

Gender and Agency within the Household: Experimental Evidence from Pakistan*

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Abstract

Theoretical and empirical work on intra-household decision making capture empowerment through bargaining weights given to individual preferences, and infer such weights from household consumption allocations. In this paper we test two key hypotheses underlying this work: first, that spousal influence is the same for all private consumption goods; and second, that subordinate members of the household, for instance women in certain cultural settings, have a pent up demand for pure agency. We use two data sources, a survey of microfinance clients from a randomized control trial and a novel laboratory experiment implemented with adult couples in Pakistan. We find that women's influence on household decisions is decreasing in the importance of the decision. There is little evidence, within our experimental setting, that willingness to pay for agency is affected by the instrumental value of agency. Instead, experimental variation in willingness to pay seems to be driven by a demand for

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pure agency. We find no evidence that women have pent up demand for agency. Women are less willing to pay for agency when facing an unknown man. We interpret this evidence as suggesting that women in our study population have internalized gender norms, and that these norms regulate interactions between genders most strongly outside of the household.

1 Introduction

The starting point of this paper is a simple parable, that of a parent taking his four-year old son to the ice-cream truck. For the last four weeks, the child has every time asked for a chocolate ice-cream. The parent orders a chocolate ice-cream for his son. This triggers recrimination from the four-year old who insists on choosing himself, which the parent decides to allow. The child chooses a chocolate ice-cream.

While this example may appear trivial, it makes two important points that are crucial in understanding empowerment. First, the decision process is valued by the child, separately from the outcome itself. If a four year old cares about having agency, we expect older children – and a fortiori adults – to have even stronger demand for agency. Secondly, the parent provides full agency to a four-year old on the choice of an ice-cream – but presumably does not offer the same freedom to the child regarding what to watch on TV or whether to eat broccolis. In other words, the agency granted to the child varies from good to good. As children grow up, they demand more agency, and many parents accommodate this by granting them more autonomy over consumption choices. If their place in society is meant to remain subordinate, however, parents may instead repress this desire for autonomy, resulting in adults prepared for a life of subordination. What is unclear is whether such adults still have a demand for autonomy or not.

These considerations are typically not part of the way intra-household welfare is presented in work published by economists. The common view of empowerment among economists is probably best exemplified by the sharing rule approach (Chiappori 1997a, Browning and Chiappori 1998): it is the welfare weight of each individual household member in the consumption decisions of the household. The higher a woman’s welfare weight is, the more her preferences are reflected in household consumption decisions, and the larger her sharing rule. The welfare weights themselves are thought to originate from a bargaining game but, as Chiappori emphasized in his debate with McElroy (Chiappori 1988, 1991, McElroy 1990), the appeal of the sharing rule approach is that it does not require specifying what the bargaining game is. The welfare weight of each household member can simply be backed out of the consumption decisions of the household (Browning and Chiappori 1998, Browning et al. 1994, 2010, 2013, 2014). In this framework, spouses are equally empowered if they have equal welfare weights or, equivalently, if the choices the household makes equally reflect their respective preferences.

Many empirical papers have implicitly or explicitly taken this premise as starting point – either to infer from consumption choices that welfare is unequally divided between spouses (Dercon and Krishnan 2000, Fafchamps et al. 2009), or to identify extraneous factors that affect household choices through their effect on intra-household bargaining power (Duflo 2003, Fafchamps and Quisumbing 2005, Qian 2006). Two maintained hypotheses characterize this large body of empirical work.

First, since efficiency dictates that the sharing rule should be the same for all private consumption goods, inference about intra-household welfare can be drawn from any arbitrary set of consumption goods. Hence the researcher is free to select these goods based on empirical convenience alone. For instance, following Browning et al. (1994), inference about intra-household welfare is often made using clothing as the individually assignable good. Another common choice is food consumption as evidenced by nutritional and health status (Dercon and Krishnan 2000, Fafchamps et al. 2009). Cigarettes and alcohol are also commonly used as assignable to male consumption when studying populations in least developed countries.

When the sharing rule itself has been tested and found to be violated, this has typically been seen as implying that intra-household bargaining is inefficient (e.g., Browning et al. 2014). While this reasoning is internally consistent, it does not seek to understand the reasons why ‘efficiency’ is not achieved. Going back to our original example, allowing a four-year old full agency on his choice of ice-cream while refusing him agency in vegetable consumption would be seen as inefficient: higher welfare could be achieved by giving the child equal agency in his consumption of ice-cream and vegetables. The reason why parents do not follow this route is that eating vegetables is for the child’s ‘own good’, just like learning to use self-control when deciding what to consume – it will be a valuable skill when the choice set broadens later in life to include many risky activities. In this example, individual welfare and agency are judged on the basis of social norms and moral or philosophical principles, not just free will.

Second, it is assumed that household members only care about their final consumption, not about the process by which consumption decisions are made. If control over household decisions is unequally allocated, people whose preferences are disregarded may have a strong desire to control what they consume. Put differently, people may have pent-up demand for empowerment or agency. This was the case for the four-year-old child in our example. It is also possible that

people have a demand for agency but refrain from manifesting it for fear of retaliation. In this case, we expect them to only be willing to pay for agency if they can do so while maintaining their anonymity – for instance, under the protection of a laboratory experiment. Alternatively, individuals with low agency may have internalized or rationalized their subordinate predicament and thus express no desire for agency.

The distinction between the two is critical for the design of an effective empowerment policy. If women refrain to express a demand for agency because they fear retaliation by their husband (or his family), policy should focus on making retaliation more difficult – e.g., by penalizing domestic violence and by improving women’s control over assets within and after marriage. On the other hand, if women do not have pent-up demand for agency because they have internalized their subordinate status, policy ought to focus on changing people’s mindset – e.g., by improving access to modern education, providing better role models, and raising awareness among all members of society. Promoting the first type of empowerment policies implicitly assumes that women have pent-up demand for agency. In contrast, putting emphasis on the second category implicitly assumes that women are alienated or have internalized the norms of their society towards women. The problem is that these assumptions have not been subjected to experimental scrutiny. This paper seeks to address this policy gap in the literature.

To achieve this objective, we test these two hypotheses. The first hypothesis states that spouse influence varies across decision domains – we call it the ‘subordinate dependant hypothesis’ or SDH. The second hypothesis is that women who have a subordinate status have pent-up demand for agency. We call this hypothesis the ‘agency value hypothesis’ or AVH. We investigate these two hypotheses in a society often suspected of viewing women as subordinate members of society, destined to remain under the control of an adult male, typically their father or husband. Our female study population is composed of adult women in Punjab, Pakistan, most of whom are married and have children. This is the ideal population to run our tests. In a society where women’s agency is suppressed and this suppression is justified as a way of protecting women, we expect to find that women are treated in a way similar to adolescents, that is, as having agency over small consumption decisions, but limited agency over major household decisions. Similarly, when women’s decision autonomy is restricted, we expect women to internalize not having agency. For this reason they may be less likely to sacrifice some material well-being to get

their own choice – either because they believe it is not morally acceptable, they fear disapproval and retribution, or they do not view themselves as needing agency.

We test the first hypothesis using a combination of evidence. First, we use answers to a sequence of questions about decision autonomy within the household. Second, we collect incentivized and unincentivized measures of social norms concerning female agency. Consistent with the SDH hypothesis, we find that women have less influence on big household decisions than on small consumption choices. We do find, however, that women who are household head on average have more agency than women living with their husband, though still significantly less than male heads of household. Norm elicitation reveals that independent decision-making by women is seen as less appropriate by men than by women. These results suggest that, in our study population, gender affects decision making power in a way that partially depends on one’s role within the household, and that differences in decision making power are upheld by social norms.

To test the second hypothesis, we run a novel laboratory experiment with married couples from the same study population. The experiment is designed to identify willingness to pay for agency separately from other considerations such as altruism or uncertainty about other household members’ preferences. We find that the proportion of individuals who are willing to forego some material payoff in order to guarantee their own choice is smaller among women than men.¹ We view the measured difference in demand for agency as a lower bound, given the relatively benign nature of the consumption choice used in the experiment. We also combine the experimental data with survey data on similar issues and find consistent results, in that men are more likely to claim that they would prefer to decide autonomously, even if the outcome is the same.

This paper is related to the existing literature in multiple ways. In addition to the theoretical and empirical literature already mentioned, a number of papers have experimentally examined willingness to pay for agency in games between spouses (e.g., Iversen et al. 2011, Jakiela and Ozier 2015, Mani 2011). In these experiments, agency has instrumental benefits, so these studies

¹We also find evidence that, within the context of our experiment, people’s choices often deviate from their own stated preferences. Furthermore, when called upon to make a consumption choice for their spouse, many participants choose something different from their spouse’s stated preference. Whether this represents playfulness or spite is not entirely clear, although our interpretation leans more towards the former than the latter.

are unable to identify demand from pure agency. A related literature looks at preferences for agency in decision-making processes outside of the household. Results suggests that individuals value their decision power beyond its instrumental value (Güth and Weck-Hannemann 1997, Fehr et al. 2013, Bartling et al. 2014, Owens et al. 2014). Individuals are also shown to prefer fair decision processes, over and above the fairness of the allocation (Bolton et al. 2005).² Our study is the first, to the best of our knowledge, to look at preferences for agency within the household.

A large related literature looks at the efficiency of household decisions. Many papers, relying on natural, field, and laboratory experiments, show that income pooling fails, a situation that implies inefficient consumption choices (Duflo and Udry 2004, Kebede et al. 2014, Castilla 2015, Chen 2013, Munro et al. 2008, Iverson et al. 2006).³ In the same vein, several experiments have varied the amount of information available to household members and found evidence of opportunism (Ambler 2015, Castilla and Walker 2012, Hoel 2015, de Laat 2014, Castilla 2014).⁴ A number of authors have documented the negative consequences on efficiency of mismatched preferences between spouses (Schaener 2015, Ashraf et al. 2014, Carlsson et al. 2009, Fiala 2015). Our contribution to this literature is to identify another possible source of inefficiency, namely the subordinate treatment of women (and possibly other adult household members) which fails to integrate their preferences correctly and can result in violations of Chiappori's sharing rule.

Regarding procedural gender equality, a number of studies find that inefficiency in household decisions is lower, the more egalitarian control over resources is between men and women (Deer and Twyman 2012, Fiala 2015, Ashraf 2009). In an experiment over risky decisions by spouses, de Palma et al. (2009) show that the balance of power within the household is malleable. On this theme, our contribution is twofold. First, we clarify that procedural equality is not just about

²More generally, a large literature on incentives and sanctions demonstrate the presence of control aversion among some individuals (for an example, see Falk and Kosfeld, 2006).

³Other income pooling tests are provided by Munro et al. (2008), Bobonis (2009), Robinson (2012), and de Brauw et al. (2014), among others.

⁴More generally, social preferences are shown to differ by gender. Eckel and Grossman (1998) provide experimental evidence that women are more selfless than men; that they exhibit solidarity and are even more generous when dealing with women than with men (Eckel and Grossman, 2001). Dasgupta and Mani (2015) find that while men feel entitled to use endowments they have earned for private consumption, women do not.

bargaining weights per se; it is also related to social norms and other considerations that lead households to regard women as subordinate dependants with agency limited to a narrow range of decisions. Second, we offer a novel way of formally testing the agency value hypothesis. Our experimental approach is explicitly designed to distinguish different motives behind willingness to pay for agency. One such motive is others' imperfect knowledge of one's own preferences. We deal with this motive by varying the amount of information given to participants about their partner's preferences. Another motive is the partner's altruism, which lowers the need to pay for agency when the partner is informed of one's own preferences. We tackle this issue by measuring altruism directly.

The paper is organized as follows. Our conceptual framework is presented in Section 2. The experimental design is detailed in Section 3. Empirical results are presented in Sections 4 and 5 for the SDH and AVH hypotheses, respectively. Section 6 concludes.

2 Conceptual framework

In this Section, we outline the conceptual framework underlying our empirical analysis. We begin by discussing the subordinate dependant hypothesis (SDH) before turning to willingness to pay for agency and our experimental design.

2.1 Influence over household decisions

The subordinate dependant hypothesis states that household dependants have less influence or control over some consumption decisions than others. This stands in contrast with the sharing rule hypothesis, which implies that the relative influence of household members over consumption decisions should be the same over all consumption categories. We illustrate this point with a simple model.

Consider a married couple. Let the male m and female f utility of a consumption vector $x = x_m + x_f$ be denoted by $U_m(x_m)$ and $U_f(x_f)$, respectively. Let p be the price vector and let E denote household income, respectively. Any Pareto efficient allocation of consumption can be represented as the solution to a social welfare problem of the form:

$$\max_{x_i=x(p,E;\theta)} \theta U_m(x_m) + (1 - \theta)U_f(x_f) \text{ subject to } p(x_m + x_f) = E \quad (1)$$

for a suitably chosen welfare weight θ . Simple application of the second welfare theorem implies that (1) can be rewritten as the combination of two individual optimization problems:

$$\max_{x_m} U_m(x_m) \text{ subject to } px_m = \mu E \quad (2)$$

$$\max_{x_f} U_m(x_f) \text{ subject to } px_f = (1 - \mu)E \quad (3)$$

where μ denotes the share of total expenditures allocated to male consumption. Any variation in bargaining power that affects welfare weights θ is reflected in μ : a spouse with more power in the couple acts as if he or she controls a larger share of the household budget, and hence influences joint consumption more. This property was called the sharing rule hypothesis by Chiappori (1997a).⁵ It implies that the preferences of an individual i carry more weight in determining all dimensions of vector x when i has more bargaining power.

In practice, households seldom organize spending by dividing their consumption budget into two shares μ and $1 - \mu$ that the spouses spend at will. Rather they coordinate their consumption decisions through verbal exchange and negotiation. In this context, μ and $1 - \mu$ can be thought of as the relative influences of the husband and wife on consumption decisions. The key insight that comes out of system (2) and (3) is that efficiency requires that the ratio $\mu/(1 - \mu)$ of spousal influences be constant across all consumption goods. Denying married women any influence over certain consumption decisions while allowing them full control over others would lead to violations of the sharing rule, irrespective of their welfare weight or bargaining power.⁶

Thus if household consumption is Pareto efficient – and therefore follows the sharing rule hypothesis – we expect spouses to have a similar *relative* influence on different consumption categories. In contrast, if wives are treated as subordinate dependants – i.e., like children or teenagers – we expect their relative influence to be high for minor consumption decisions but low for major purchases; husbands, on the other hand, would have a say in all decisions. To investigate this issue, we gather information on spousal influence on consumption by asking respondents to gauge their involvement in different household decisions. To complement this approach, we also elicit social norms on gender-specific agency regarding trivial and important

⁵Note that gender equality in bargaining or welfare weights (i.e., $\theta = 0.5$) is *not* a pre-condition for intrahousehold efficiency.

⁶Influence over a decision does not rule out delegating the implementation of that decision to one spouse. We keep this important distinction in mind when measuring spousal control.

household decisions.

2.2 Willingness to pay for agency

As we have argued in the introduction using the simple example of a four-year old child, household members whose preferences are customarily disregarded may have pent-up demand for agency. We therefore wish to test whether subordinate individuals manifest more or less demand for agency than individuals in power. In the context of our experiment, we will show that women occupy a subordinate position in household decisions. We therefore wish to test whether women manifest more demand for agency than men. If women demand more agency, this is consistent with the idea that they aspire to more independence. If they show less demand for agency in a setting where the risk of retaliation or disapproval is experimentally kept to the minimum, this is consistent with the idea that, being subordinate individuals, they have internalized their lack of agency.

