-3 include all pairs of strangers (same- and mixed-gender). Columns 4-6 include only same-gender pairs of non-couples, and Columns 7-9 include only mixed-gender pairs of non-couples. "First Info" indicates the Bayesian risk-neutral optimal guess after observing only the participants' own set of draws (in the Discussion round) or their first set of draws (in the Individual rounds). Similarly, "Second Info" indicates the Bayesian guess given only the participant's spouse's draws or her second set of draws. "Only Accessible via Partner" is an indicator that equals one when the second set of draws were drawn by the participant's partner in the round and then (potentially) communicated to them only through discussion (in the Discussion round), and equals zero when the participant drew the second set of draws herself (in the Individual round) or when the experimenter told her of her spouse's draws directly (in the Draw-Sharing round). "Only informed by Experimenter" equals one for guesses where the participant has been told their spouse's information but has not yet discussed it with their partner, while "Informed by Experimenter and Discussion" equals one when the participant has both been told the information and discussed with their partner. Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

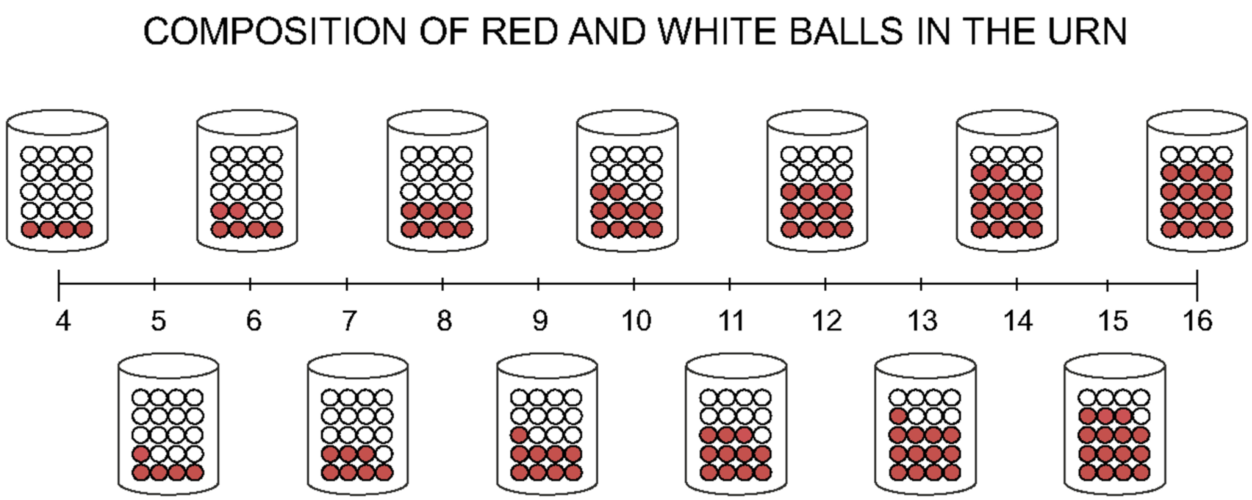
Table 4: Couples' Weights on Husbands' and Wives' Info in Joint Guesses

	Discussion Round					**Draw-Sharing Round**				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Husband's Info	0.43***	0.31***	0.40***	0.37***	0.24***	0.58***	0.40***	0.54***	0.63***	0.39***
	(0.04)	(0.07)	(0.06)	(0.05)	(0.08)	(0.06)	(0.10)	(0.08)	(0.07)	(0.12)
Wife's Info	0.46***	0.63***	0.54***	0.53***	0.77***	0.52***	0.61***	0.53***	0.49***	0.61***
	(0.04)	(0.06)	(0.05)	(0.05)	(0.07)	(0.06)	(0.08)	(0.07)	(0.07)	(0.09)
Husband's Info X		0.19**			0.17*		0.30**			0.34***
Husband Better		(0.09)			(0.09)		(0.12)			(0.12)
Wife's Info X		-0.32***			-0.32***		-0.19*			-0.20*
Husband Better		(0.09)			(0.08)		(0.11)			(0.11)
Husband's Info X			0.08		0.08			0.07		0.13
Husband Says He's Better			(0.09)		(0.09)			(0.12)		(0.12)
Wife's Info X			-0.18**		-0.18**			-0.03		-0.06
Husband Says He's Better			(0.09)		(0.08)			(0.12)		(0.12)
Husband's Info X				0.19**	0.17*				-0.16	-0.21*
Husband Says He's HHDM				(0.09)	(0.09)				(0.13)	(0.12)
Wife's Info X				-0.24**	-0.21**				0.09	0.10
Husband Says He's HHDM				(0.10)	(0.10)				(0.13)	(0.13)
Observations	800	800	800	800	800	400	400	400	400	400
p-value: Interaction has no impact on relative information weights		0.00	0.07	0.01			0.01	0.63	0.26	

Table shows OLS regressions. The dependent variable is the joint guess in the first Discussion round. "Husband's Info" indicates the Bayesian risk-neutral optimal guess after observing only the husband's own set of draws. Similarly, "Wife's Info" indicates the Bayesian guess given only the wife's draws. "Husband better" is an indicator variable for whether the husband's first guesses (using only his first set of draws) have a higher expected earnings than his wife's. "Husband Says He's Better" indicates whether the husband's guess of his average earnings at the experimental task is higher than his guess of his wife's earnings. "He says He's HHDM" indicates whether the husband says that he is the primary household-decision maker. Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

