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Do Spouses' Responses to Asymmetric Information Match?
Laboratory Evidence from Kenya

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Abstract

Many papers have rejected the unitary model of the household, and recent work has suggested that even cooperative models of the household do not fit the data well. To model the non-cooperative household, theorists have started to write models that include mismatched fundamental preferences (such time preferences), relax the assumption of perfect contracts, but continue to assume perfect information between spouses. In these models, *both* spouses should behave opportunistically to force their preferences on the household. Using dictator games played against the spouse in secret or when decisions will be revealed, I measure the existence of opportunistic play between married couples in Kenya, and test to see if opportunistic husbands are more likely to be married to opportunistic wives. I find that while there is assortative matching on opportunistic behavior, the matching is far from perfect. This result suggests that in addition to exploring models that relax the assumption of perfect contracts, new models should also allow for imperfect information between spouses about fundamental preferences.

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1 Introduction

Economists have long been interested in how decisions are made within the household, perhaps because we would like to think of the household as a perfect miniature economy. Traditional models of the household either assume the household acts as a single agent or that household members bargain costlessly, make perfectly enforceable contracts, and with perfect information achieve Pareto efficient outcomes. Recent studies, however, have begun to question the prediction of efficient allocations in the household. Several studies have demonstrated inefficiency in intertemporal allocations, both in the developed and the developing world. While studies based in developed countries generally find evidence in favor of static efficiency (e.g. Browning and Chiappori 1998, and Chiappori, Fotin, and Lacroix 2002), recent studies from the developing world have uncovered evidence of inefficiency, both in intertemporal and intratemporal decisions. For example, using experimentally controlled variation, Robinson 2012 demonstrates that couples in Kenya fail to fully smooth income shocks within the household. Duflo and Udry 2004 use a natural experiment to demonstrate the same phenomenon in Cote d'Ivoire. Ashraf 2009 shows that respondents in the Philippines make different decisions when their actions remain hidden from their spouse than when their choices are revealed, and respond to asymmetric information by hiding money from their spouse when possible. This is evidence against efficient allocations within period.

Taken together, this body of work strongly indicates that we need to reformulate our models of household decision making. But in favor of what? While there is a canonical model of the unitary household (Becker 1965) and standard formulation of the collective model (Manser and Brown 1980, McElroy and Horney 1981), our field has not settled on one model of the inefficient or non-cooperative household. Should we first relax the assumption of perfect contracts or would it be more productive to start by assuming imperfect information?

A few recent pieces have relaxed the assumption of perfectly enforceable contracts, and suggested that mismatched fundamental preferences within the household can be a source of inter and intratemporal inefficiency. Though continuing to assume perfect information, Schaner 2012 relaxes the assumption of perfect contracts and presents a model of imperfectly aligned time preferences, showing that misaligned couples make inefficient savings decisions. She sets up a field experiment and confirms the hypotheses of her model in 598 married couples in Kenya. Importantly, because her model assumes perfect information and thus both spouses know about their mismatched preferences, individuals who are members of misaligned couples should *both* act to assert their preference over their spouse's. In her setting, the more patient member of the couple will save more than what was agreed upon while the less patient member will save less, and each member is willing to forgo some payment (interest income) to enforce their preferences. Mazzocco 2004

writes a similar model of misaligned risk preferences and Hertzberg 2012 presents a model of misaligned consumption preferences. Each of these models predicts that in misaligned couples, *both* members should behave opportunistically.

This paper adds to the literature by testing for assortative matching on opportunistic behavior. Using variations of the dictator game, I measure first the existence and extent of opportunistic behavior between couples. 406 couples were recruited in rural towns in the Nyanza province of Kenya to participate in field laboratory games. Individuals played a dictator game against their spouse both in secret (their decisions were not revealed to anyone outside the study team) and in public (the respondent's spouse may be informed about the respondent's choices). I interpret the difference in play between the secret and public games as evidence of opportunism. I find that respondents do behave opportunistically on average, with men giving 9 percentage points more when their actions will be revealed to their wife, and women giving 6.7 percentage points more when their decisions are revealed. When measured as a binary variable, I find that 39.2% of men behave opportunistically while 36.9% of women take advantage of asymmetric information. I find that while an opportunistic woman is more likely to be married to an opportunistic man than a non-opportunistic man, the sorting is far from perfect. In fact, more than half of opportunistic women are married to non-opportunistic men. This suggests that relaxing the assumption of perfect contracts is not sufficient to explain inefficiency in the household. We would do well to relax the assumption of perfect information as well.