To formally test whether household members value agency per se, we develop an experimental design to compare the willingness to pay for agency of married men and women. Subjects are invited to select among three possible consumption bundles, to be consumed on the spot. A person of the opposite sex is also invited to select a consumption bundle for them. Participants can forego part of the bundle to ensure they receive their selection. Their decision is not directly observable by members of the other sex. If women have pent up demand for agency, we expect them to be more willing to pay to consume their preferred bundle. In contrast, if women have internalized gender norms limiting female agency, then we would expect lower willingness to exert agency by women. Depending on the relative strength of norms against female agency within and outside the household, and on the fear of retaliation by husbands when women exert agency, we expect willingness to pay for agency to be higher or lower when the partner belongs to the household. These observations form the core of our experimental design.

To minimize the fear of retaliation, we keep consumption choices unobservable by individuals from the other sex. We expect women to be more willing to pay for agency in a setting which offers credible deniability. Since the identity of the stranger match is never revealed, deniability is easiest when women are matched not with their husband or family member, but with an unspecified man. Second, it is conceivable that people would like to express agency,

but voluntarily choose to respect the decisions of others out of a sense of duty, originating from the internalization of social norms. To see whether norm internalization explains behavior in our study population, we measure individual norms about gender agency. Third, it is conceivable that people have no demand for agency because they do not aspire to make their own choices, a situation that has sometimes been called a failure of aspiration, or alienation (e.g., Alan and Artac 2016). While we do not attempt to explicitly capture these concepts in our experimental design, we do recognize their importance and, in the conclusion, we revisit them when interpreting our findings about demand for agency.⁷

Agency also has an instrumental value: to ensure that the consumed bundle conforms with our preferences. It follows that demand for agency among subjects may also vary for instrumental reasons. The instrumental value of agency is likely to be lower when subjects believe their partners know their preferences and are altruistic towards them. To make this clear, we present in Appendix B a formal model of how the instrumental value of agency varies with information and altruistic preferences. We use it to derive predictions regarding how demand for agency should respond to experimental variation if it is determined purely by its instrumental value. We show that, by introducing variation in the information partners receive about each other's preferences, and by measuring subjects' level of altruism towards each other, we can test whether willingness to pay for agency varies with its instrumental value.

3 The data

This section first describes the sources of data used to test the SDH and AVH hypotheses, and the sample characteristics. We then discuss the survey questions and incentivized norm questions designed to test the SDH, and the experimental design aimed at testing the AVH.

⁷It is also possible that people have no demand for agency, not out of fear of ostracism or violence, but for other reasons – e.g., because they do not want the responsibility for their actions that comes with exerting agency. By focusing on consumption bundles that do not involve serious monetary or welfare implications, our experiment design minimizes the latter consideration.

3.1 Sources of data and sample characteristics

We use complementary sources of data to address the research questions, drawing on partially overlapping samples. First, we administer a survey to approximately 800 women participating in a microfinance randomized control trial (RCT). Second, we conduct laboratory games with 98 of these women and their spouses, plus 70 couples randomly drawn from the same neighborhoods as the RCT couples. For the sake of exposition, in what follows we refer to the sample of women participating in the microfinance RCT as the RCT sample, and to the sample of women participating in the laboratory games as the LAB sample. We now describe the two samples in more detail.

The RCT sample was drawn in August 2014 from client lists of a microfinance institution (the National Rural Support Programme, henceforth NRSP) offering microenterprise loan products in urban and peri-urban areas of Bhakkar and Chakwal in the Pakistan Punjab.⁸ Women from this sample were randomly offered a novel microfinance product. The survey was conducted by an independent enumerator firm. Due to the private and subjective nature of the questions being asked, interviews of female respondents were conducted face-to-face by female enumerators only. Care was taken to ensure that the respondents knew their responses would remain confidential and would have no bearing on their current or future relationship with NRSP.

Descriptive statistics are presented in Table 1. The average female in the RCT sample is 38 years old. 55% of the women in the RCT sample are literate (can read and write) and belong to a household with an average monthly expenditure of little less than Rs. 19000 (\$190). Almost half of the sampled women run a business, either independently or jointly with someone else. 19% of RCT respondents do not live with a husband – either because the husband is absent (e.g., is a migrant) or because the respondent has no husband at the time of the survey (i.e., is divorced or widowed).

Our initial intent was to recruit all of the LAB sample from among the households participating in the microfinance RCT in the Chakwal district. This proved impossible, however, because many invited RCT households declined to participate due to time constraints. As a

⁸The districts of Bhakkar and Chakwal differ along socio-economic characteristics, with the latter displaying higher levels of educational attainments and income. Income data come from the PSLM 2010-11, educational attainment data from Memon et al. (2014).

result, we broadened the eligible population to include both individuals from the RCT sample and randomly selected individuals from the same *muhallas* – or geographical clusters – where the RCT households reside. More precisely, we first randomly selected from the list of female RCT participants within each *muhalla* one subject to be invited to the experiment.⁹ We then invited to the same session one couple from every 3rd household living on the same street as the RCT invitee. These two steps were repeated until enough couples committed to participate in the session. As a result of this recruitment procedure, 58% of the experiment sample is from the original RCT sample, and the remaining 42% are randomly selected pairs from the same *muhallas*. For exposition purposes we refer to the randomly selected sub-sample as the LAB ONLY sub-sample.

Women were invited to participate to the experiment together with a male household member, the husband of the invited female or, when she was unmarried or not living with her husband (e.g., the husband is a migrant), the adult male household member identified to have the greatest power over household financial decisions.

At the time of invitation, all couples were given basic information on the experiment and details on the time, date, and expected duration of the session (2-3 hours).¹⁰ Each couple was also informed of the compensation and expected earnings from participation: a participation fee of Rs. 1000 (\$10) (i.e., Rs. 2000 per couple), provided that they stayed for the entire duration of the session; and additional earnings of at most Rs. 1000 (\$10). Informed consent was collected from all participants before the start of each session, and payments were made individually and privately at the end. Male questionnaires were not administered at the time of the RCT survey, thus data on males was collected at the time of the experiment.

As shown in Table 1, the RCT and LAB ONLY sub-samples are balanced on basic demographic data obtained at the time of the experiment, i.e., age, literacy, household average monthly income, and male occupation. Female occupation is the only exception, with 37% of self-employed women in the RCT sub-sample, compared to only 13% in the LAB ONLY sub-

⁹ *Muhallas* – were used as sampling units, so as to ensure that the flow of information between participants of different sessions was limited.

¹⁰ Each experimental session was held in a central location, at less than 20 minutes drive via public transport from any of the sampled *muhallas*. To facilitate participation by employed subjects, in particular men, we held sessions over the weekend.

Table 1: Descriptive statistics on the RCT and LAB samples

	RCT Sample		LAB Sample				<i>p-value</i>
	<i>n</i>	<i>mean</i>	RCT		LAB ONLY		
			<i>n</i>	<i>mean</i>	<i>n</i>	<i>mean</i>	
Age	790	37.97	196	38.75	140	37.62	0.41
Can read and write	790	0.55	184	0.65	140	0.61	0.41
Average monthly household expenses (Rs)	763	18863.1	196	14491.57	140	14285.71	0.75
Self employed (females)	789	0.49	86	0.37	70	0.13	0
Housewives (females)	789	-	86	0.24	70	0.52	0
Self employed (males)	789	-	86	0.15	70	0.17	0.73
Private employees (males)	789	-	86	0.21	70	0.19	0.72
Day labourers (males)	789	-	86	0.33	70	0.43	0.19

sample. Correspondingly, a significantly smaller percentage of female participants in the RCT sub-sample are housewives (24%) compared to the LAB ONLY sub-sample (52%). This is not surprising given that the RCT sample is made of clients of NRSP, self-selected on their interest in micro-enterprise loans. In contrast, the male LAB sample is more balanced on occupation across the two sub-samples. Roughly two-thirds of the male sample are either self-employed, in private wage employment, or work as daily wage labourer. There is no statistically significant difference between the men who accompanied women from the RCT and LAB ONLY sub-samples.¹¹

We now describe the questions and games used to address the research questions.

3.2 Measures for SDH

We test the SDH through a specific array of questions.¹² These questions are aimed at capturing two aspects of agency: executive agency, which refers to the power to make decisions

¹¹A slightly different questionnaire was used in the first experiment session. As a result, we do not have self-reported data on occupation for 12 couples participants in that session.

¹²The full list of questions aimed at testing the SDH is presented in Appendix B, Panel A. The table also specifies from which samples we collect each measure.

autonomously; and consultative agency, which is the right to be consulted in household decisions. If women are treated as subordinate dependants, we expect them to have less executive agency for large than small purchases. If their agency resembles that of children, we also expect them to have less consultative agency for important long-term decisions affecting the household.

A first set of questions documents executive agency within the household by asking whether the respondent has to ask for permission when making certain decisions. These decisions range from small consumption choices – e.g., buying ice cream for children – to major financial decisions – e.g., purchasing a large consumption durable. They are ranked by order of economic importance. The purpose of this ranking is to test the hypothesis that the locus of control varies across decision categories. The questions are included in the surveys administered to the RCT sample (women only) and to the LAB sample (women and men).

A second set of questions examines consultative agency by asking respondents about the extent to which their preferences and opinions are taken into account when the household makes certain decisions. These decisions range from children’s education and social visits, to the purchase of household goods and investment decisions. They are grouped in different categories on the basis of the importance of the decision. These questions are asked in the RCT survey only.

A third set of questions focuses on social norms concerning women’s executive agency. Subjects are faced with a hypothetical situation and are asked whether a described behavior is consistent or not with shared norms of moral conduct. The two hypothetical scenarios relate to female decision making, as they describe a woman making decisions independently without consulting her husband. In the first scenario the decision is about how to spend a small monetary gift. In the second, the decision is on how to invest the returns from the woman’s own business. These questions are incentivized in the lab experiment and unincentivized in the RCT survey.

The norm elicitation task within the experiment is inspired by the one introduced by Krupka and Weber (2013). In order to elicit social rather than personal norms, subjects are incentivized to match the appropriateness rating given by another randomly drawn individual. We modify the standard Krupka and Weber (2013) protocol to introduce variation in the identity of the person whose answer subjects are incentivized to match: participants are asked to match the rating of a randomly selected person of the opposite gender, and of the household member

who accompanied them to the lab. We thus collect four ratings in total, allowing us to examine whether norms on agency vary within or outside the household, or for different financial decisions. The unincentivized version of these questions in the RCT survey simply asks how appropriate it would be for a woman to spend a small monetary gift or to re-invest her own business profits without consulting her husband.

3.3 Measures for AVH

To test the agency value hypothesis (AVH), we combine traditional (e.g., dictator game) and novel (e.g., consumption choice) behavioral games. Given that many participants are unfamiliar with computers – and some are illiterate – the experiment is implemented using pen and paper and is heavily scripted. Appendix C provides a detailed timeline of the experiment and reproduces the game instructions read to participants.

Upon arrival to the experimental lab, female and male subjects are segregated into two different rooms and they are told that they will be playing various games with a partner of the other sex in the other room, always the same person. There is no communication between participants in the two rooms during the entire experiment.

Half of the pairs of participants are selected at random to play with each other. The other half are matched at random with a person of the other sex selected among individuals in the other room who are not matched with their relative. Subjects are told whether they are playing with their relative or with a stranger of the other sex selected from the other room. We use a double-blind design: the identity of the stranger partner is not revealed either to the participant or to the enumerators and assistants conducting the session. It is known only to the enumerator entering the data, who is sitting outside the two rooms.

The first game of the day is always the consumption choice game, which is discussed in detail below. After the consumption choice game, participants play a set of standard games with their partner, namely the dictator, ultimatum, and taking games. These games are aimed at capturing subjects' altruism towards the partner, preference for fairness and respect for the partner's property, respectively. In the dictator game, a subject in the role of Player 1 is given an endowment and has to split it between herself and her partner, Player 2. In this game, Player 2's role is passive. In the ultimatum game, Player 1 faces the same allocation decision,

but Player 2 decides whether to accept or reject the allocation proposed by Player 1. If Player 2 accepts, the money is split according to the proposal. If Player 2 rejects, neither player receives any money. The taking game is a reverse-dictator game: Player 2 is given an endowment, and Player 1 decides how to allocate it between herself and Player 2, who is again completely passive. For each game, each participant plays both roles, i.e., Player 1 and Player 2. The order of the three games for all subjects in a session is randomized at the start of the session. Random draw also determines which of the three games, and role within it, is used to determine the subjects payoff. This is all explained to participants before playing the three games (see Appendix D).

As mentioned above, before these three standard games, participants play the consumption choice game with their assigned partner. The outcome of the game determines which juice flavor they consume as welcome drink. The game is structured as follows:

1. Each subject ranks three flavors of juice (apple, orange and pineapple) by order of preference, after having tasted each of them.¹³
2. Each subject is asked to guess the flavor ranking of their partner.¹⁴
3. Subjects in half of the pairs are told the preference ranking of their partner,¹⁵ and are informed that their partner in the other room is given the same information and will be asked to make the same decisions.
4. Each participant selects the juice flavor they want to consume.
5. Each participant selects which flavor they want their partner to consume.¹⁶

¹³Juice is distributed to experimental subjects in plastic cups filled from large cartons. This ensures that the good must be consumed on the premises and cannot be stored, resold, or given to others outside of the experiment. The three flavors used in the game omit options, such as mango, that are likely to be the common top choice.

¹⁴Eckel (2016) similarly asks experimental subjects to make choices for others, but in that case the purpose is to study gender stereotypes.

¹⁵This part of the experiment is the most challenging logistically, given that the experiment is played with pen and paper. Enumerators recorded the preferences of each participant in each of the two rooms. Once records were complete, information was circulated across the two rooms in the manner described in the text.

¹⁶The object of these first two steps is to elicit the participants' own preferences and to determine whether they know their partner's preferences. Participants are not expected to know the preferences of an unknown stranger any better than that of the population at large. Hence the participants' ability to guess the preferences of an unknown stranger serves as control for familiarity with preferences over juice flavors in general.

Table 2: Information and pairing treatments

		Information treatment	
		Uninformed	Informed
Matching treatment	Relative	Uninformed relative	Informed relative
	Stranger	Uninformed stranger	Informed stranger

6. Participants are told that a coin toss will determine whether they consume the flavor they have selected for themselves, or the flavor that their partner has selected for them.
7. Participants are then called one by one to get their glass of juice.
8. Before the coin toss, subjects are asked whether they prefer to avoid it and drink *half* a glass of their choice of juice for sure. The reduction from a full glass to half a glass is the price participants pay to ensure they receive their preferred juice.¹⁷
9. Subjects consume the juice before re-entering the room.

Randomization of partner pairs into relatives and strangers, and randomization of information between partners define four treatment cells summarized in Table 2.

The purpose of the first treatment dimension is to contrast situations in which participants have different levels of information on the partner’s preference ranking. If a participant knows that her partner is informed about her preference ranking and expects the partner to select her preferred flavor, the participant is sure to consume her preferred juice. In this case, there is no reason for her to forego half a glass of juice *unless* she is willing to pay for pure agency, that is, unless the AVH holds. The proportion of participants rejecting the coin toss under this treatment can be interpreted as the fraction of subjects who are willing to pay half a glass of juice for pure agency. By the same reasoning, the difference in rejection of the coin toss between the informed and uninformed treatments can be interpreted as the willingness to pay to reduce uncertainty due to incomplete information.

¹⁷We elected not to set the price for own choice in money because money is storable, transferable, and fungible with household cash. Setting the price in juice ensures that the full cost of agency is immediately borne by the subject. We considered varying the price in juice unites paid to avoid the coin toss but this proved logistically too complicated to implement.

Along the second treatment dimension, comparing coin toss rejections between the relative and stranger treatments provides information about the value of agency when social distance increases. We interpret the difference in rejection of the coin toss between the relative and stranger treatments as indicator of whether exerting agency is more or less acceptable within or outside of the household. Since social proximity is correlated with knowledge of the partner’s preferences and with altruism towards the partner, which both independently affect the value of agency, we use beliefs on the others’ preferences and individual play in the dictator and taking games to control for them, respectively. We revisit the details of our testing strategy in the empirical section.