A Supplementary Figures and Tables

Panel A: Guess Scale



Panel B: Payment Scale

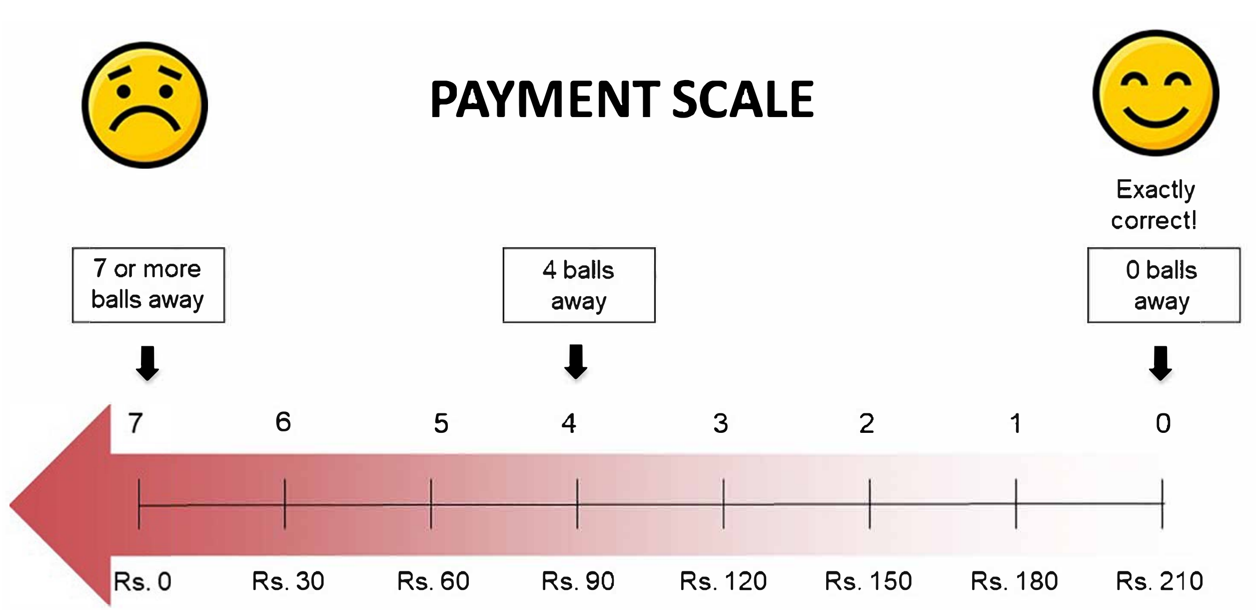
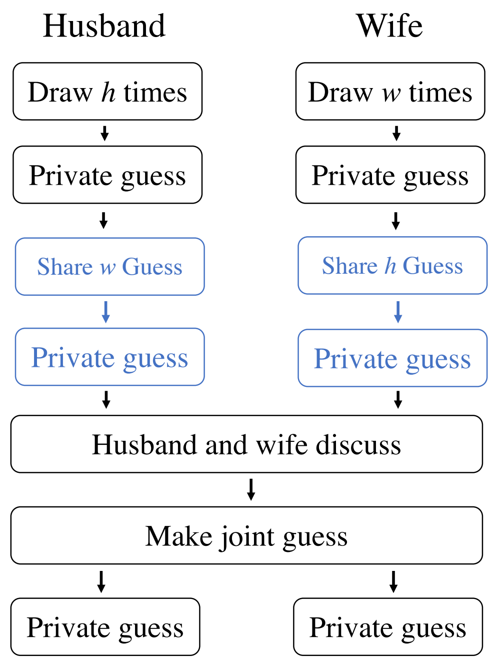


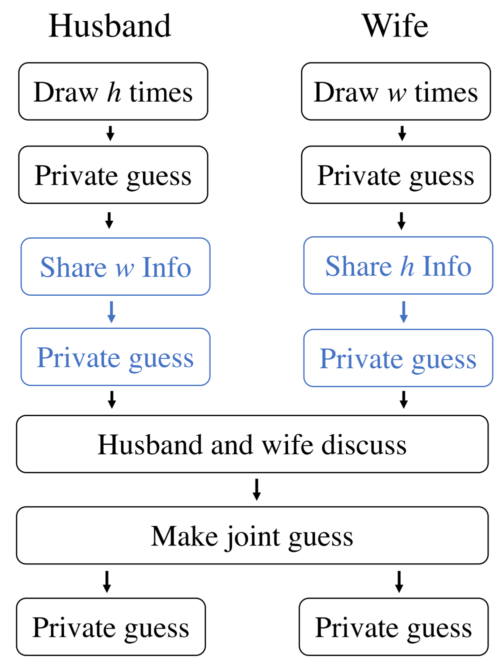
Figure A.I: Visual Aides

Notes: Panel A: The scale which participants used to make their guesses. Participants guessed by placing a small token on top of the corresponding number. Panel B: The scale used to explain the incentives for accurate guessing to participants.