As we discuss assortative matching, it's important to note that economists and other researchers usually think about couples matching on characteristics that are fixed and known at the time of marriage. For example, there have been many studies examining the extent of assortative matching on education, height, and beauty. In the models of misaligned preferences mentioned earlier, the authors implicitly assume that underlying preferences are fixed as well. In this draft, I will not comment on whether I think the opportunism I measure here is a fixed trait or an evolving trait. Instead, I assume that the matches I observe in my data are a result of equilibrium behavior and sorting. In future work I plan to explore whether or not opportunism is a fixed trait, and discuss what the evolution of opportunism can tell us about matching on fundamentals.

I begin the paper in Section 2 by describing the experimental setting, the data, and the games. This background will allow a useful discussion of the specific measurement issues in this study. Section 3 discusses the choice of dictator games to measure opportunistic behavior and discusses various methods of measuring assortative matching. As background information about the matching environment, section 4 describes average play in the games and summarizes results about the demographic correlates of individual play. Section 5 presents an analysis of matching in this sample. Section 6 discusses the results and concludes.

2 Experimental Setting

The sample population was drawn from five rural towns southwestern Kenya in Nyanza province. Two of the towns (Ugunja and Sega) are on the main paved road that runs from Mombasa to Uganda. The other three towns are on major dirt roads off the main paved road. Three of the towns (Ugunja, Siaya, and Ukwala) are the seat of the district headquarters (for Ugunja, Siaya, and Ugenya districts, respectively). Subjects were married (either formally or informally), currently living with their spouse, over the age of 18, and available to participate in two interviews a week apart in September and October of 2011. Polygamous families were not eligible to participate.[1]

The survey team asked local administrators to compile a list of all couples meeting the eligibility criteria in several villages surrounding the five towns.[2] The village elders were asked to record the names of both husband and wife, the occupations of both husband and wife, and a contact phone number if possible. Of the 786 couple records collected by the village elders, 82 percent included a contact phone number. Couples were then assigned a random number to determine the order in which they were contacted to be scheduled for an interview, stratified by town. Couples that did not have a phone number listed, or were unable to be contacted by phone, were contacted through the village elder. Tracking lists were distributed to the elders, and they were asked to invite the selected couples to arrive for an interview on the selected day. In total, of the 786 couples provided by the village elders, 53% participated in the study.

415 couples were interviewed at baseline, and 388 returned for a follow-up interview. Of the baseline sample, 406 couples met all of the study criteria (monogamous, living together, both partners over the age of 18).

Couples arrived at the survey site together,[3] but were split for their individual surveys. The survey began with a questionnaire about demographics, family finances, material wealth, expenditures, transfers, and decision making in the household. Table 1 shows demographic and financial summary statistics from the baseline survey.

The survey continued with a series of dictator games. Three variations of the traditional dictator game were played: Secret Stranger, Secret Spouse, and Public Spouse.[4] The Secret Stranger game is the traditional dictator game. The respondent was given tokens (bottle caps) to divide between him or herself and an anonymous stranger. The Secret Spouse game is the dictator game played between the respondent and the

[1] Polygamous families were excluded because the household bargaining structures between three or more adults are likely to be very different from the traditional model of a two adult household.

[2] While a full census by the survey team would have been a preferable method of compiling the eligible couple list, budget constraints were limiting.

[3] Either a Town Council Hall, a boarding house for handicapped children, a polytechnic university, or a small resort.

[4] An additional two varieties of the dictator game were played with respondents (Spouse Stranger and Stranger Stranger, in which the respondent makes allocations between two other people), but are not discussed in this paper.

respondent's spouse. The game is secret in the sense that the decisions of the respondent were not revealed to the respondent's spouse. In the Public Spouse game, the respondent's decisions were revealed to the respondent's spouse when the games winnings were distributed at the follow-up interview. The games were played in a random order. The Public and Secret Spouse games were always played following one another to increase respondent understanding, with the starting game randomized. Two-thirds of the sample played the Secret Stranger game and all participants played the spouse games.

The games were played by a field assistant reading a standardized script to each respondent individually and asking the respondent to drop the tokens into plastic cups labeled Self, Spouse, and Stranger. The script was forward and back translated into the local language (Dholuo). The games were played over 5, 10, and 25 tokens. Tokens were worth 20 shillings (about \$0.22) if kept and 30 shillings (\$0.32) if given away. The value of the token was increased if given away so as to allow for the observation of inefficient choices between spouses. With the increased value of a token given away, household income is maximized by the respondent giving all the tokens to his or her spouse. When a respondent chooses to keep some for him or herself instead, we can be sure of measuring other motives.