We test the AVH primarily through the experimental design just described, but we also mimic its key features in a set of questions included in the survey administered to the RCT sample. Namely, we ask women: whether they believe their spouse knows their preferred pastime; whether they expect that their spouse will choose their preferred option if given the opportunity; and whether they prefer to choose a pastime by themselves. The full set of questions aimed at testing the AVH is presented in Panel B, Appendix C.

4 Testing the subordinate dependant hypothesis

We test the SDH by showing how executive and consultative agency vary over decision domains, and by testing differences in social norms over female executive agency.

To investigate executive agency we report in Figure 1 summary statistics on the need to ask for permission before making decisions. We present average answers for women in the RCT sample (Panel A), women in the LAB sample (Panel B), and men in the LAB sample (Panel C). Each bar in the graph represents the share of respondents answering that they need to ask for permission before making the corresponding decision.¹⁸ The graph also shows 95% confidence intervals for each bar. Decisions are sorted from least to most important, with buying ice-cream at one extreme and selling jewellery on the other. Two main findings emerge from the figures. First, there is a large difference in the need to ask for permission between men and women: while 61.9% of women in the LAB sample answer affirmatively on average, only 6.2% of their

¹⁸Apart from the *sale* of jewellery represented by the bar labelled ‘jewellery’, all other questions refer to requiring permission for purchase of the mentioned item.

male partners do so ($p = .000$).¹⁹ The corresponding figure is 69.4% among women in the RCT sample. Second, the need to ask for permission is increasing in the importance of the decision: affirmative answers increase by 63 percentage points going from the least to the most important decision among women in the RCT sample, and by 86 percentage points among women in the LAB sample. But the increase is only 13 percentage points for the men in the LAB sample. These patterns thus support the SDH, especially for women.

In Appendix A we confirm these results through regression analysis with individual fixed effects. Results confirms that women are more likely to report having to ask for permission when decisions are more important. We also find that female heads of household are 50 percentage points less likely to require permission than other women, but more likely to require permission than male heads. Similarly, male dependants have more executive agency than female dependants. Overall, the evidence is consistent with the SDH: women have less agency than men, and have less agency on more important decisions.

Consultative agency is captured by answers to survey questions on the extent to which the respondent's own preferences and opinions are taken into account in household decisions. These questions were administered to the RCT sample only, and only to female respondents. This set of questions explore the following decision categories: personal consumption or financial decisions; decisions over social visits; decisions over children's outcomes, such as education and health care; large household investment decisions; and family planning. These decisions can also be ranked by order of importance based on their impact on future household welfare. Figure 2 displays average answers to these questions broken down by decision category. We see that women's opinion and preferences are taken into account to a lesser degree as the importance of the decision increases.

In Appendix A we confirm these findings using regression analysis with individual fixed effects, as well as non-parametric analysis. Taken together, all the results provide further support for the SDH by showing that female dependants have varying degrees of influence across decision categories.

The last piece of evidence relative to the SDH comes from the incentivized and unincentivized norms ratings. These ratings range from 1 (very inappropriate) to 4 (very appropriate). Higher

¹⁹Here and in the remainder of the analysis, p-values are always from two-sided t-tests.

Figure 1: Share of respondents who need permission, by decision importance

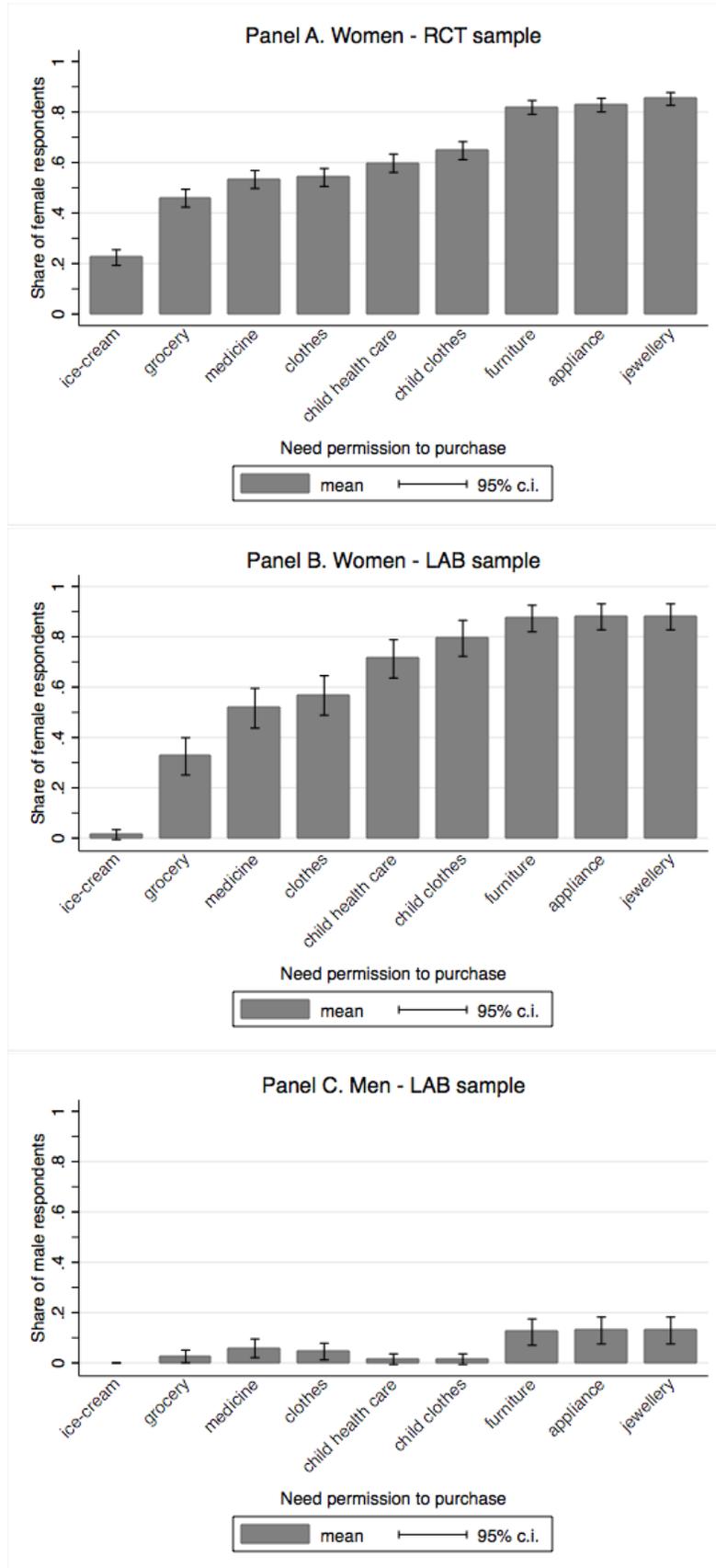
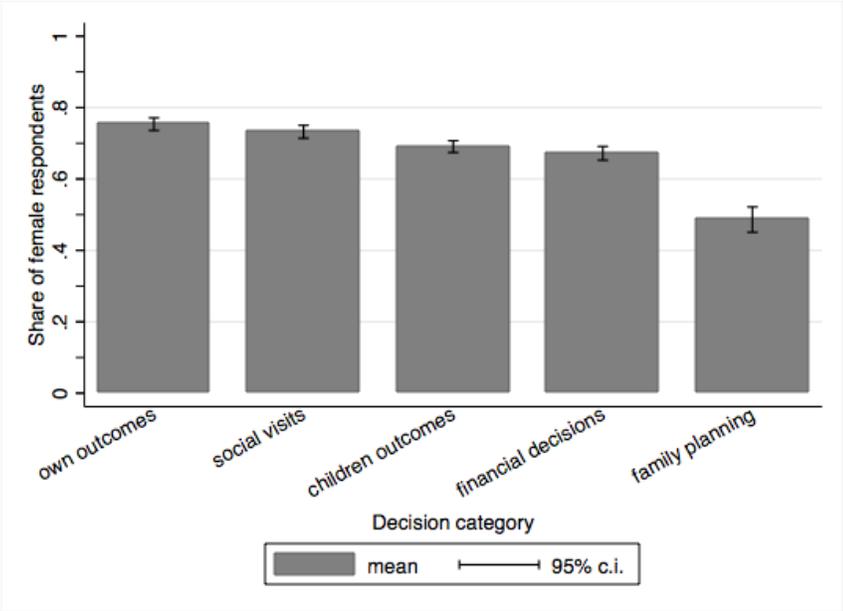


Figure 2: Share of female respondents reporting opinion taken into account: RCT sample only



Note: Decision categories are as follows: ‘own outcomes’ includes decisions regarding respondents’ medical care, decision to work for earned income, and decision to borrow money from a MFI; ‘social visits’ includes decisions about visits to the respondent’s family, visits in the neighborhood and visits to the husband’s family; ‘children outcomes’ refers to decisions regarding boys’ schooling, decisions regarding girls’ schooling, decision regarding children’s marriage and decisions regarding children’s medical care; ‘financial decisions’ include purchase of electronic appliances for the household, decisions about repairs of the house and decisions regarding the sale or purchase of the house; and ‘family planning’ includes decisions about family planning.

scores thus indicate higher perceived appropriateness. Overall, women incentivized to match men's answer give higher ratings than men incentivized to match women's answers: the average score over the four norms questions is 2.42 for women and 1.99 for men ($p = .000$). In Figure 3 we show the average ratings given by female (left) and male (right) on two separate (incentivized) questions: the first one (labelled 'scarf') asks whether it is appropriate for a woman to decide how to spend a small monetary gift on a scarf without consulting her husband; the second (labelled 'business') asks the same question about the reinvestment of the woman's business profits. Women appear to rate autonomous decision-making in a small consumption decision (scarf) as *less* appropriate than in business-related decision ($p = .0225$). In contrast, men rank them equally ($p = .5643$). Neither men nor women give significantly different ratings when matched with a household member or a stranger. This evidence too supports the SDH by showing that women regard different decision categories as regulated by different social norms among men.

Trying to unpack the norms result, we go beyond average ratings and look in detail at the answers given by members of an experimentally matched pair. In particular, we examine the extent to which the answers of married couples are similar. Table 3 cross-tabulates male and female ratings for each of the four norm questions. Four interesting patterns emerge from the Table. First we see that, while average answers on norm questions are not extremely different for men and women, they are mostly discordant in couples. Except for the scarf-spouse question (Panel A,) where the sum of the diagonal terms (full agreement) is 31% (and 26% for scarf-stranger), in the business questions the diagonal sum hovers at under 25%. Second, there does not appear to be any difference in full agreement shares between questions where subjects were matched with a stranger and family member: in other words, family members do not agree more on norms than complete strangers. Third, looking at where disagreement occurs, the largest share of pairs is found in the lower triangle, that is, where the husband rates female agency as 'inappropriate' (answers 1 and 2) but the wife rates it as 'appropriate' (answers 3 and 4). In Panel D, for instance, 51% of the responses are in that half of the Table. In contrast, the opposite half, where men's rating is 'appropriate' but women's is not, has a much lower probability mass. Finally, whenever there is agreement between men and women, it is when they both report female agency to be inappropriate.

Table 3: Incentivized norms questions, disaggregated results (LAB sample only)

Panel A: Scarf - spouse		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	11%	8%	6%	2%	26%
	2	13%	15%	7%	1%	36%
	3	6%	6%	3%	4%	19%
	4	6%	9%	2%	2%	18%
	Total	36%	38%	18%	8%	100%
Panel B: Business - spouse		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	14%	12%	2%	2%	31%
	2	10%	6%	5%	1%	22%
	3	7%	6%	2%	4%	19%
	4	10%	13%	3%	2%	28%
	Total	41%	37%	13%	9%	100%
Panel C: Scarf - stranger		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	10%	6%	6%	0%	23%
	2	14%	14%	3%	4%	35%
	3	9%	12%	0%	1%	22%
	4	6%	9%	4%	2%	20%
	Total	38%	42%	14%	6%	100%
Panel D: Business - stranger		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	10%	14%	2%	2%	28%
	2	6%	9%	4%	1%	19%
	3	9%	10%	1%	3%	23%
	4	14%	9%	3%	3%	30%
	Total	39%	42%	10%	9%	100%

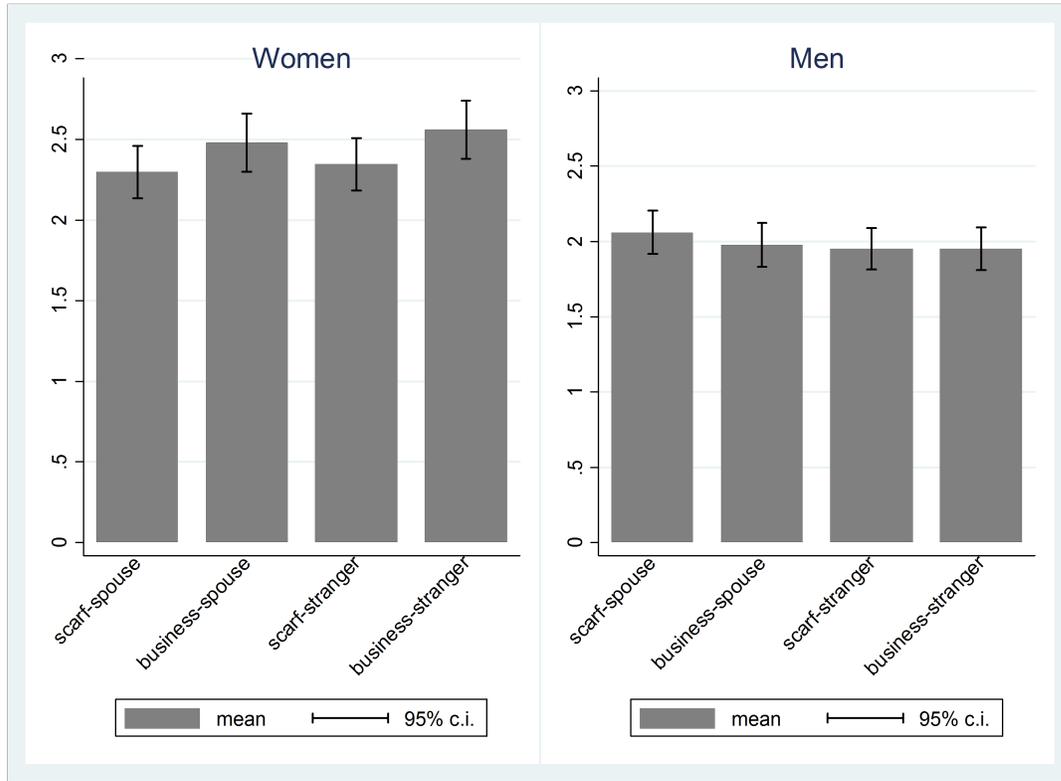
'Scarf-spouse' refers to scarf question asked when answer is to be matched to that of the spouse;

'Business-spouse' refers to the business question asked when the answer is to be matched to that of

the spouse; 'Scarf-stranger' is the scarf question asked when the answer will be matched to that of a

stranger of the opposite gender; and 'Business-stranger' refers to the business question asked when the

Figure 3: Incentivized norms ratings (LAB sample only)



Note: Answers are coded as 1 - 'very inappropriate'; 2 - 'inappropriate'; 3 - 'appropriate'; and 4 - 'very appropriate'.

The norm ratings could be interpreted as the respondents' own opinions, or, since the questions are incentivized, as respondents' guess of what their partners think. If we follow the first interpretation, then men think it less appropriate for women to make choices on their own than women do. If we follow the second interpretation instead, then men guessed that women would be very conservative while women guessed that men would be fairly permissive. We lean towards the former interpretation. In any case, what is clear from the disaggregated results is that there is no agreement on norms within couples or matched stranger pairs. It therefore appears unlikely that our female subjects systematically internalize male-dominant norms: if this were the case, they would have answered norm questions differently. This observation will come handy when interpreting the results from the agency game in the next section.