Figure A.II: Design Overview



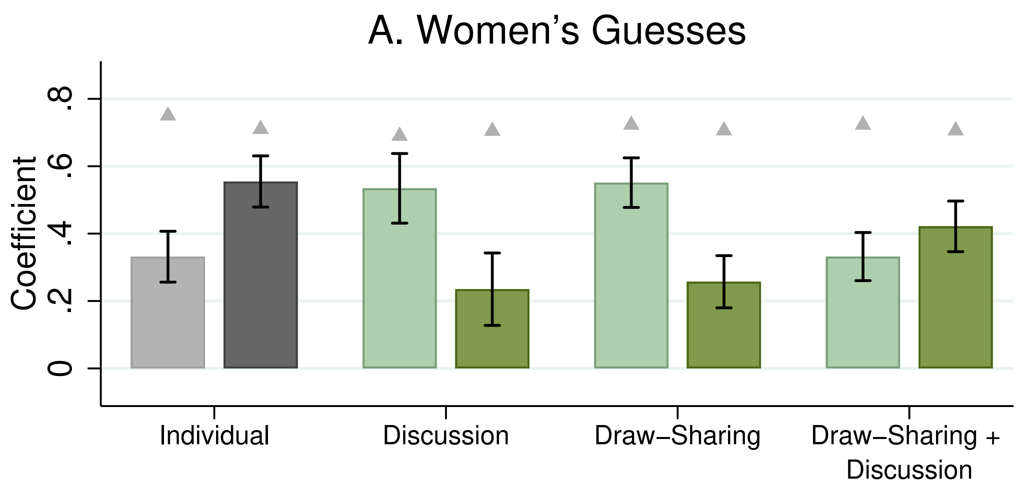
(a) Guess-Sharing + Discussion Round

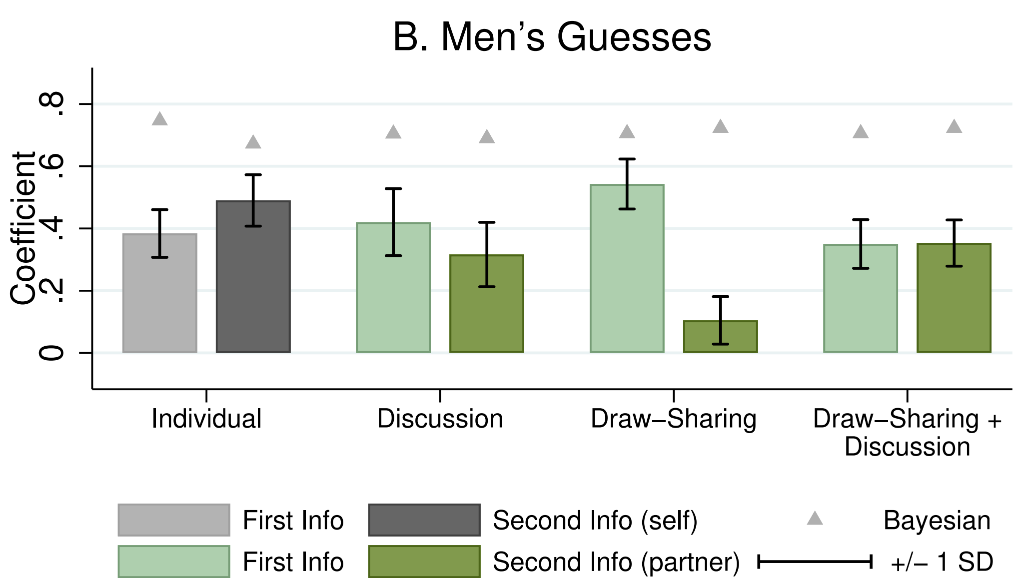


(b) Draw-Sharing + Discussion Round

Notes: Panel (a) describes the structure of the *Guess-Sharing + Discussion* round and panel (b) describes the structure of the *Draw-Sharing + Discussion* round. These rounds are like the *Discussion* rounds, except that before discussing, spouses are directly told either their spouse's guess or draws by the experimenter and then make a pre-discussion guess. The value of (h, w) may be different across these two rounds.

Figure A.III: Strangers' Weights on Own vs. Others' Information (Mixed-gender pairs)





Notes: This figure shows the weights women (*Panel A*) and men (*Panel B*) put on different pieces of information. We estimate coefficients from equation (1), using four types of private guesses: (a) *Individual*, where participants collect all information on their own; (b) *Discussion*, in which participants collect the first set of information on their own and the second set is only accessible via discussion; (c) *Draw-Sharing*, where participants receive the second set of information directly from the experimenter; (d) *Draw-Sharing + Discussion*, in which participants receive the second set of information directly *and* have the chance to discuss it with their partner. For each of these types of guesses, we estimate two coefficients for each spouse: (i) the weight they put on the first set of information (collected by themselves) and (ii) the weight they put on the second set of information (collected themselves or accessed via their partner). "Bayesian" denotes the coefficients we would estimate for a perfectly Bayesian participant. The lighter bars indicate the first set of information and the darker bars indicate the second set of information. Whiskers indicate standard errors.