Respondents were informed that all of their choices in the games would be entered into the computer and one chosen at random to come true. The computer would also pick random strangers for the stranger games. It was emphasized that because respondents could win any game for themselves, and could receive money from their own, their spouse's, or a stranger's game, they could be sure that their choices in the Secret Spouse game would remain secret. Winnings from the games were distributed one week later at the end of the follow-up interview. Respondents were not informed of which game they and their spouse won unless one won a Public Spouse game. If a respondent or their spouse won a Public Spouse game, both were informed of the token amount, its division, and the amounts of money won by each. Respondents were not informed by the study team how much their spouse won in the games; however, because respondents were required to attend with their spouses and likely returned to their home together, it is likely that respondents discussed their winnings with their spouse.

Payouts from the games ranged from 0 to 1270 shillings. The average payout per respondent was 316 KSH. As a point of reference, the mean payout was 20% of baseline reported weekly male income, and 49% of weekly female income.

The English text of the games script can be found in the appendix.

3 Measuring Responses to Asymmetric Information

3.1 Why the dictator game?

Laboratory games are useful in measuring economic behavior because they abstract from the full complications of real life and allow us to focus on one choice made in a controlled environment. The dictator game was one of the first economic laboratory games, and it is certainly the simplest. A respondent is given a sum of money and asked to divide that money between himself and a partner. In the first study to use dictator games (Kahneman, Knetsch, and Thaler 1986) the respondent did not know the identity of his partner, the partner would not be informed of the respondent's identity or choices, the choice was discrete (divide 50-50 or 90-10), and the price of giving was set at parity (one dollar subtracted from the respondent's pot translated to one dollar added to the partner's pot). In the subsequent 25 years, each of these aspects of the game has been varied and studied.[5]

I chose the dictator game because it is the easiest game to explain to respondents. My sample was drawn from a rural area and included elderly respondents, two populations that are generally less educated and less literate, which made comprehension a concern. Remember that the main object of interest is not the specific percentage of tokens given in any one game, but rather how respondents *change* their behavior between public and secret games. My goal was to use the simplest game possible so that respondents would easily understand the basic game, and easily understand how their incentives change when their actions may be revealed. Had I chosen a more complicated game, such as a voluntary contribution game[6] or prisoner's dilemma,[7] my fear was that respondents would not as clearly understand the basics, become cognitively fatigued more quickly, and start responding randomly without regard to strategic incentives. The dictator game accomplishes my purpose, and attempts no more.

[5] See Camerer 2003 for a survey of the literature.

[6] A voluntary contribution game is one in which each respondent makes a contribution towards the purchase of a public good simultaneously. If the sum total of contributions exceeds a known threshold (the price of the public good), then all respondents benefit from its purchase. If the sum total does not exceed the threshold, all contributions are forfeited. All choices usually remain anonymous.

[7] The prisoner's dilemma is a game in which the respondent chooses one action (cooperate or don't cooperate) and the partner also simultaneously chooses an action. The combination of actions determines the payoffs for each respondent.

3.2 What are we measuring?

There is of course much debate over the interpretation of giving in dictator games. Is it altruism?[8] Fairness norms?[9] Hawthorne[10] or John Henry effects?[11] In this paper, I remain agnostic on what exactly the baseline anonymous dictator game measures. Instead, I assume that it is the *difference* in choices between games that is informative. Specifically, it is the difference between what the respondent chooses when their spouse will be informed of their decision and what the respondent chooses when their choices will remain secret that is important. This difference in choices is what I will take as a measure of opportunism. In this draft, the existence of opportunism is measured by a dummy variable indicating that the respondent kept more for themselves in the secret game than they did in the public game.[12]

3.3 Previous Laboratory Games with Couples

This study is not the first to use laboratory games to measure behavior between couples. Unur, Peters, and Schultze (2007) play dictator games with couples, other relations, and strangers, studying the effect of relatedness on altruism in the dictator game. The authors find that spouses transfer more to each other than to other types of people, but do not examine the determinants of sharing or matching within couples. Chao and Kohler (2007) play triple dictator games[13] and trust games[14] in Malawi between spouses, family members, neighbors, and strangers. The authors find the average percent given to partner is 35% while spouses give 40%. Men transfer 8.7 pp more to their wives than women do to their husbands, but this difference is not statistically significant. Again, the authors do not study matching within couples. Iverson et al. 2011 play a complex combination of voluntary contribution and dictator games with couples in Southeastern Uganda, finding that 1) on average households do not maximize total surplus, 2) both sexes contribute more in the public goods game when women have control over the allocation in the second stage dictator game, and most relevantly, that 3) couples that have the same educational attainment and occupation contribute more to the common pot, suggesting that assortative matching increases household

[8] By altruism, I mean the propensity to give resources to the partner even though the respondent does not gain from that transfer.