Unincentivized norm ratings elicited from women in the RCT survey give a consistent picture with the rest of the data presented in this sub-section. Respondents were asked to rate the

appropriateness of autonomous decision-making in the scarf and business scenarios, without reference to the need to match another person’s rating. The unincentivized ratings are significantly higher for buying a scarf than for the business investment decision (2.77 and 2.39 respectively, $p = .0000$).

Overall, the results presented in this sub-section reject the hypothesis that individual household members, and in particular women, have the same executive and consultative agency over all household decisions. Women appear to have less influence over important than trivial decisions, and these differences seem to be upheld by norms of behavior partly internalized by women.

5 Testing willingness to pay for agency

Having documented the subordinate status of women in the study population, we now investigate the extent to which women are willing to pay for pure agency. We start by presenting the simplest version of our test, namely, the idea that if women have pent up demand for agency, they should be more willing to pay for exerting agency in the relative anonymity of our experiment. Experimental findings are summarized in Table 4. They are not consistent with the existence of a strong unmet demand for agency on the part of our female subjects. When matched with a family member (column 1 of Table 4), women exert less agency than men, although the difference is not statistically significant.

If we break down column 1 into those matched with their husband (60 observations) and those matched with their son (12 observations) we again find no significant difference between spouses. We do, however, find a large gender difference in mother-son matches: a quarter of mothers challenge the choice of their son, but none of the sons challenges the choice made by their mother. Things are different when a female participant is matched with a male member of her household who is not her husband or her son. In those 13 cases, women exert less agency (16%) while men exert a lot more (46%). Since the family relationships between participants are not externally assigned, we have to be careful not to over-interpret these findings. It remains that we do not find evidence that female participants are more willing to pay for agency than male participants except when they are matched with their son. We also find considerable variation in willingness to pay for agency among males, indicating that our experiment is capable of

capturing variation in demand for agency among the study population.

Table 4: Percentage of subjects opting for half glass, by gender and match type

	Matched w/ family member	N	Matched w/ stranger	N	t-test (p-val.)
Male	29.4%	85	25.3%	83	0.59 (0.55)
Female	22.4%	85	13.3%	83	1.54 (0.12)
t-test	1.05 (0.296)	170	1.98** (0.049)	166	

Note: responses are disaggregated by match type. All pairing involve one male and one female participant.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

When participants are matched with a stranger (column 2 of Table 4), we find a similar proportion of male participants willing to pay for agency. But there is a sharp drop in demand for agency among women – a difference that is statistically significant. This is surprising given that, in this experimental treatment, we expected to find women *more* – not less – willing to express agency – if only because the identity of the man they are matched with is never revealed.

In the conclusion we discuss possible explanations for this counter-intuitive finding. Before doing so, however, we examine to what extent variation in the instrumental value of agency explain our results. Our experimental design allows us to observe directly whether i 's matched partner j picks i 's preferred juice flavor for i . If j does so with probability 1, the instrumental value of agency is 0. We expect this probability to increase if j is explicitly informed of i 's top rank; and if j is a household member and hence may inherently be more altruistic towards i and/or already informed of i 's top rank. Because a family member may care more about i , we also expect an informed family member to be more responsive to i 's stated preference, and thus more likely to pick i 's top rank than an informed stranger.

Regression results are shown in Table 5. In column (1) we see that the information treatment has a strong statistically significant effect on j 's likelihood of selecting i 's top ranked juice. The probability that i gets his/her top rank is 35% in the uninformed treatment. Given that there are three possible choices, this is not significantly different from random selection, thereby suggesting that participants have little a priori knowledge of each others' juice preferences. With

Table 5: Choice of own top-ranked flavor by partner on treatment

	Partner picked subject's top-ranked flavor		
	(1)	(2)	(3)
Informed partner	0.20*** (0.057)	0.17** (0.076)	0.29 (0.221)
Matched to family member		0.03 (0.075)	0.03 (0.075)
Informed partner x matched to family member		0.05 (0.114)	-0.21 (0.294)
Informed partner x altruism of partner towards me(*)			-0.08 (0.122)
Informed partner x altruism of partner towards me(*) x matched to family			0.16 (0.163)
I am female		-0.04 (0.050)	-0.04 (0.050)
Constant	0.35*** (0.037)	0.35*** (0.059)	0.35*** (0.059)
Number of Obs.	336	336	336
R-squared	0.039	0.045	0.047
Adjusted R-squared	0.0357	0.0330	0.0297

The dependent variable is 1 when a participant's partner picks the participant's top-ranked flavor for participant to consume.

(*) measured by sum of amount given in dictator, taking and ultimatum game, in PKR/1000.

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

information, this probability rises to 55%, which is statistically higher but remains well below 1. In column (2) we add a dummy for being matched with a family member, and we interact this dummy with the information treatment. We also include a dummy equal to 1 if i is female, to see whether participants are in general less willing to respect a woman’s juice preferences. None of these additional regressors is statistically significant.

One possible explanation for the lack of significant effect of the matching treatment in column (2) is that it confounds two opposite effects: in harmonious households, family members try to please each other; but in dysfunctional households, they seek to hurt each other. The combination of these two opposite effects may be behind column (2). To investigate this possibility, we construct an individual-specific proxy for altruism using the results from the dictator, reverse dictator, and ultimatum games. This proxy τ_{ji} is simply the sum of the amounts transferred by j to i in each of the three games. On average, participants transfer half of their endowment to the other player, in keeping with commonly observed findings in similar experiments. We regress τ_{ji} on whether j is a family member and whether i is female. We also include a dummy for mother-son matches. Results are shown in Table 6.

We find that female participants on average receive more, and this result is statistically significant. The family member and mother-son dummies have the expected sign but are quite small in magnitude and well below statistical significance. There is, however, considerable variation in τ_{ji} , as indicated by the low R^2 of the regression. We can therefore hope to identify whether j ’s altruism towards i affects the instrumental value of agency. This is what we do in column (3) of Table 5.

We interact τ_{ji} with the informed treatment dummy and with informed and family match dummy. Coefficient point estimates are consistent with the idea that family members who are *not* altruistic towards i are *less* likely to select i ’s preferred juice when informed: an informed stranger has a $0.35+0.29=64\%$ probability of selecting i ’s top rank; in contrast, the same probability for an informed family member with $\tau_{ij} = 0$ has a $0.35+0.29-0.21=53\%$ probability compared to $0.53+(0.16-0.08)*1.59=66\%$ for an informed family member with average altruism $\tau_{ji} = 1.59$ (the average when matched to a family member). While these calculations go in the expected direction, none of them is statistically significant – possibly due to lack of power.

From the combination of evidence, we conclude the instrumental value of agency is lower

Table 6: Correlates of partner's altruism towards subject

	Partner's altruism (*)
	(1)
I am matched to a family member	0.07 (0.053)
I am matched to my son/mother	0.07 (0.120)
I am female	0.09* (0.049)
Constant	1.52*** (0.045)
Number of Obs.	336
R-squared	0.017
Adjusted R-squared	0.00843

(*) Altruism measured by sum of amount given in dictator, taking and ultimatum game, in PKR/1000.

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

when j is informed, but otherwise it does not vary significantly with the nature of the match. We also find no evidence that women are significantly more likely than men to have their top ranked juice selected by their partner. It follows that the results reported in Table 4 cannot be accounted for either by a lower instrumental value of agency for women, or by generally adversarial relationships within households – which would increase the instrumental value of agency when matched with a family member.

This leaves open the possibility that participants have beliefs about the instrumental value of agency that vary with experimental conditions. To investigate this possibility, we revisit the results presented in Table 4, controlling for information and altruism. The results from linear probability regressions are presented in Table 7, separately for family and stranger matching. The dependent variable equals 1 if the subject opted to receive half a glass of their preferred juice, instead of letting their partner choose with a 50% probability. Standard errors are clustered by matched pairs. Our objective is to test whether the gender gap in selecting to receive half a glass disappears – or at least shrinks – once we control for the instrumental value of agency, as predicted by the information treatment and our proxy for altruism.

In columns 1 and 5 we include a treatment dummy that takes value 1 if the partner is informed of the subject’s stated preferences. If subjects expect informed partners to respect their stated preference, we should observe a negative coefficient for the information dummy. Furthermore if women opt for the half glass of preferred juice because they believe the partner does not know their preferences, we should observe a female dummy coefficient that is closer to zero than in Table 4. This is *not* what we find. The point estimate of the female coefficient is identical to the difference reported in Table 6, namely 12% for stranger matching and 7% for household matching. Statistical significance is the same. We also find that, if anything, the information treatment *increases* the willingness to avoid drinking a juice selected by a stranger – although the coefficient is not statistically significant. Informing my partner about my preferences thus does not reduce my willingness to pay to guarantee my preferred juice (and may even increase it).

In Columns 2 and 6 we add the altruism proxy τ_{ji} as control variable. Subjects matched with a household member should be knowledgeable about j ’s altruism towards them. Hence these subjects should expect the choice of an altruistic partner to match their own preferences –

Table 7: Determinants of preference for agency

	Choice of half-glass to make sure of getting one's own pick							
	Matched with Stranger				Matched with household member			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Participant is female	-0.12*	-0.12**	-0.12*	-0.14**	-0.07	-0.07	-0.07	-0.07
	(0.061)	(0.060)	(0.060)	(0.059)	(0.069)	(0.071)	(0.072)	(0.072)
Informed treatment dummy	0.07	0.13	0.14	0.21	0.02	0.08	0.10	0.06
	(0.061)	(0.209)	(0.209)	(0.221)	(0.067)	(0.231)	(0.238)	(0.242)
Altruism of my partner towards me (*)		-0.10	-0.10	-0.08	0.04	0.04	0.04	0.04
		(0.068)	(0.068)	(0.073)	(0.074)	(0.074)	(0.074)	(0.078)
Altruism of my partner towards me x informed dummy		-0.04	-0.03	-0.05	-0.03	-0.03	-0.04	-0.03
		(0.112)	(0.112)	(0.116)	(0.137)	(0.137)	(0.138)	(0.141)
Dummy=1 if partner selects my top rank if informed		-0.04					-0.04	
		(0.100)					(0.089)	
My top choice does not match my top-ranked flavor				0.14				-0.05
				(0.085)				(0.074)
My top choice not my top-rank x informed dummy				-0.17				0.05
				(0.106)				(0.097)
Constant	0.22***	0.37***	0.37***	0.31**	0.29***	0.22*	0.22*	0.24
	(0.056)	(0.137)	(0.137)	(0.150)	(0.055)	(0.126)	(0.127)	(0.145)
No. of Obs.	166	166	166	166	170	170	170	170
R-squared	0.031	0.047	0.049	0.072	0.007	0.008	0.009	0.011
Adjusted R-squared	0.0188	0.0236	0.0189	0.0370	-0.00496	-0.0159	-0.0209	-0.0257

(*) The dependent variable is 1 when the participant opts for half a glass in order to get his/her own pick for sure.

(*) Measured by sum of amount given in dictator, taking and ultimatum game, in PKR/1000.

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

thereby obviating the need to opt for the half glass of preferred juice, unless they have a demand for pure agency. In contrast, subjects matched with an unknown strangers would not be able to predict that person's altruism towards them. For these subjects, the coefficient of the altruism proxy should be zero. The results shown in Table 7 show no statistically significant difference between the two regression models, whether or not the partner is informed.

In columns 3 and 8 we add a dummy equal to 1 if the partner selects the subject's preferred juice in the informed treatment. Of course subjects do not observe this. But those matched with a household member may be able to predict it. It follows that subjects matched with a household member who did select their preferred juice would expect getting their preferred choice with higher probability. Consequently, they would have less reason to opt for a half glass – unless they demand pure agency. In contrast, subjects matched with a stranger would have no way of predicting what their partner would do, and thus the estimated coefficient on the dummy should be 0. Contrary to expectations, the dummy has a positive – instead of negative – coefficient estimate irrespective of matching; the coefficient on the female dummy is unaffected.

Taken together, this evidence indicates that willingness to pay for agency does not decrease among subjects who could reasonably expect the partner to select their preferred juice. In other words, opting for the half-glass does not appear to be driven by a desire to receive one's preferred choice – rather it suggests willingness to pay for pure agency, irrespective of material outcomes.

To investigate this further, we construct a dummy that equals one if the subject's juice selection matches their stated top rank. If subjects do not have a strong preference for one of the juices, their responses may be different. This is indeed the case for 25% of the subjects. If a subject does not care about which juice they receive, their instrumental value of agency is zero, and their willingness to pay for agency should be lower – especially in the uninformed treatment when matched with a stranger. Coefficient estimates are never statistically significant, but subjects with no strong preference are, if anything, *more* willing to pay for agency when matched with an uninformed stranger. We also test whether opting for a half-glass is more frequent among less empowered individuals. Our measure of empowerment is similar to that used in the previous section. Results, not shown here to save space, are statistically not significant, whether or not we interact the empowerment measure with the female dummy.

A final piece of evidence on the AVH comes from survey questions administered at the end

of the experiment. Each subject was asked: whether their spouse knows their favorite pastime; whether their spouse would select their favorite pastime for them; and whether they would prefer to choose by themselves, even if the outcome is the same. We find no difference between men and women in their beliefs regarding the spouse's knowledge of their own tastes. But women are significantly more likely to claim that their spouse would pick their favorite pastime for them (32.5% versus 11.0%, $p = .0000$). Furthermore, 47.1% of men would want to pick their pastime themselves even if their wife picks the right one, compared to only 29.9% of women in the same situation ($p = .0000$). This confirms that men appear more willing to exert agency than women, independently from the outcome.

To summarize, the experimental and observational evidence presented here support the AVH: individuals have a willingness to pay for agency that appears unconcerned by the material outcome of the decision but focuses on the decision process itself. Men appear to have a stronger preference for agency than women. Furthermore, we find that women are least willing to exert agency when matched with a unknown man from their neighborhood. Taken together, these results are consistent with the idea that women in our study have internalized norms of conduct that limit their decision autonomy, and that these norms are stronger outside the family sphere.

6 Conclusion

In this paper we have investigated female empowerment in the Pakistan Punjab. Our study population is composed of urban and peri-urban households with a medium to low income. These households derive much of their income from self-employment and casual work, although some of their members are in permanent wage employment. As such, this population is fairly representative of the median household in much of South Asia – and many parts of the developing world.

Theoretical and empirical work on intra-household decision-making capture empowerment through welfare weights. Such weights are inferred from household consumption allocations. In this paper we test two key hypotheses underlying this work: first, that the sharing rule is the same for all private consumption goods; and second, that household members only care about their final consumption, not about who chooses what they consume. If the first hypothesis is rejected, welfare weights cannot be inferred from household consumption allocations, and different results

can be found regarding intra-household allocative efficiency in consumption depending on which consumption decision is used for the test. If the second hypothesis is rejected, equating female empowerment with welfare weights inferred from consumption decisions is misleading since it fails to account for demand for pure agency.

To test these two hypotheses we use data from a survey and a novel laboratory experiment implemented with adult couples. We find that women’s involvement in decision making is decreasing in the importance of the decision. This finding is difficult to reconcile with the sharing rule hypothesis, which predicts that spouses have the same influence in all consumption decisions. The finding, however, is consistent with the subordinate dependant hypothesis, i.e., women are treated like children.

Turning to the laboratory experiment and agency game, we find that an informed partner is significantly more likely to select the subject’s preferred consumption bundle – albeit the effect is not as large as anticipated. But we find no evidence that willingness to pay for agency varies systematically with its instrumental value. It should therefore be the case that the observed experimental variation in willingness to pay for agency mostly reflects variation in pure value of agency across subjects and experimental treatments. On this issue, results indicate that married women do not have a higher willingness to pay for agency than their husband. This constitutes a *prima facie* a rejection of the hypothesis that women have a pent-up demand for pure agency, in which they could have indulged within the safety of the experiment. Contrary to expectations, we also find that women matched with an unknown man are significantly *less* willing to pay to have their preferred option implemented in the lab. A similar, albeit weaker, pattern is observed for women matched with a family member who is not their husband or their son.