Table A.I: Placebo Test: Bayesian does not Overweight Own Info

	Pooled (1)	Husbands (2)	Wives (3)	Pooled (4)	Husbands (5)	Wives (6)
First Info	0.70***	0.71***	0.70***	0.72***	0.72***	0.71***
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Second Info	0.72***	0.73***	0.71***	0.71***	0.72***	0.70***
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Second Info X Only Accessible via Discussion	-0.01	-0.01	-0.01	-0.01	-0.02	-0.01
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Second Info X Only Informed by Experimenter				-0.00	0.01	-0.01
				(0.02)	(0.03)	(0.03)
Second Info X Informed by Experimenter and Discussion				-0.00	0.01	-0.01
				(0.02)	(0.03)	(0.03)
Constant	9.99***	10.00***	9.99***	9.98***	10.00***	9.97***
	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Observations	1600	800	800	4000	2000	2000
p-value: First interaction term equal for husbands and wives		0.76			0.79	
p-value: Second interaction term equal for husbands and wives					0.72	
p-value: Third interaction term equal for husbands and wives					0.72	
Includes Info X Order FEs	No	No	No	Yes	Yes	Yes

Table shows OLS regressions. The dependent variable is the Bayesian risk-neutral optimal final private guess. "First Info" indicates the Bayesian risk-neutral optimal guess after observing only the participants' own set of draws (in the Discussion round) or their first set of draws (in the Individual rounds). Similarly, "Second Info" indicates the Bayesian guess given only the participant's spouse's draws or her second set of draws. "Accessible via Discussion" is an indicator that equals one when the second set of draws were drawn by the participant's spouse and then (potentially) communicated to her through discussion, and equals zero when the participant drew the second set of draws herself. "Only informed by Experimenter" equals one when the participant was directly told their spouse's information but has not yet discussed it with their spouse, while "Informed by Experimenter and Discussion" equals one when the participant has both been told the information and discussed with their spouse. Columns 1-3 include only the individual round and the first discussion round, which occurred in a random order at the beginning of the experiment. Columns 4-6 additionally include the second discussion round, the *Draw-sharing + Discussion* round, and order fixed effects interacted with "First Info" and "Second Info." Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.05$, 0.01, and 0.001 levels.

Table A.II: Husbands and Wives Guess Similarly, Conditional on Ability and Beliefs

	Husbands (1)	Wives (2)	Husbands (3)	Wives (4)	Husbands (5)	Wives (6)	Husbands (7)	Wives (8)
Own Info	0.56***	0.55***	0.56***	0.50***	0.57***	0.50***	0.62***	0.64***
	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.07)	(0.07)
Spouse's Info	0.20***	0.35***	0.22***	0.39***	0.28***	0.36***	0.14*	0.32***
	(0.06)	(0.07)	(0.05)	(0.06)	(0.05)	(0.05)	(0.07)	(0.08)
Own Info X Spouse is Better	-0.10	-0.22**					-0.07	-0.21**
	(0.09)	(0.09)					(0.09)	(0.09)
Spouse's Info X Spouse is Better	0.17*	0.09					0.17**	0.09
	(0.09)	(0.08)					(0.09)	(0.09)
Own Info X Says Spouse is Better			-0.10	-0.12			-0.08	-0.07
			(0.08)	(0.09)			(0.08)	(0.09)
Spouse's Info X Says Spouse is Better			0.16*	0.02			0.16*	-0.01
			(0.09)	(0.09)			(0.09)	(0.09)
Own Info X Says Spouse is HHDM					-0.12	-0.20*	-0.10	-0.19*
					(0.09)	(0.10)	(0.08)	(0.10)
Spouses Info X Says Spouse is HHDM					0.02	0.11	0.00	0.11
					(0.09)	(0.10)	(0.09)	(0.10)
Constant	10.36***	10.62***	10.34***	10.61***	10.36***	10.62***	10.35***	10.64***
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
Observations	800	800	800	800	800	800	800	800
p-value: Own Info = Spouse's Info	0.00	0.06	0.00	0.30	0.00	0.08	0.00	0.01
p-value: Husbands = Wives Own vs Partner's	0.29		0.17		0.20		0.36	

Table shows OLS regressions. The dependent variable is participants' final private guesses in the two Discussion rounds. "Own Info" indicates the Bayesian risk-neutral optimal guess after observing only the participants' own set of draws. Similarly, "Spouse's Info" indicates the Bayesian guess given only the participant's spouse's draws. "Spouse is better" is an indicator variable for whether the participant's spouse's first guesses (using only his first set of draws) have a higher expected earnings than her own guesses. "Says Spouse is Better" indicates whether the participant's guess of her average earnings at the experimental task is higher than her guess of her spouse's earnings. "Says Spouse is HHDM" indicates whether the participant says that her spouse is the primary household-decision maker. Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

Table A.III: Couples' Weights on Husbands' and Wives' Info in Joint Guesses

		Discussion Round				**Draw-Sharing Round**				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Husband's Info	0.43***	0.50***	0.45***	0.47***	0.52***	0.58***	0.70***	0.58***	0.60***	0.71***
	(0.04)	(0.05)	(0.05)	(0.06)	(0.07)	(0.06)	(0.07)	(0.07)	(0.07)	(0.08)
Wife's Info	0.46***	0.31***	0.41***	0.44***	0.27***	0.52***	0.42***	0.50***	0.58***	0.46***
	(0.04)	(0.06)	(0.05)	(0.06)	(0.07)	(0.06)	(0.08)	(0.07)	(0.07)	(0.10)
Husband's Info X Wife Better		-0.19**			-0.17*		-0.30**			-0.28**
		(0.09)			(0.09)		(0.12)			(0.12)
Wife's Info X Wife Better		0.32***			0.31***		0.19*			0.21*
		(0.09)			(0.09)		(0.11)			(0.11)
Husband's Info X Wife Says She's Better			-0.07		-0.03			0.02		0.04
			(0.10)		(0.10)			(0.14)		(0.14)
Wife's Info X Wife Says She's Better			0.19**		0.19**			0.06		0.07
			(0.09)		(0.09)			(0.13)		(0.13)
Husband's Info X Wife Says She's HHDM				-0.11	-0.07				-0.04	-0.03
				(0.09)	(0.09)				(0.12)	(0.13)
Wife's Info X Wife Says She's HHDM				0.06	0.01				-0.16	-0.17
				(0.09)	(0.09)				(0.12)	(0.12)
Observations	800	800	800	800	800	400	400	400	400	400
p-value: Interaction has no impact on relative information weights		0.00	0.11	0.25			0.01	0.87	0.58	

Table shows OLS regressions. The dependent variable is the joint guess in the first Discussion round. "Husband's Info" indicates the Bayesian risk-neutral optimal guess after observing only the husband's own set of draws. Similarly, "Wife's Info" indicates the Bayesian guess given only the wife's draws. "Wife better" is an indicator variable for whether the wife's first guesses (using only her first set of draws) have a higher expected earnings than her husband's. "Wife Says She's Better" indicates whether the wife's guess of her average earnings at the experimental task is higher than her guess of her husband's earnings. "Wife says She's HHDM" indicates whether the wife says that she is the primary household-decision maker. Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

Table A.IV: Mixed-Gender Stranger's Weights on Men's and Women's Info in Joint Guesses

	Discussion Round				**Draw-Sharing Round**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Man's Info	0.42***	0.23**	0.30**	0.13	0.53***	0.64***	0.46***	0.57***
	(0.07)	(0.11)	(0.12)	(0.13)	(0.08)	(0.15)	(0.12)	(0.18)
Woman's Info	0.42***	0.65***	0.37***	0.64***	0.36***	0.44***	0.34***	0.42***
	(0.08)	(0.09)	(0.11)	(0.12)	(0.08)	(0.12)	(0.12)	(0.14)
Man's Info X Man Better		0.30**		0.27*		-0.18		-0.19
		(0.15)		(0.14)		(0.18)		(0.18)
Woman's Info X Man Better		-0.44***		-0.42***		-0.14		-0.14
		(0.14)		(0.14)		(0.16)		(0.15)
Man's Info X Man Says He's Better			0.19	0.19			0.15	0.15
			(0.15)	(0.14)			(0.16)	(0.17)
Woman's Info X Man Says He's Better			0.10	0.02			0.03	0.03
			(0.15)	(0.14)			(0.16)	(0.15)
Observations	247	247	247	247	249	249	249	249
p-value: Interaction has no impact on relative information weights		0.00	0.70			0.90	0.66	

Table shows OLS regressions. The dependent variable is the joint guess in the first Discussion round. "Man's Info" indicates the Bayesian risk-neutral optimal guess after observing only the husband's own set of draws. Similarly, "Woman's Info" indicates the Bayesian guess given only the wife's draws. "Man better" is an indicator variable for whether the man's first guesses (using only his first set of draws) have a higher expected earnings than the woman's. "Man Says He's Better" indicates whether the man's guess of his average earnings at the experimental task is higher than his guess of his wife's earnings. Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

Table A.V: Expected Earnings by Round

Round	(1) Pre-discussion Guess 1	(2) Pre-discussion Guess 2	(3) Joint Guess	(4) Post-discussion Guess
Discussion #1				
Husbands	111.42			117.99
	(1.54)		119.17	(1.93)
Wives	110.48		(1.88)	119.43
	(1.55)			(1.92)
Individual				
Husbands	114.31	122.49		
	(1.50)	(1.84)		
Wives	111.92	119.95		
	(1.46)	(1.81)		
Discussion #2				
Husbands	113.31			120.73
	(1.45)		122.18	(1.75)
Wives	112.15		(1.74)	119.39
	(1.52)			(1.82)
Guess-sharing				
Husbands	116.39	117.61		119.79
	(1.45)	(1.91)	121.47	(1.78)
Wives	111.97	115.28	(1.82)	120.98
	(1.53)	(1.98)		(1.85)
Draw-sharing				
Husbands	116.12	116.89		120.99
	(1.39)	(1.87)	123.55	(1.85)
Wives	111.25	118.36	(1.77)	123.21
	(1.49)	(1.82)		(1.74)

Table shows the average expected earnings of each guess made in each round in our couples sample. 'Pre-discussion Guess 1' refers to the guesses made after seeing the first set of draws. 'Pre-discussion Guess 2' refers to the guesses made after seeing the second set of draws (*Individual* round) or after participants are informed of their spouse's guess (*Guess-sharing + Discussion* round) or draws (*Draw-sharing + Discussion* round). 'Post-discussion guess' refers to the private guesses made after discussing with one's spouse. Standard errors are in parentheses.