What have we learned regarding intrahousehold decision making? Many policy interventions seek to improve the status of married women by empowering them through legal and financial means. This assumes that married women have pent-up demand for agency, i.e., that they will seize opportunities to escape their subordinate status in a male dominated household. This is not what we have observed in the experiment: spouses do not significantly differ by gender regarding their demand for agency.²⁰ At the same time, we also documented the subordinate

²⁰In fact, those observed with the lowest demand for agency are adult male dependants, not one of whom chose to overrule the choice made for them by their mother.

status of women in the studied households. Taken together, the results suggest that demand for agency within the household may not be easily influenced by offering women opportunities for exerting agency.

Given the cultural context evidenced in the survey data, women’s reluctance to exert agency may be due to a combination of fear of retaliation, internalized social norms, and failure of aspirations. We did our best in the experiment to protect the participants’ privacy so as to minimize the risk of retaliation for exerting agency. But we cannot rule out the possibility that women have internalized the risk of confrontation with men and act accordingly. More generally, the norms defining gender roles, that appear to have been largely internalized by women, may be more flexible within than outside the household. This could explain why women act more cautiously with male strangers, even when actual retaliation is unlikely, as in our experiment where we never reveal to which stranger participants were matched. If this interpretation is correct, it suggests that women in our study population are weary of possible confrontation with a random male stranger. The policy implication of this interpretation is that, in order to empower women in our study population, it is not sufficient to intervene within the family sphere. It is also necessary to protect women from confrontation with strangers, some of whom are known to hold views that are particularly dismissive of women’s rights. This would require measures aimed at curbing hate speech towards women and other manifestations of male supremacist views. Although this is a difficult task, it is perhaps more amenable to policy than attempting to change the equilibrium of forces within each Pakistani household.

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Appendix A: Additional Tables and Figures

Table A1 shows regression results of the ‘need permission’ variables on the importance of the decision. This is done for the RCT sample (Columns 1-2) as well as for the female (Column 3-4) and male (Column 5-6) LAB samples. The individual fixed-effects specification (Columns 1-3-5) confirms the statistically significant increase in the need to ask for permission as decisions become more important. We also observe that decision autonomy increases with: age; being household head; and the education level among men. In additional analysis not shown in Table A1, we find that female heads of household are 50 percentage points less likely to require permission to make decisions than other women ($p = .000$). But they are nonetheless 9 percentage points more likely than male heads of household to need permission ($p = .000$). Similarly, among subjects in the LAB sample who are *not* household head, 67.9% of women need permission, compared to only 29.7% of men ($p = .000$): male dependants have more executive agency than female dependants.

Semi-parametric regression results (see Figure A1) confirm the robustness of these findings.²¹ We also estimate individual level regressions using an index of decision autonomy as dependent variable. This index is computed as the sum of answers to the need permission questions. These regressions yield similar outcomes (see Table A3).

We conduct similar regression analysis on consultative agency. Results from fixed-effects regressions confirm the negative and statistically significant effect of decision importance on the likelihood that women can influence household decisions (Table A2). Consistent with our earlier results on executive agency, the opinion of older and more educated individuals is more likely to be taken into account in household decision-making. The results are robust to assumptions about functional form, as demonstrated by the non-parametric regression results presented in

²¹These regressions are of the form

$$y_i = \beta X_i + g(Z_i) + u_i$$

where y_i denotes the dependent variable for individual i , X_i is a vector of controls (age and household head and literate dummies), Z_i is the decision’s importance ranking, and the non-parametric function $g(\cdot)$ is the object of interest reported in Figure 2. An estimate of this function is obtained by a partialling approach, i.e., regressing y_i and X_i non-parametrically on Z_i ; regressing the residuals from the y_i regression on the residuals from the X_i regressions to obtain an estimate of β ; and finally regressing $y_i - \hat{\beta}X_i$ non-parametrically on Z_i to obtain an estimate of function $g(\cdot)$.

Figure A2. In Table A4 we show similar results using an individual index of consultative agency, constructed as the sum of the 14 questions.

Fig A1: Non-parametric estimation of need permission variable on decision importance: women RCT sample (top), women LAB sample (middle), men LAB sample (bottom)

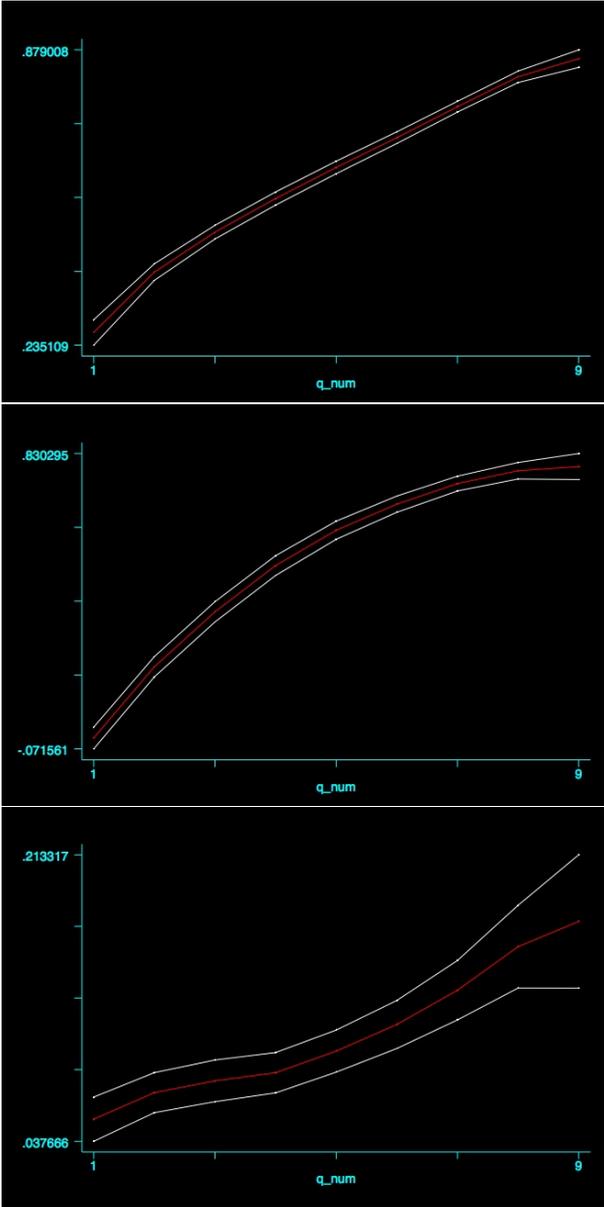


Table A1: Regression of need permission variable on the importance of decision

	Needs permission to take decision					
	Women RCT sample		Women LAB sample		Men LAB sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Decision importance	0.071*** (0.002)	0.071*** (0.002)	0.100*** (0.004)	0.100*** (0.004)	0.014*** (0.003)	0.014*** (0.003)
Household head		-0.435*** (0.032)		-0.509*** (0.047)		-0.234*** (0.059)
Age		-0.006*** (0.001)		-0.006*** (0.002)		-0.002* (0.001)
Literate		0.007 (0.023)		-0.001 (0.041)		-0.067*** (0.021)
Individual f.e.	Yes	No	Yes	No	Yes	No
Constant	0.258*** (0.012)	0.553*** (0.048)	0.117*** (0.022)	0.374*** (0.087)	-0.006 (0.017)	0.355*** (0.065)
Number of Obs.	6651	6651	1349	1349	1330	1330
R-Squared	0.143	0.277	0.285	0.427	0.028	0.237

The dependent variable takes on the value 1 if the individual reports requiring permission before making a decision, 0 otherwise; 'Decision importance' is a categorical variable increasing in the importance of the decision; 'Household head' is 1 if the individual is the household head, 0 otherwise; 'Age' is reported in years and 'Literate' is 1 if the individual can read and write, 0 otherwise.

*** p<0.01, ** p<0.05, * p<0.1

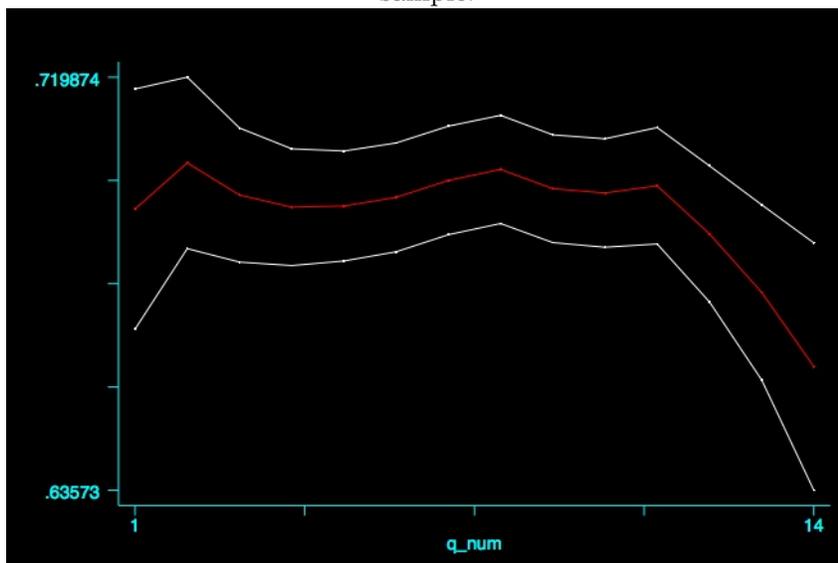
Table A2: Regression of opinion taken into account variable on decision importance (RCT sample only)

	Opinion taken into account	
	(1)	(2)
Decision importance	-0.046*** (0.003)	-0.046*** (0.003)
Household head		0.064*** (0.025)
Age		0.004*** (0.001)
Literate		0.022 (0.022)
Individual f.e.	Yes	No
Constant	0.818*** (0.009)	0.632*** (0.042)
Number of Obs.	10682	10682
R-Squared	0.024	

The dependent variable takes on the value 1 if the individual believes their opinion is always taken into account when the household makes specific decisions, 0 otherwise; 'Decision importance' is a categorical variable increasing in the importance of the decision; 'Household head' is 1 if the individual is the household head, 0 otherwise; 'Age' is reported in years and 'Literate' is 1 if the individual can read and write, 0 otherwise.

*** p<0.01, ** p<0.05, * p<0.1

Fig A2: Non-parametric estimation of opinion taken into account variable: women RCT sample.



	Need permission index (sum of need permission questions)		
	Women RCT sample	Women LAB sample	Men LAB sample
	(1)	(2)	(3)
HH head	-3.757*** (0.216)	-4.499*** (0.409)	-1.807*** (0.437)
Age	-0.056*** (0.008)	-0.040** (0.018)	-0.012* (0.007)
Literate	0.129 (0.159)	-0.052 (0.365)	-0.478*** (0.148)
Constant	7.921*** (0.298)	7.310*** (0.742)	3.121*** (0.552)
Number of Obs.	1553	157	155
R-Squared	0.227	0.342	0.378

Table A3. Need permission index

Opinion taken into account index (sum of opinion taken into account questions)	
	(1)
HH head	0.284 (0.301)
Age	0.056*** (0.011)
Literate	0.574** (0.251)
Constant	6.853*** (0.465)
Number of Obs	1553
R-Squared	0.029

Table A4. Opinion taken into account index

Appendix B: Demand for agency

In this Appendix, we examine in detail how the possible instrumental value of agency affects our experiment, so as to clarify our testing strategy of the AVH hypothesis more formally. To this effect we present a consumption decision model calibrated on our experimental design. We start by assuming that people derive utility purely from material consumption, in which case agency only has an instrumental value. We then introduce the possibility that individuals may want to pay to get their own choice irrespective of what they expect to receive.

There are three possible consumption bundles $\{x_1, x_2, x_3\}$ – intended to represent the three types of juice offered during the experiment. Individual i is given one of these bundles and has to consume it on the spot, with no exchange or resale possible. The utility that i derives from a bundle k is $U_i(x_k)$. By design i has to choose between two options, which we denote A and B . Option B is always the same, but option A varies across treatments. In option B , i consumes quantity $\alpha < 1$ of the bundle of her choice. Parameter α is the price of agency, paid on the spot

in consumption units. Let the value of the B choice be denoted \bar{U}_i :

$$\bar{U}_i \equiv \max\{U_i(\alpha x_1), U_i(\alpha x_2), U_i(\alpha x_3)\}$$

In the control treatment, denoted A_0 , each subject in option A essentially receives one unit of one of the three goods selected at random. The expected value of this assignment is:

$$\tilde{U}_i = \frac{1}{3}U_i(x_1) + \frac{1}{3}U_i(x_2) + \frac{1}{3}U_i(x_3)$$

Whether \tilde{U}_i is larger or smaller than \bar{U}_i depends on many factors, such as the curvature of U_i with respect to x_k , the size of α , and the difference in utility between the three consumption bundles. Let p_0 be the proportion of the population for whom $\bar{U}_i > \tilde{U}_i$. These are the people who prefer option B , that is, those who prefer to receive a smaller quantity of their top choice, instead of receiving a randomly selected bundle under the control option, which we denote A_0 .

Now consider another option. Suppose that instead of receiving one of the three bundles at random, an individual j is asked to select a bundle for i . If j has no information about i 's preferences, j must select a bundle at random, and i receives utility \tilde{U}_i . Hence this option is the same as option A_0 , and p_0 is the proportion of individuals who select option B . Now suppose that j is explicitly informed of i 's preferences – and the cost of making a selection is minimal. Call this option A_1 . As long as j has some positive altruism towards i , j should select i 's top choice. In this case, i receives:

$$\bar{\bar{U}}_i \equiv \max\{U_i(x_1), U_i(x_2), U_i(x_3)\}$$

which is clearly greater than \bar{U}_i since $\alpha < 1$ by construction. It follows that when j is informed of i 's preferences – and i knows that – then i should prefer $\bar{\bar{U}}_i$ to \bar{U}_i and thus should never select option B . It is nonetheless possible that a stranger j would not be altruistic towards i , in which case we expect $p_1 > 0$. As long as i does not expect a stranger to deliberately try to hurt her, option A_1 is superior to A_0 and therefore we expect $p_1 < p_0$.

It is natural to assume that, on average, a spouse or household member would be more altruistic toward i than a complete stranger. Let i know that j is a spouse or a household member and that j has been informed of her preferences. We denote this treatment A_2 . Hence, because altruism is virtually guaranteed, the proportion of individuals who opt for option B should be $p_2 = 0 < p_1 < p_0$.

It is also possible that a spouse or household member would already know of i 's preferences, even without being told. Let A_3 denote the treatment where i is told that a spouse or household member is selecting the bundle but has not been informed of her stated preferences. Here i 's expected utility can be at most as high as under option A_2 , and at most as low as option A_0 when the choice is made by a stranger. It follows that $p_0 \geq p_3 \geq p_2 = 0$. Of course, j may not be altruistic towards i . In this case, option B may be preferable. We can determine whether j is altruistic towards i by playing a dictator game. If j is revealed to be altruistic towards i , the predictions outlined so far should hold. If j is revealed to harbor low or no altruism towards i , then the probability of choosing option B should rise. While i may not know whether an unknown stranger j is altruistic towards her, she presumably would know whether her spouse or another specific household member is altruistic towards her.

We thus have the following prediction: if j knows i 's preferences and j is a spouse or household member revealed to be altruistic towards i , then i should never select option B . For i to select option B in this case, it would have to be that the process of choosing her own bundle generates utility for i over and above \bar{U}_i . This is what we call willingness to pay for agency. To go back to the ice-cream example in the introduction, it is pure utility from agency that explains why the four-year old insists on choosing the ice-cream himself even though his altruistic and informed parent would select the flavor he prefers. Comparing the proportion of the population selecting option B under this scenario to those selecting it when preferences are not known and when partners are strangers, we will be able to separately assess the role of imperfect information and social distance on individual decisions.