B Supplementary Information

B.1 Guess-Sharing Round

The *Guess-sharing* round is identical to the *Draw-sharing* round, except that instead of sharing with each person the number of balls of each color their spouse drew, the surveyor shares only their spouse's guess and the total number of draws (1, 5 or 9) on which that guess was based.

Table B.I shows estimates of a version of equation (2) where the dependent variable is husbands', wives', and joint guesses in the *Discussion* and *Guess-sharing* rounds. We see that both husbands and wives put more weight on their information in the *Guess-sharing* round after they have been told about their partner's guess but before the discussion. For both genders, this difference after the discussion is significantly smaller ($p < 0.01$ for husbands, $p = 0.02$ for wives) than before the discussion and statistically indistinguishable from zero ($p = 0.17$ for husbands, $p = 0.99$ for wives).

Table B.I: Guess Shared by the Experimenter AND Discussion

	Pooled (1)	Husbands (2)	Wives (3)
First Info	0.40***	0.45***	0.36***
	(0.04)	(0.06)	(0.06)
Second Info	0.52***	0.52***	0.52***
	(0.05)	(0.08)	(0.08)
Second Info X Only Accessible via Discussion	-0.16***	-0.27***	-0.05
	(0.06)	(0.08)	(0.08)
Second Info X Only Told Guess by Experimenter	-0.33***	-0.43***	-0.23*
	(0.09)	(0.12)	(0.12)
Second Info X Received via Spouse AND Told Guess by Experimenter	-0.17*	-0.31***	-0.03
	(0.09)	(0.12)	(0.12)
Constant	10.28***	10.17***	10.37***
	(0.12)	(0.15)	(0.15)
Observations	4000	2000	2000
p-value: First interaction term equal for husbands and wives		0.05	
p-value: Second interaction term equal for husbands and wives		0.22	
p-value: Third interaction term equal for husbands and wives		0.09	
Includes Signals X Order FEs	Yes	Yes	Yes

Table shows OLS regressions. The dependent variable is participants' final private guesses in the two Discussion rounds, their final guesses in the Individual round, and their two final private guesses (pre- and post-discussion) in the Guess-Sharing round. "First Set of Signals" indicates the Bayesian risk-neutral optimal guess after observing only the participants' own set of draws (in the Discussion round) or their first set of draws (in the Individual rounds). Similarly, "Second Set of Signals" indicates the Bayesian guess given only the participant's spouse's draws or her second set of draws. "Only Accessible via Spouse" is an indicator variable for the final guess in the Discussion round, where respondent's only chance to learn about their spouse's draws comes through the discussion. "Only Told Guess by Experimenter" is a an indicator variable for the second private guess in the Guess-Sharing round, after the experimenter has shared the spouse's guess but before the discussion. "Accessible via Spouse AND Told Guess by Experimenter" is an indicator variable for the final private guess in the Guess-Sharing round, after the discussion. All regressions include order fixed effects interacted with "First Set of Signals" and "Second Set of Signals." Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

B.2 Bargaining Weights

What can we learn from the above guesses about the couple's bargaining weights from the relationship between the private and joint guesses? Figure B.I and Table B.II consider the relationship between the joint guesses and each spouse' private guesses (both pre and post discussion). The figure shows OLS estimates of the following specification

$$Joint\ Guess_{cr} = \alpha + \beta_1 \cdot Husband\ Guess_{cr} + \beta_2 \cdot Wife\ Guess_{cr} + \epsilon_{cr}, \qquad (3)$$

where $JointGuess_{cr}$ is the joint guess made by couple c in *Discussion* round r, and $HusbandGuess_{cr}$ and $WifeGuess_{cr}$ are the husband's and wife's final *post*-discussion guesses respectively. This regression uses data from the two discussion rounds without any direct information sharing by the experimenter. We interpret β_1 and β_2 in this regression as bargaining weights in the couple's joint decision making.

Using data from the *Discussion* round (without info sharing), husbands have higher bargaining weights on average (Table B.II column 1). We find suggestive evidence that this bargaining weight is higher for husbands who are objectively better at the task (column 2) or who are perceived to be better at the task (column 3). Finally, the husband's decision-making weight is significantly higher if he is deemed the household's main decision-maker (column 4, $p = 0.01$).

Table B.II: Bargaining Weights in the Discussion Round

	(1)	(2)	(3)	(4)
Husband's Guess	0.53***	0.49***	0.49***	0.47***
	(0.04)	(0.08)	(0.07)	(0.05)
Wife's Guess	0.43***	0.46***	0.48***	0.49***
	(0.04)	(0.07)	(0.06)	(0.05)
Husband's Guess X Husband Better		0.07		
		(0.09)		
Wife's Guess X Husband Better		-0.05		
		(0.09)		
Husband's Guess X Husband Says He's Better			0.09	
			(0.09)	
Wife's Guess X Husband Says He's Better			-0.11	
			(0.09)	
Husband's Guess X Husband Says He's HHDM				0.21**
				(0.09)
Wife's Guess X Husband Says He's HHDM				-0.20**
				(0.08)
Observations	800	800	800	800
p-value: Interaction has no impact on relative bargaining weights		0.51	0.26	0.01

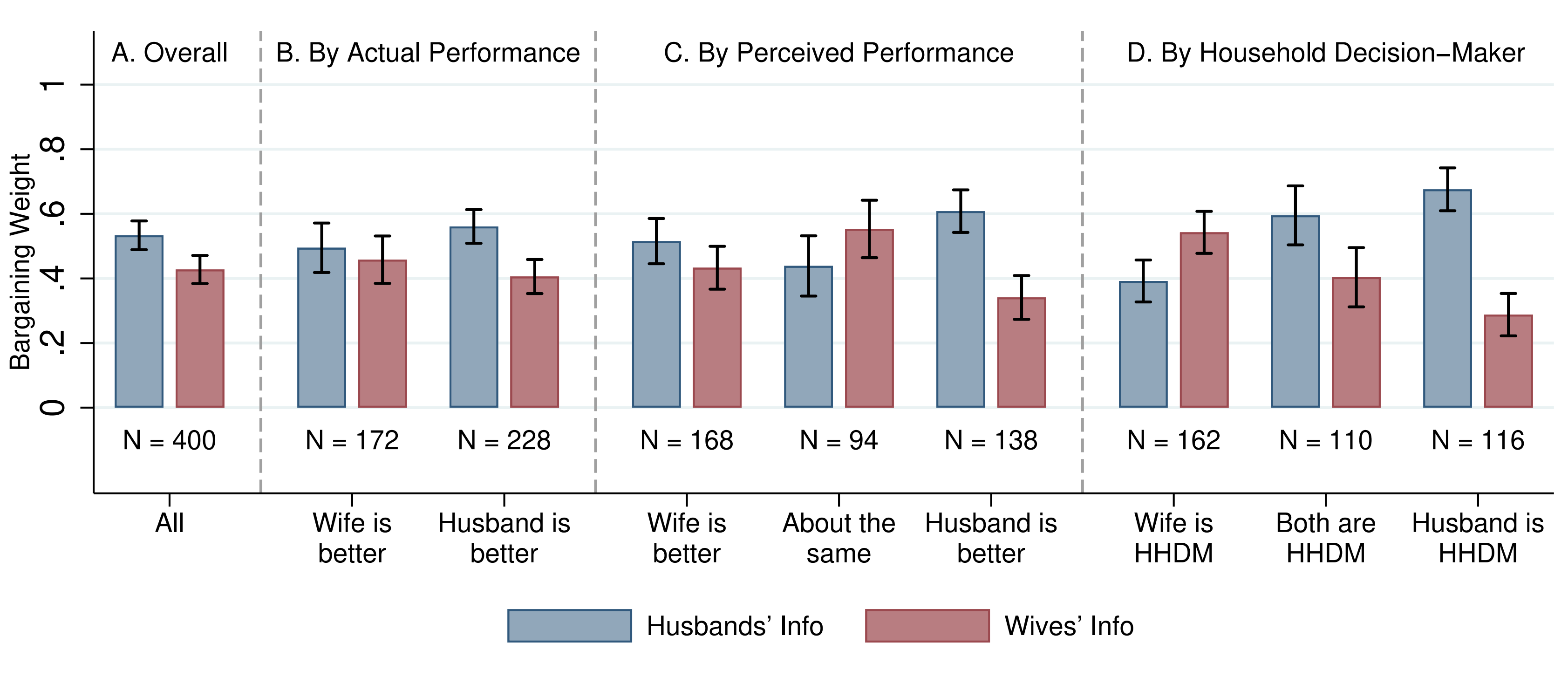
Table shows OLS regressions. The dependent variable is the joint guess in the first Discussion round. "Husband's Guess" is his final (post-discussion) private guess. "Wife's Guess" is her final (post-discussion) private guess. "Husband better" is an indicator variable for whether the husband's first guesses (using only his first set of draws) have a higher expected earnings than his wife's. "Husband Says He's Better" indicates whether the husband's guess of his average earnings at the experimental task is higher than his guess of his wife's earnings. "He says He's HHDM" indicates whether the husband says that he is the primary household-decision maker. Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

Table B.III: Bargaining Weights in the Draw-Sharing Round

	(1)	(2)	(3)	(4)
Husband's Guess	0.50***	0.45***	0.37***	0.45***
	(0.05)	(0.07)	(0.07)	(0.06)
Wife's Guess	0.45***	0.50***	0.51***	0.48***
	(0.04)	(0.07)	(0.06)	(0.05)
Husband's Guess X		0.09		
Husband Better		(0.09)		
Wife's Guess X		-0.09		
Husband Better		(0.08)		
Husband's Guess X			0.24***	
Husband Says He's Better			(0.09)	
Wife's Guess X			-0.10	
Husband Says He's Better			(0.08)	
Husband's Guess X				0.15
Husband Says He's HHDM				(0.10)
Wife's Guess X				-0.09
Husband Says He's HHDM				(0.09)
Observations	400	400	400	400
p-value: Interaction has no impact on relative weights		0.26	0.03	0.15