The above model makes a few additional testable predictions as well. First, if i is asked to rank the three bundles from most to least preferred, given the choice she should select the highest ranked bundle for herself. Second, if j is revealed to be altruistic and is provided with information about i preferences, j should select the bundle which is highest ranked by i . Deviations from these predictions are not explainable from within the model presented above. If they are violated, the experimental testing strategy described above may fail to identify willingness to pay for agency. In Section 3.2, we discuss how the experimental design incorporates the different scenarios discussed here.

So far we have assumed that, if people have pent-up demand for pure agency, they avail

themselves of any opportunity to exert that agency. They may nonetheless refrain from doing so for a number of reasons. First, they may fear retaliation. In the empowerment literature, fear of retaliation is seen as resulting from oppression. Many forms of oppression have been discussed in the context of female empowerment, such as ridicule, hazing, ostracism, domestic violence, and honor killing. In the experiment we minimize this to the extent possible by creating an environment in which people consume without being observed by individuals from the other sex. We cannot, however, rule out the possibility that people have internalized the risk of confrontation and adopt heuristics to minimize it.

Second, it is conceivable that people would like to express agency, but voluntarily choose to respect the decisions of others out of a sense of duty, originating from the internalization of social norms. In the empowerment literature, internalizing norms that objectively benefit another group is regarded as a form of indoctrination. Publicly challenging gender norms is then seen as a way of helping people wean themselves from inequitable norms. To see whether norm internalization explains behavior in our study population, we measure individual norms about gender agency and compare them across gender and within couples: if women exert little agency because they have internalized social norms about gender roles, men and women should share the same norms.

Third, it is conceivable that people have no demand for agency because they do not aspire to make their own choices, a situation that has sometimes been called a failure of aspiration, or alienation. This is perhaps the most pernicious form of subjugation, because it is the most deeply ingrained. Instituting more positive role models is an example of effort to raise aspirations (e.g., Alan and Artac 2016).

All three concepts – oppression, indoctrination, and alienation – have long been part of feminist thought and their logic has been applied to many different forms of discrimination. While we do not attempt to explicitly capture these concepts in our experimental design, we do recognize their importance and, in the conclusion, we revisit them when interpreting our findings about demand for agency.²²

²²It is also possible that people have no demand for agency, not out of fear of ostracism or violence, but for other reasons – e.g., because they do not want the responsibility for their actions that comes with exerting agency. By focusing on consumption bundles that do not involve serious monetary or welfare implications, our experiment design minimizes the latter consideration.

Appendix C: Survey questionnaire

Panel A: Survey questions for SDH

Question	Description	Answer codes	Sample the question is administered to
household_12	<p>Do you need to ask someone's permission for making the following decisions, and if yes from whom?</p> <ul style="list-style-type: none"> a. Purchasing ice cream for children b. Purchasing grocery c. Purchasing medicine for myself d. Purchasing personal cosmetics/clothing e. Taking a child to a doctor f. Purchasing children's books / clothes g. Purchasing furniture h. Purchasing refrigerator / TV i. Sale of personal jewelry 	<ul style="list-style-type: none"> 1: Nobody 2: Husband 3: Mother-in-law/ father-in-law 4: Son 5: Daughter 6: Other male 7: Other female 	RCT (women only) and LAB sample
household_13	<p>Are your preferences/opinion taken into consideration when making the following types of decisions within your household?</p> <ul style="list-style-type: none"> a. Decisions regarding boys' schooling b. Decisions regarding girls' schooling c. Decisions regarding your children's marriage d. Decision regarding your medical care e. Decision regarding your children's medical care f. Decision regarding family planning g. Social visits to your family h. Social visits in the neighbourhood i. Social visits to your husband's family j. Decision to work for earned income k. Decision to borrow money from an MFI l. Purchase of HH appliances (refrigerator, TV, etc) m. Decision about house repair n. Decision regarding sale/purchase of house 	<ul style="list-style-type: none"> 1: Always 2: Most of the time 3: Some of the time 4: Rarely 5: Never 	RCT (women only) sample
doing_40	<p>Imagine that a woman would like to buy a scarf for herself, using money she has been given by her parents as a gift. Her husband offers to go and buy the scarf for her. She can let her husband go shopping for her, or she can go herself. She decides to go shopping by herself.</p> <p>How appropriate do you think it is for the woman to buy the scarf by herself?</p>	<ul style="list-style-type: none"> 1: Highly inappropriate 2: Appropriate 3: Neutral 4: Appropriate 5: Highly appropriate 	RCT (unincentivised, women only); LAB (incentivised)
doing_41	<p>Imagine that a woman is running a business from her home. At the end of the month, she has some profits to re-invest. She can ask her husband to re-invest them for her, or she can choose herself, without consulting him. She decides to re-invest her profits in what she thinks best, without consulting her husband.</p> <p>How appropriate do you think it is for the woman to make the investment decision on her own?</p>	<ul style="list-style-type: none"> 1: Highly inappropriate 2: Appropriate 3: Neutral 4: Appropriate 5: Highly appropriate 	RCT (unincentivised, women only); LAB (incentivised)

Panel B: Survey questions for AVH

Question	Description	Answer codes	
consumption_11	What is your favorite pastime?		RCT (women only) and LAB sample
consumption_14	Does your husband /the person who is accompanying you to the session today know which is your favorite pastime?	1: Yes 2: No	RCT (women only) and LAB sample
consumption_17	What is the favorite pastime of your husband/the person who has accompanied you to the session today?		RCT (women only) and LAB sample
consumption_21	If your husband/the person who accompanied you to the session today had to select a pastime for you, would she/he select your favorite pastime?	1: Always 2: Sometimes 3: Never 4: I don't know	RCT (women only) and LAB sample
consumption_25	Even if your husband/the partner who accompanied you selects your favorite pastime for you, would you still prefer to select a pastime yourself?	1: I want to select by myself 2: I prefer if my spouse consults me before selecting 3: I am happy to delegate the selection to my spouse	RCT (women only) and LAB sample

Appendix D: Experimental protocol

Sequence of events during experiment sessions:

1. Upon arrival, subject pairs are assigned to their respective gender-specific room. 74.4% of the participants came with their spouse; 14.88% with their son and 10.72% with male household members (for instance, brother, brother-in-law).
2. Each subject pair is randomly assigned to a matching treatment: either with spouse/household member they came with; or with stranger of opposite gender. 50.6% of the participants were paired with family member and 49.4% are paired with a stranger.
3. Each subject in the stranger matching treatment is assigned a partner; this is done without replacement, which means that all subjects in the stranger treatment have one partner and one partner only; by construction, the partner is not the household member they came with
4. Half of the subjects are randomly assigned to the information treatment. The randomization is done by pair ID codes assigned at the start of the treatment.
5. No contact is allowed between subjects of opposite genders during the entire experiment. Men and women are seated in separate rooms
6. Subjects of the same gender are seated in compartments separated by cardboard sheets. Contact between subjects in the same room is strongly discouraged but not impossible.
7. Preference game is always played first in each session.
 - Subjects taste small samples of the three juice flavors.
 - Subjects rank the three flavors by order of preference.
 - Subjects pick the flavor they want to receive a full glass of.
 - Subjects guess the preference ordering of their partner.
 - Subjects in the information treatment are informed of the preference order of their partner.
 - Subjects pick the flavor they want their partner to receive a full glass of.

- Subjects choose whether to take half-a-glass of their selected flavor, or 50% chance of a full glass of their selected flavor and 50% chance of a full glass of the flavor selected for them by their partner.
 - A coin toss determines which flavor the subject receives.
 - Subjects consume the juice.
8. Subjects play the Dictator (D), Taking (T) and Ultimatum (U) activities. The order of play is randomized across sessions as follows:

Game Order	Session No.
D-T-U	7,11,15,
D-U-T	3,5,9
T-U-D	1
T-D-U	4
U-D-T	2,6,8
U-T-D	10,13

9. The last activity is played. This is always the norms elicitation activity. Subjects answer two incentivized questions about financial autonomy of women. The two questions are answered twice; once the answers are matched to the spouse and once the answers are matched to a random stranger sitting in the next room. Subjects receive a fixed payoff of Rs. 250 for every question matched to a person sitting in the next room. Question about an ordinary purchase (scarf) is always asked before the question on investment decision. The order in the which answer is matched to either the household member or stranger is randomised. This order of matching is as follows:

Answers Matched to:	Session No.
Household member, Stranger	1, 3, 5, 7, 9, 11, 13, 15
Stranger, Household member	2, 4, 6, 8, 10, 12, 14

10. Show-up fee + pay off from randomly selected activity (DG/TG/UG/norms) is paid to each participant in cash. The participants are provided this case in white envelopes and in privacy.

We reproduce below the full protocol used in the experiment. The text below was read in Urdu to all participating subjects during the experiment. Square brackets [] contain instructions for enumerators.

Introduction to the community

Thank you [Community Head name or NRSP representative?], for organizing this meeting and allowing us to be here.

Also, thank you all for taking the time to be here today. My name is [experimenter's name], and I will be facilitating this meeting. Helping me today, we also have here [introduce everyone]. Before we start, we would like to give you Rs ---- as a compensation for your time. These Rs ---- are not a part of the activity and are yours to keep.

Purpose

- Today, we will conduct several activities in your community.
- The purpose of these activities is to better understand how people in this community make decisions.
- The results of the study may eventually be published in a scientific article or part of a book.
- It is not part of a development project of any sort.
- Your community and other communities around [Province name] were selected to participate from a large group of potential communities.

Activities

We will perform several tasks here today. At the end of all the tasks, we will draw a number from this hat [show numbers and hat]. Each number represents one of the tasks that you will have performed, number 1 for task 1, number 2 for task 2, and so on. The number that is drawn will determine which task is paid to you. This means that every task that you play today has the same chance of being paid to you. So you have to be careful to choose exactly what you

want for each task, because that decision can be the one that determines your payment at the end. Is this clear to everyone? Do you have questions on this?

For our activities, we will select 20 participants. In a moment, I will explain how we select the participants. Before that, I want to make some general comments. Participants will be performing some tasks in exchange for real money that they will be able to take home. You should understand that this is not my money. It is money given to me by Oxford University, to use to conduct a research study.

- We only need 20 individuals to participate in these tasks. Thus, unfortunately, not all of you will be able to participate.
- We will have a lottery to determine who will participate.
- To complete the lottery, we will write down your name and the name of your spouse on a piece of paper and then, fold the paper in half.
- Next, you will place your folded piece of paper in a bag.
- This means that we need one piece of paper for each couple present here today.
- We will then ask one of you to draw 10 pieces of paper from the bag containing the names.
- Those whose names are drawn will stay here and participate in the tasks, while the others will go home.

Is this clear to everyone? Does anyone have any questions on how we will select the 20 participants?

Please note that the meeting may take 3-4 hours, so if you think you will not be able to stay that long please let us know now.

Consent

- Before we begin, I will explain the basic activities we will do together, and the rules that we will follow.
- [Read Consent Statement]

If you wish to participate, please say, “I do.” If you do not wish to participate, please advise us. You will be free to leave then. You will not be able to stay in the activity room(s) if you do not wish to participate.

[Random draw of names]

Those of you, whose names have not been called, can leave now. Thank you all for taking the time to come today.

[After people have left]

You will be matched with a partner for some of the tasks that you will perform today. Who your partner is depends on a random draw.

- We will now ask one member of each couple to draw a card from this bag [Hold bag up and show its content].
- The bag contains 5 yellow cards and 5 green cards.
- If you draw a yellow card, we will give you and your spouse a yellow name tag to wear. If you draw a green card, we will give you and your spouse a green name tag to wear.
- The color of the card you draw will determine who your partner is for some of the tasks today.

We will explain more about your partner later, but for now we will go around the room for the random draw and to distribute the name tags.

[After people have been assigned to the spouse or stranger matching]

We will now take all women to one room, and all men to another room. Please follow [Assistant’s name] if you are a woman, or [Assistant’s name] if you are a man.

[Take the selected participants into the rooms and have them sit.]

[To the participants]

Introduction to participants

Welcome, and thank you again.

- Before we proceed any further, let me stress something that is very important. Many of you were invited here without understanding very much about what we are planning to do

today. If at any time you find that this is something that you do not wish to participate in for any reason, you are of course free to leave at any time. If you do choose to leave, you won't be able to come back into the activity room(s) until everyone is finished performing all the activities.

- Before we start, please make sure your mobile phones are switched off, to avoid interruptions during the meeting.
- If you have heard about activities that have been conducted here in the past you should try to forget everything that you have been told. These are completely different tasks.
- Please also be advised, there are no right or wrong choices, so you should choose whatever you think is best for yourself and not look at your neighbor's choices. It is important to remember that not everyone will win the same amount in the task. Everyone will still receive the [Rs 150] payment for participation, regardless of how much you win in the task.
- We are about to begin. It is important that you listen as carefully as possible to the instructions, because only people who understand the tasks will actually be able to perform them. I will run through some examples to make sure you understand.
- You cannot ask questions out loud or talk about the tasks with anyone else while we are here together.
- If you have questions at any time during the meeting, please raise your hand and ask, and we will come to you and answer them in private.
- I will read through a script to explain all the activities that we will perform here today. As you may know, these activities are conducted in other localities beside this one, so it is very important that people in every locality receive exactly the same information, and this is the reason why I must read from this script.

NO TALKING

- I will now say something very important. You cannot ask questions out loud or talk about the tasks with anyone else while we are here together.

- If you need to ask a question at any time, please raise your hand and I will come to you so I can answer your question privately.
- I will explain the tasks, do demonstrations, and let you practice the tasks before we perform them for real. These demonstrations and practices are to help you understand the rules and clarify any questions.
- Please be sure that you obey these rules because it is possible for one person to spoil the tasks for everyone by talking in front of the group. If this happens, we will not be able to continue forward with the tasks today and you will not be paid for the tasks.
- Is this clear to everyone? Does anyone have any questions so far about what will go on today?

[If anyone asks a question out loud, explain again that all questions must be asked in private]

REAL PAYMENT

- In today's activities, you will have the opportunity to receive a cash payment. The amount that you will receive depends on your decisions and on the decisions of others. It also depends on what task is selected to be paid.
- Remember that at the end of all the activities, we will draw a number from a hat. That number will determine for which task you will be paid. This means that each task that you perform has the same chance of being selected to be paid.
- Remember also, that in addition to what you will earn from the activities, each of you will receive Rs 150 for participating in today's meeting. This money is yours, regardless of what happens during the activities. It will be paid to you in cash together with your earnings from the activities.
- It is real money, which you will be allowed to keep for yourself or do what you wish. This money will be paid to you in cash at the end of the meeting.
- During the activities you will make your decisions using paper slips [show slips], each representing 100 Rs. These paper slips will be converted into cash when you get paid at the end of the meeting.

CONFIDENTIALITY

- Your decisions and your payment are private and confidential. Nobody, apart from a member of our team will know what you earned, and he/she will not tell anyone.
- You all have a dark bag. You will have to make your decisions inside the bags, so that nobody else can see what you decide.

Instructions for preferences game (Task 1)

We are now ready to begin a task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. This is NOT the same task that you just performed, so be sure to listen to the instructions carefully.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card will be paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows who is matched with whom, and she/he will never tell anyone. [If this is not the first task: Your partner in this task is the same as the one in the previous task.]
- Those of you who drew a yellow card will be paired with their spouse in the other room.

Do you have questions on who your partner will be in this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner will be the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner will be your spouse in the other room.]