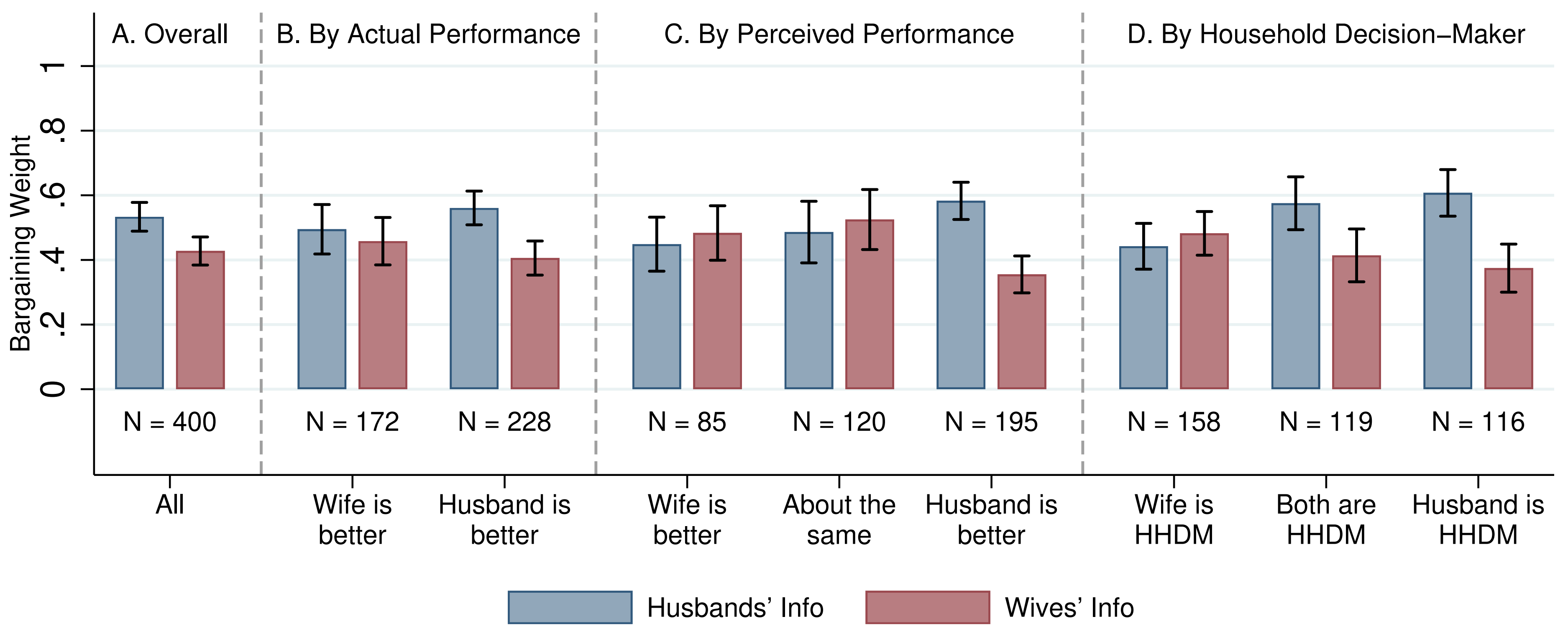
Table shows OLS regressions. The dependent variable is the joint guess in the Draw-Sharing round. "Husband's Guess" is his second (pre-discussion) private guess. "Wife's Guess" is her second (pre-discussion) private guess. "Husband better" is an indicator variable for whether the husband's first guesses (using only his first set of draws) have a higher expected earnings than his wife's. "Husband Says He's Better" indicates whether the husband's guess of his average earnings at the experimental task is higher than his guess of his wife's earnings. "He says He's HHDM" indicates whether the husband says that he is the primary household-decision maker. Standard errors are clustered at the couple level. *, **, and *** indicate significance at the $p < 0.10$, 0.05, and 0.01 levels.

Figure B.I: Bargaining Weights



Notes: We estimate coefficients from equation (3). This regression uses data from the two discussion rounds and not the guess- or info-sharing rounds. We interpret β_1 and β_2 in this regression as bargaining weights in the couple's joint decision making. Panel A shows the bargaining weights for the whole sample (*All*). Panel B shows the bargaining weights by whose guesses would earn more on average. Panel C shows the bargaining weights by the husband's response to the question on who was more competent at this task. Panel D similarly shows the bargaining weights by the husband's response to the question on the main decision-maker in the household.

Figure B.II: Bargaining Weights by Women's Beliefs



Notes: We estimate coefficients from equation (3). This regression uses data from the two discussion rounds and not the enforced guess- or info-sharing rounds. We interpret β_1 and β_2 in this regression as bargaining weights in the couple's joint decision making. Panel A shows the bargaining weights for the whole sample (*All*). Panel B shows the bargaining weights by whose guesses would earn more on average. Panel C shows the bargaining weights by the wife's response to the question on who was more competent at this task. Panel D similarly shows the bargaining weights by the wife's response to the question on the main decision-maker in the household.