Part 1:

I have here three different flavors of juice – apple, pineapple and orange. Before we begin this task, I would like you to taste each of these flavors and rank them on the basis of how much

you like them. You should rank your favored flavor as number 1, your second-favored flavor as number 2, and your least favored flavor as number 3. You cannot rank two flavors equally. My assistant(s) will offer you a sample of the three flavors of juice, and then you should write down your ranking on the sheet we will provide you. [Distribute a sheet with pictures of the 3 fruits, subjects should write a number next to each fruit representing the ranking.]

Does anyone have any questions? Please raise your hand and my assistant or I will come and address your query.

Part 2:

Your partner in the other room has also been asked to rank the three flavors of juice. We would like you to guess your partner's ranking. We will now distribute a sheet, where you can write your guess. We will give you Rs. ___ for guessing correctly! This money will be paid to you at the end of all activities, on top of your earnings from the task that is randomly selected to be paid.

Part 3:

Now, we will distribute to half of you a sheet, containing the ranking given by your partner. The others will not know how your partner ranked the juice flavors.

[The experimenter and assistants distribute to a randomly selected half of participants (half from each group) the partner's ranking sheet.]

Now I would like for you to make two decisions:

- Choose what flavor you would like to consume.
- Choose a flavor for your partner to consume. It does not have to be the same flavor that you choose for yourself, nor it must necessarily be your partner's preferred flavor, if you know it.
- In the other room, your partner is being asked to do the same.
- There is a fifty percent chance that you will be given the flavor that you chose for yourself, and a fifty percent chance that you will be given the flavor that your partner chose for you. Similarly, your partner has a fifty percent chance to be given the flavor that he or she

chose for him or herself, and a fifty percent chance to be given the flavor that you chose for him or her.

- Neither you nor your partner will be able to exchange the juice you are given with anyone else.

Shall we begin? Does anyone have any questions? Please raise your hand and my assistant or I will come and address your query.

We will now distribute a decision sheet, where you can mark your choices [Distribute a decision sheet, with space to record one choice for the subject and one for the partner]

Please fill in your choice in the sheet of paper in front of you and fold it to let us know you are done. My assistants and I will come and collect your decision sheet.

Part 4:

We will now call you one by one to the back of the room and give you your juice. We will fill a large glass of juice for you [Show glass: the glass should be opaque, so that others cannot see how much juice is in it]. Remember, there is a fifty percent chance that you will get your favorite flavor, and a fifty percent chance that you will get the flavor that your partner picked for you. How will we decide if you'll get your favorite flavor or your partner's pick? We will toss a coin when we come to you. If the coin toss yields heads, then you will be given your favorite flavor; if tails, your partner's pick.

When we call you to give you your juice, before knowing whether you'll get your favorite flavor or your partner's pick for you (i.e. before tossing the coin), we will give you the opportunity to make sure you get your favorite flavor.

How? If you are willing to give up some of the juice, we will give you your favorite flavor of juice for sure. So, if you choose to have your favorite juice for sure, you will be given only half a glass of it. If instead you choose to have your favorite juice with a fifty percent chance, or your partner's pick with a fifty percent chance, then you'll be given a full glass of it.

We will now call you one by one.

[At individual meetings] Here I have the piece of paper with your ranking of the juice flavors, another piece of paper with your partner's pick for you, and a coin that I will toss to determine

if you will get one full glass of your favorite flavor or of your partner's pick.

Would you like me to toss the coin and get a full glass of juice, or would you like to get your half a glass of your favorite flavor for sure? [record decision and implement it].

Instructions for dictator game (Task 2)

[Note: before each session, the order of tasks 1-3 is randomized]

We are now ready to begin another/the first task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. [If this is not the first task] This is NOT the same task that you just performed, so be sure to listen to the instructions carefully.

- This task is performed by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. We will play two rounds of this task.
- Each of you will perform this task with someone from the other room.
- Who your partner is depends on the color of the card you drew earlier, as I will explain to you shortly.
- [researcher's name] will provide \$10 to Player 1 in each pair of players..
- Player 1 must decide how to divide this money between himself or herself and Player 2. Player 1 may allocate between \$0 and \$10 to Player 2.
- Player 2 takes home whatever Player 1 allocates to them, and Player 1 takes home whatever he or she does not allocate to Player 2.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card are paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows who is matched with whom, and she/he will never tell anyone.

- Those of you who drew a yellow card are paired with your spouse in the other room.

Do you have questions on who your partner is for this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner is the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner is your spouse in the other room.]

We now run through 5 examples to show how the task might be performed.

[Notes: the researchers and assistants work through the examples and test questions with paper slips, each representing a 100 Rs note, on a flat surface with a line drawn on it demarcating the areas assigned to Players 1 and 2. Each of the examples presented below is presented either as an example or used as a test question as required. If more test questions are needed the researcher or assistant begin again with the first example above. The script below is written assuming that 6 more examples were given, 3 presented as test scenarios/practice rounds, i.e., the subjects are asked questions about the amounts the subjects would take home. The 11 examples/tests – 5 above, 6 below – cover the full set of possible choices for Player 1.]

1. Here is the \$10. Imagine that Player 1 chooses to allocate \$9 to Player 2. Then, Player 2 will go home with \$9 and Player 1 will go home with \$1 (\$10 minus \$9 equals \$1).
2. Here is another example. Imagine that Player 1 chooses to allocate \$2 to Player 2. Then, Player 2 will go home with \$2 and Player 1 will go home with \$8 (\$10 minus \$2 equals \$8).
3. Here is another example. Imagine that Player 1 chooses to allocate \$5 to Player 2. Then, Player 2 will go home with \$5 and Player 1 will go home with \$5 (\$10 minus \$5 equals \$5).
4. Here is another example. Imagine that Player 1 chooses to allocate \$7 to Player 2. Then, Player 2 will go home with \$7 and Player 1 will go home with \$3 (\$10 minus \$7 equals \$3).
5. Here is another example. Imagine that Player 1 chooses to allocate zero to Player 2. Then, Player 2 will go home with zero and Player 1 will go home with \$10 (\$10 minus zero equals \$10).

[The experimenter and assistants hand out two envelopes for each subject. Each envelope features the subject's ID. The two envelopes are of different color. Moreover, Player 1's [2's] envelope has a 1 [2] written on it.]

We will now practice the task together. You will first practice the task as Player 1. You have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines Player 1's payment. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the payment to Player 2. As we work through the following examples, please put the paper slips into the empty envelope as indicated by the examples. We will walk around the room to check if your allocation matches the one from the example. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

Here are some more examples [The experiment assistants go around the room to check that subjects correctly place the paper slips into the envelopes. The experimenter explains the task again if mistakes are discovered]:

1. Imagine that Player 1 chooses to allocate \$10 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$10 and Player 1 will go home with zero (\$10 minus \$10 equals zero).]
2. Here is another example. Imagine that Player 1 chooses to allocate \$4 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$4 and Player 1 will go home with \$6 (\$10 minus \$4 equals \$6).]
3. Here is another example. Imagine that Player 1 chooses to allocate \$6 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$6 and Player 1 will go home with \$4 (\$10 minus \$6 equals \$4).]
4. Suppose that Player 1 chooses to allocate \$1 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$9] And how much will Player 2 go home with? [\$1]

5. Now try this one. Suppose that Player 1 chooses to allocate \$8 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$2] And how much will Player 2 go home with? [\$8].
 6. Now try this one. Suppose that Player 1 chooses to allocate \$3 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$7]. And how much will Player 2 go home with? [\$3].
- [Before each session, the order of rounds is randomly determined] You will all perform one round as player 1 and one round as player 2. You will first perform the task as Player 1 [or 2, depending on randomization], and then perform the task as Player 2 [or 1].
 - We don't know yet whether you will be paid for this task, nor whether you will be paid for your decisions as Player 1 or as Player 2. How will we choose whether to pay you for this task, and whether to pay you as Player 1 or Player 2? After we have finished performing all the tasks, we will first draw a number from the hat [show again numbers and hat] to determine which task will be paid. If we draw the number 1 from the hat, then it means that this task is the one selected to be paid. If so, we will toss a coin: if heads come up then you will be paid as Player 1; if tails come up, we will pay you as Player 2.

[For Player 1s] You will now perform the task as Player 1. You have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines your payment. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the payment to Player 2. Please put the paper slips you want to give to player to the empty envelope. Please make sure your choice is not observed by others in the room. You must now wait while the rest of the players, finish performing the task. [If Player 1 is selected to be the first role to be played] Then we will play the second round of this task, where you are Player 2.

[The experimenter and assistants collect the envelopes.]

[For Player 2s] You will now perform the task as Player 2. Player 1 in the other room who has been matched with you has allocated a sum of money to you. After we finish performing all the activities, if this task and the role of Player 2 is the one selected to be paid I will pay you what Player 1 has allocated to you.

We will now perform another task/We will now take a break. [Researcher's name] will pay you for this task [point to the pile of envelopes to demonstrate the amount] after we finish all the tasks, if this task is the one selected to be paid.

Instructions for taking game (Task 3)

We are now ready to begin another/the first task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. [If this is not the first task: This is NOT the same task that you just performed, so be sure to listen to the instructions carefully.]

- This task is performed by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. We will play two rounds of this task.
- Each of you will perform this task with someone from the other room.
- Who your partner will be depends on the color of the card you drew earlier, as I will explain to you shortly.
- [researcher's name] will provide \$10 to Player 2 in each pair of players..
- Player 1 (not Player 2) decides how to divide this money between himself or herself and Player 2. Player 1 must allocate between \$0 and \$10 to himself, leaving the rest for player 2.
- Player 2 takes home whatever Player 1 leaves them with, and Player 1 takes home whatever he or she does not leave to Player 2.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card will be paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows

who is matched with whom, and she/he will never tell anyone. [If this is not the first task: Your partner in this task is the same as the one in the previous task.]

- Those of you who drew a yellow card will be paired with their spouse in the other room.

Do you have questions on who your partner will be in this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner will be the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner will be your spouse in the other room.]

We will now run through 5 examples to show you how the task might be performed:

[Notes: the researchers and assistants work through the examples and test questions with paper slips, each representing a 100 Rs note, on a flat surface with a line drawn on it demarcating the areas assigned to Players 1 and 2. Each of the examples presented below is presented either as an example or used as a test question as required. If more test questions are needed the researcher or assistant begin again with the first example above. The script below is written assuming that 6 more examples were given, 3 presented as test scenarios/practice rounds, i.e., the subjects are asked questions about the amounts the subjects would take home. The 11 examples/tests – 5 above, 6 below – cover the full set of possible choices for Player 1.]

1. Here is the \$10 given to Player 2. Imagine that Player 1 chooses to leave \$9 to Player 2. Then, Player 2 will go home with \$9 and Player 1 will go home with \$1 (\$10 minus \$9 equals \$1).
2. Here is another example. Imagine that Player 1 chooses to leave \$2 to Player 2. Then, Player 2 will go home with \$2 and Player 1 will go home with \$8 (\$10 minus \$2 equals \$8).
3. Here is another example. Imagine that Player 1 chooses to leave \$5 to Player 2. Then, Player 2 will go home with \$5 and Player 1 will go home with \$5 (\$10 minus \$5 equals \$5).
4. Here is another example. Imagine that Player 1 chooses to leave \$7 to Player 2. Then, Player 2 will go home with \$7 and Player 1 will go home with \$3 (\$10 minus \$7 equals \$3).

5. Here is another example. Imagine that Player 1 chooses to leave zero to Player 2. Then, Player 2 will go home with zero and Player 1 will go home with \$10 (\$10 minus zero equals \$10).

[The experimenter and assistants hand out two envelopes for each subject. Each envelope features the subject's ID. The two envelopes are of different color. Moreover, Player 1's [2's] envelope has a 1 [2] written on it.]

We will now practice the task together. You will first practice the task as Player 2. You have been handed two envelopes. The blue [or other color] one with 10 paper slips in it is the one that determines Player 2's payment. The other envelope, the yellow [or other color] one, is empty and the paper slips you put in it will determine the payment to Player 1. As we work through the following examples, please put the paper slips into the empty envelope as indicated by the examples. We will walk around the room to check if your allocation matches the one from the example. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

Here are some more examples [The experiment assistants go around the room to check that subjects correctly place the paper slips into the envelopes. The experimenter explains the task again if mistakes are discovered]:

1. Imagine that Player 1 chooses to leave \$10 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$10 and Player 1 will go home with zero (\$10 minus \$10 equals zero).]
2. Here is another example. Imagine that Player 1 chooses to leave \$4 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$4 and Player 1 will go home with \$6 (\$10 minus \$4 equals \$6).]
3. Here is another example. Imagine that Player 1 chooses to leave \$6 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$6 and Player 1 will go home with \$4 (\$10 minus \$6 equals \$4).]

4. Suppose that Player 1 chooses to leave \$1 to Player 2. In this case, how much will Player 1 go home with? [\$9] And how much will Player 2 go home with? [\$1]
 5. Now try this one. Suppose that Player 1 chooses to leave \$8 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$2] And how much will Player 2 go home with? [\$8].
 6. Now try this one. Suppose that Player 1 chooses to leave \$3 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$7]. And how much will Player 2 go home with? [\$3].
- [Before each session, the order of rounds is randomly determined] You will all perform one round as Player 1 and one round as Player 2. You will first perform the task as Player 1 [or 2, depending on randomization], and then perform the task as Player 2 [or 1].
 - We don't know yet whether you will be paid for this task, nor whether you will be paid for your decisions as Player 1 or as Player 2. How will we choose whether to pay you for this task, and whether to pay you as Player 1 or Player 2? After we have finished performing all the tasks, we will first draw a number from the hat [show again numbers and hat] to determine which task will be paid. If we draw the number 1 from the hat, then it means that this task is the one selected to be paid. If so, we will toss a coin: if heads come up then you will be paid as Player 1; if tails come up, we will pay you as Player 2.

[For Player 1s] You will now perform the task as Player 1. You have been handed two envelopes. The blue [or other color] one with 10 paper slips in it is the one that determines Player 2's payment. The other envelope, the yellow [or other color] one, is empty and the paper slips you put in it will determine your payment. Please put the paper slips you want to allocate to yourself in the empty envelope. Please make sure your choice is not observed by others in the room. You must now wait while the rest of the players, finish performing the task. [If Player 1 is selected to be the first role to be played] Then we will play the second round of this task, where you are Player 2.

[The experimenter and assistants collect the envelopes.]

[For Player 2s] You will now perform the task as Player 2. Player 1 in the other room who has been matched with you has left you with a sum of money. After we finish performing all

the activities, if this task and the role of Player 2 is the one selected to be paid I will pay you what Player 1 has left you with.

We will now perform another task/We will now take a break. [Researcher's name] will pay you for this task [point to the pile of envelopes to demonstrate the amount] after we finish all the tasks, if this task is the one selected to be paid.

Instructions for ultimatum game (Task 4)

We are now ready to begin another/the first task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. [If this is not the first task: This is NOT the same task that you just played, so be sure to listen to the instructions carefully.]

- This task is performed by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. We will play two rounds of this task.
- Each of you will perform this task with someone from the other room.
- Who your partner will be depends on the color of the card you drew earlier, as I will explain to you shortly.
- [researcher's name] will provide \$10 to Player 1 in each pair of players..
- Player 1 decides how to divide this money between him or herself and Player 2. Player 1 must allocate between \$0 and \$10 to himself, leaving the rest for Player 2.
- Before hearing the offer made to them by Player 1, Player 2 has to state whether he or she would accept or reject each of the possible offers between \$0 and \$10 that Player 1 could have made.
- If Player 2 has stated that he or she would accept Player 1's offer, then Player 2 gets the amount of the offer and Player 1 gets the remainder. If Player 2 has stated that he or she would reject Player 1's offer, then Player 1 and Player 2 receive no money for this task.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card will be paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows who is matched with whom, and she/he will never tell anyone. [If this is not the first task: Your partner in this task is the same as the one in the previous task.]
- Those of you who drew a yellow card will be paired with their spouse in the other room.

Do you have questions on who your partner will be in this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner will be the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner will be your spouse in the other room.]

We will now run through 5 examples to show you how the task might be performed:

[Notes: the researchers and assistants work through the examples and test questions with paper slips, each representing a 100 Rs note, on a flat surface with a line drawn on it demarcating the areas assigned to Players 1 and 2. Each of the examples presented below is presented either as an example or used as a test question as required. If more test questions are needed the researcher or assistant begin again with the first example above. The script below is written assuming that 6 more examples were given, 3 presented as test scenarios/practice rounds, i.e., the subjects are asked questions about the amounts the subjects would take home. The 11 examples/tests – 5 above, 6 below – cover the full set of possible choices for Player 1.]

1. Here is the first example. Imagine that Player 1 offers \$9 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$9 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) Because Player 2 said he would reject \$9, Player 1 goes home with nothing and Player 2 goes home with nothing.

2. Here is another example. Imagine that Player 1 offers \$9 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$9 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) In this case, Player 1 goes home with \$1 (\$10 minus \$9 equals \$1) and Player 2 goes home \$9.
3. Here is another example. Imagine that Player 1 offers \$2 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$2 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) Because Player 2 said he would accept this offer, Player 1 goes home with \$8 (\$10 minus \$2 equals \$8), and Player 2 goes home with \$2.
4. Here is another example. Imagine that Player 1 offers \$2 to Player 2. But now, before hearing about this, Player 2 has stated that he would reject an offer of \$2 from Player 1. (Player 2 also stated whether he would accept or reject each of the other possible offers that Player 1 could have made, but we will not worry about that now.) In this case, Player 1 goes home with nothing, and Player 2 also goes home with nothing.
5. Here is another example. Imagine that Player 1 offers \$5 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$5 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) Because Player 2 said he would reject an offer of \$5 from Player, Player 1 goes home with nothing and Player 2 goes home with nothing.
6. Here is another example. Imagine that Player 1 offers \$5 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$5 from Player 1. (Player 2 has also stated whether they would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) In this case, Player 1 goes home with \$5 (\$10 minus \$5 is \$5) and Player 2 goes home with \$5.
7. Here is another example. Imagine that Player 1 offers \$7 to Player 2. Now, before hearing

about this, Player 2 has stated that he would accept an offer of \$7 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) Because Player 2 said he would accept an offer of \$7, Player 1 goes home with \$3 (\$10 minus \$7 equals \$3). And Player 2 goes home with \$7.

8. Here is another example. Imagine that Player 1 offers \$7 to Player 2. But now, before hearing about this, Player 2 has stated that he would reject an offer of \$7 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) In this case, Player 1 goes home with nothing, and Player 2 goes home with nothing.

9. Here is another example. Imagine that Player 1 offers \$0 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$0 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) Because Player 2 said he would accept \$0 from Player 1, Player 1 goes home with \$10 (\$10 minus zero is \$10) and Player 2 goes home with nothing.

10. Here is another example. Imagine that Player 1 offers \$0 to Player 2. But this time, before hearing about this offer, Player 2 has stated that he would reject an offer of \$0 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) In this case, Player 1 goes home with nothing and Player 2 goes home with nothing.

[The experimenter and assistants hand out two envelopes for each subject. Each envelope features the subject's ID. The two envelopes are of different color. Moreover, Player 1's [2's] envelope has a 1 [2] written on it.]

We will now practice the task together.

To practice the round of the task in which you have the role of Player 1, you have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines what Player 1's proposes to keep for him or herself. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the offer you make

to Player 2. As we work through the following examples, please put the paper slips into the empty envelope as indicated by the examples. We will walk around the room to check if your allocation matches the one from the example. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

Here are some more examples [The experiment assistants go around the room to check that subjects correctly place the paper slips into the envelopes. The experimenter explains the task again if mistakes are discovered]:

1. Imagine that Player 1 offers \$10 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$10 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with nothing and Player 2 goes home with nothing.
2. Imagine now that Player 1 offers \$10 to Player 2. But this time, before hearing about this, Player 2 has stated that he would accept an offer of \$10 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with nothing (\$10 minus \$10 equals zero (nothing)) and Player 2 goes home with \$10.
3. Imagine that Player 1 offers \$4 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$4 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then, Player 1 goes home with \$6 (\$10 minus \$4 equals \$6). And Player 2 goes home with \$4.
4. Imagine again that Player 1 offers \$4 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$4 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then, Player 1 goes home with nothing. And, Player 2 goes home with nothing.
5. Imagine that Player 1 offers \$6 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$6 from Player 1. Player 2 has also stated whether

he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with nothing and Player 2 goes home with nothing.

6. Imagine that Player 1 offers \$6 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$6 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with \$4 (\$10 minus \$6 equals \$4). And Player 2 goes home with \$6.

Test question formats:

7. Suppose that Player 1 offers \$1 to Player 2 and that, before hearing about this, Player 2 has stated that he would accept an offer of \$1. In this case, how much will Player 1 go home with? [\$9] And how much will Player 2 go home with? [\$1].
8. And what if, before hearing about this, Player 2 has stated that he would reject an offer of \$1. In this case, how much will Player 1 go home with? [nothing] And how much will Player 2 go home with? [nothing]
9. Now try this one. Suppose that Player 1 offers \$8 to Player 2 and that, before hearing about this, Player 2 has stated that he would accept an offer of \$8. In this case, how much will Player 1 go home with? [\$2] And how much will Player 2 go home with? [\$8].
10. And what if, before hearing about this, Player 2 has stated that he would reject an offer of \$8. In this case, how much will Player 1 go home with? [nothing] And how much will Player 2 go home with? [nothing]
11. Now try this one. Suppose that Player 1 offers \$3 to Player 2 and that, before hearing about this, Player 2 has stated that he would reject an offer of \$3. In this case, how much will Player 1 go home with? [\$0] And how much will Player 2 go home with? [\$0]
12. And what if, before hearing about this, Player 2 has stated that he would accept an offer of \$3. In this case, how much will Player 1 go home with? [\$7] And how much will Player 2 go home with? [\$3]

To practice the round of the task in which you have the role of Player 2, you have been handed a decision sheet. The decision sheet shows you the 11 possible allocations that Player 1 can offer to Player 2. For each possible allocation, Player 2 has to decide whether he would accept that offer or not. If an offer is accepted, Player 1 and Player 2 are paid according to the corresponding allocation. If an offer is not accepted, then both players are paid 0 for this task. Player 2 decides whether to accept or reject an offer by ticking the yes or no box next to the offer.

Now please practice the round of the task in which you have the role of Player 2 by filling out the decision sheet, accepting or rejecting each possible offer made by Player 1. We will walk around the room to check if you have any problems filling out the decision sheet. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

- [Before each session, the order of rounds is randomly determined] You will all perform one round as player 1 and one round as player 2. You will first perform the task as Player 1 [or 2, depending on randomization], and then perform the task as Player 2 [or 1].
- We don't know yet whether you will be paid for this task, nor whether you will be paid for your decisions as Player 1 or as Player 2. How will we choose whether to pay you for this task, and whether to pay you as Player 1 or Player 2? After we have finished performing all the tasks, we will first draw a number from the hat [show again numbers and hat] to determine which task will be paid. If we draw the number 1 from the hat, then it means that this task is the one selected to be paid. If so, we will toss a coin: if heads come up then you will be paid as Player 1; if tails come up, we will pay you as Player 2.

[For Player 1s] You will now perform the task as Player 1. You have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines what you propose to keep for yourself. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the offer you make to Player 2. Please put the paper slips you want to give to player to the empty envelope. Please make sure your choice is not observed by others in the room. You must now wait while the rest of the players finish performing the task. [If Player 1 is selected to be the first role to be played] Then we will

play the second round of this task, where you are Player 2.

[The experimenter and assistants collect the envelopes.]

[For Player 2s] You are a Player 2. Player 1 has allocated a sum of money to you. This money is in an envelope filled by someone in the other room. Before you know Player 1's offer to you, tell me for each possible offer Player 1 could make whether you would accept or reject it [Hand subjects a sheet with different possible offer and have them select the ones they will accept and those they will reject. Each decision sheet is marked with the subject ID]. These decisions will determine what you actually receive once we see what Player 1 has offered you. Please note that you will not get a chance to change your mind after the envelope has been handed over. [Occasionally, when it seemed necessary, the players were given the following reminder...] Remember that Player 1's offer is already in an envelope. Nothing you decide now can change what is in it.

Now please make your decisions by filling out the decision sheet, accepting or rejecting each possible offer made by Player 1. Then fold the decision sheet in half, so that nobody can see your choices, and we will come to collect them.

[The experimenter and assistants collect the decision sheets, which depict graphically the following allocations and questions:

1. If Player 1 offered you \$10 and kept \$0 for him or herself would you accept or reject?
2. If Player 1 offered you \$9 and kept \$1 for him or herself would you accept or reject?
3. If Player 1 offered you \$8 and kept \$2 for him or herself would you accept or reject?
4. If Player 1 offered you \$7 and kept \$3 for him or herself would you accept or reject?
5. If Player 1 offered you \$6 and kept \$4 for him or herself would you accept or reject?
6. If Player 1 offered you \$5 and kept \$5 for him or herself would you accept or reject?
7. If Player 1 offered you \$4 and kept \$6 for him or herself would you accept or reject?
8. If Player 1 offered you \$3 and kept \$7 for him or herself would you accept or reject?
9. If Player 1 offered you \$2 and kept \$8 for him or herself would you accept or reject?

10. If Player 1 offered you \$1 and kept \$9 for him or herself would you accept or reject?
11. If Player 1 offered you \$0 and kept \$10 for him or herself would you accept or reject?]

We will now perform another tasks/We will now take a break. [Researcher's name] will pay you for this task [point to the pile of envelopes to demonstrate the amount] after we finish all the tasks, if this task is the one selected to be paid.

Instructions for Norm Elicitation game (Task 5)

For this task, I will read to you descriptions of a series of situations. These descriptions correspond to situations in which one person, a woman, must make a decision. For each situation, you will be given a description of the decision faced by the woman. After I read to you the description of the decision, I will describe a choice that the woman might have made, and you should decide whether making that choice would be "socially appropriate" or "socially inappropriate" . or By socially appropriate, we mean behavior that is consistent with moral or proper behavior, that is, behavior that most people agree is the "correct" or "moral" thing to do. Another way to think about what we mean is that, if someone were to make a socially inappropriate choice, then someone observing the person's behavior might think poorly of that person or even get angry at that person.

In each of your responses, we would like you to answer as truthfully as possible, based on your opinions of what constitutes socially appropriate or socially inappropriate behavior.

To give you an idea of how the experiment will proceed, we will go through an example and show you how you will indicate your responses. I will now read to you an example of a situation. These cards that I am holding illustrate the situation and the decision sheet. [Experimenter illustrates the situation using a vignette, to make it easier for subjects to understand the situation].

Someone is at a local grocery store. While there, the person notices that someone has left a wallet/bag on the counter. How appropriate would it be to take the wallet for yourself?

If this were the situation we asked you about in the study, you would indicate the extent to which you believe taking the wallet would be "socially appropriate" or "socially inappropriate" . Recall that by socially appropriate we mean behavior that most people agree is the "correct"

or "moral" thing to do.

You should indicate your choice by filling the decision sheet [Hold up a reproduction of the decision sheet, where the answers are pictured using smiley faces/thumbs up or down]. As you can see, the decision sheet has four symbols on it:

- 2 thumbs down, corresponding to "very socially inappropriate"
- 1 thumb down, corresponding to "somewhat socially inappropriate"
- 1 thumb up, corresponding to "somewhat socially appropriate"
- and 2 thumbs up, corresponding to "very socially appropriate".

This is to help you recognize and remember what each of these options mean.

For example, suppose you thought that taking the wallet was very socially inappropriate. Then, you would indicate your response by selecting the last symbol, the one with the two thumbs down on the decision sheet.

Are there any questions about this example situation or about how to indicate your responses? I will now read to you several situations, all dealing with decisions that a woman might have to make. I will illustrate these situations using vignettes. For each of the choices, I would like you to think whether making that choice is very socially inappropriate, somewhat socially inappropriate, somewhat socially appropriate, or very socially appropriate for a woman to make. To indicate your response, you would place a check mark on the corresponding symbol on the decision sheet [Hold up reproduction of decision sheet again].

How will you get paid for this task? If this task is the one selected to be paid, we will pay you Rs 250 for each of your answers that matches the answer of someone in the other room, in addition to your participation fee. For instance, suppose the example situation above is part of this task, and this task is selected to be paid.

- Suppose your response was "somewhat socially appropriate,". Then you will receive Rs 250 for this question if the answer given by the person in the other room is also "somewhat socially appropriate".
- Suppose your response was "socially inappropriate". Then you will receive Rs 250 for this question if the answer given by the person in the other room is also "socially inappropriate".

Otherwise you would receive only the Rs 1000 participation fee.

Who is the person in the other room, whose answers is compared to your to determine your earnings from this task? It is a different person for each different question. We will explain exactly who this person is when we present each situation.

Do you have any questions? If you have any questions, please raise your hand and wait for the experimenter to come to you.

Question 1

We will now describe the first situation.

Imagine that a woman can buy a scarf for herself using money she has been given by her parents as a gift. She wants to buy a scarf. Her husband offers to go and buy the scarf for her. She can let the husband go shopping for her, or she can go herself. She decides to go shopping by herself.

How appropriate do you think it is for the woman to buy the scarf by herself? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of a randomly selected person in the other room, different from your spouse.

Question 2

I will now tell you about another situation, also dealing with a decision that a woman might have to make. Again, I would like you to think whether making that choice is very socially inappropriate, somewhat socially inappropriate, somewhat socially appropriate, or very socially appropriate. To indicate your response, you would place a check mark on the corresponding symbol on the decision sheet.

Imagine that a woman is running a business from her home. At the end of the month, she has some profits to re-invest. She can ask her husband to re-invest them for her, or she can choose herself, without consulting him. She decides to re-invest her profits in what she thinks best, without consulting her husband.

How appropriate do you think it is for the woman to make the investment decision on her own? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of a randomly selected person in the other room, different from your spouse.

Question 3

We will now describe another situation. This situation is the same as the first one, only this time your payment for this question is determined in a different way, so pay attention.

Imagine that a woman can buy a piece of clothing for herself, using money she has been given by her parents as a gift. She wants to buy a scarf. Her husband offers to go and buy the scarf for her. She can let the husband go shopping for her, or she can go herself. She decides to go shopping by herself.

How appropriate do you think it is for the woman to buy the scarf by herself? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of your spouse in the other room. So note the difference with respect to the first question: there, you would get paid if your answer matched that of a randomly selected person in the other room, different from your spouse. Now, you will get paid for this question if your answer matched that of your spouse in the other room.

Question 4

We will now describe another situation. This situation is the same as the second one, only this time your payment for this question is determined in a different way, so pay attention.

Imagine that a woman is running a business from her home. At the end of the month, she has some profits to re-invest. She can ask her husband to re-invest them for her, or she can choose herself, without consulting him. She decides to re-invest her profits in what she thinks

best, without consulting her husband.

How appropriate do you think it is for the woman to make the investment decision on her own? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of your spouse in the other room. So note the difference with respect to the first question: there, you would get paid if your answer matched that of a randomly selected person in the other room, different from your spouse. Now, you will get paid for this question if your answer matched that of your spouse in the other room.

Final Instructions

We have now completed all the tasks. We will now draw one number from this bag to determine which task will be paid [ask one participant to draw a number in front of all other subjects. If task 2, 3 or 4 is drawn, then toss a coin to determine whether they will be paid as Player 1 or 2].

We will now call you one by one to give you your payment. Then you are free to leave.

Thank you all very much for participating in today's activities! Please don't hesitate to ask us questions if you have doubts before you leave.