[9] By fairness norms, I mean the propensity to divide resources roughly evenly between people. We could also think of this as inequality aversion.

[10] A Hawthorne effect occurs when a respondent alters their behavior to conform with what the respondent thinks the experimenter wants to occur. The classic example is that workers in the Hawthorne Works plant increased their productivity on the assembly line regardless of the intervention, but responded by increasing their productivity any time they were being observed.

[11] A John Henry effect occurs when a respondent alters their behavior to contradict what the respondent thinks the experimenter wants to occur. In the field experimental literature, researchers are sometimes concerned that respondents who are assigned to a control group, and do not receive the treatment, will alter their behavior in retaliation.

[12] Future work will examine opportunistic behavior at a finer scale, and will extend beyond a simple binary measure.

[13] A triple dictator game is a dictator game in which the amount given is tripled, while the tokens kept for one's self are valued at parity.

[14] A trust game is one in which a respondent contributes some of his allocation to a central pot, the amount in the central pot is increased in value (the pot "earns interest"), and the respondent's partner chooses how to allocate the final amount.

efficiency.

3.4 Aggregating Across Multiple Observations

Each respondent was observed making six choices with respect to their spouse: decisions in either secret or public, over 5, 10, or 25 tokens. I gathered multiple observations to increase the statistical power with which I can test different hypotheses, but as with any repeated observations, the econometrician must decide how to aggregate the observations.

In this draft, I will examine behavior in only the 25 token game. Using observations for only one token amount will allow a conservative estimate of matching behavior. I chose the 25 token game because at high stakes, choices are especially salient for respondents.[15] In future work, I plan a more thorough use of the multiple token amounts, including an aggregation using techniques from item response theory.

3.5 Methods for Measuring Matching

In this draft, I will measure matching within couples using the simplest metrics possible. I begin with a simple correlation coefficient and its analog in the linear probability model. Including covariates computes the equivalent of a correlation between residuals. I will also show a Pearson's χ^2 test of independence statistic. Future work will include more sophisticated measures of matching.

3.5.1 Correlations and the Linear Probability Model

The simplest measure of assortative matching with a binary characteristic is a correlation. We first define opportunistic behavior as a binary variable and calculate the correlation coefficient between his and her indicators. We then take a positive correlation to be indicative of assortative matching. We can calculate a similar statistic through a linear regression of an indicator for the respondent's behavior on an indicator for the spouse's behavior and include a constant but no covariates. The estimated coefficient is a rescaling of the correlation coefficient[16]

We can also compute the partial correlation or run the linear regression model with covariates to estimate the correlation after controlling for the effect of those covariates on an individual's likelihood of behaving strategically.

[15] Note, however, that respondents don't change their behavior much across games. Table 2 shows means and standard deviations for all token amounts pooled, and then just for the 25 token game.

[16] The rescaling factor either equal to $\frac{var(variable_{his})}{var(variable_{hers})}$ or $\frac{var(variable_{hers})}{var(variable_{his})}$.

The linear probability model can be written as

$$S_i = \beta_0 + \delta S_j (+\beta_X X_i) + \epsilon_i \tag{1}$$

where S_i is an individual's own binary indicator, S_j is that individual's spouse's binary indicator, and x_i are the sometimes included own covariates and x_j are the sometimes included spouse's covariates. The model should be run for men and women separately, or with errors clustered at the couples level if observations are pooled. The model predicts the likelihood that the respondent is opportunistic given that their spouse is, with the unit of analysis being an indicator of opportunistic behavior at the individual level.

3.5.2 Pearson's χ^2 Test of Independence between Distributions

We can calculate a simple χ^2 test that the joint distribution of his and her opportunistic behavior is just the product of his and her individual marginal distributions.[17] The test statistic is

$$\sum_{ij} \frac{(n_{ij} - m_{ij})^2}{m_{ij}} \sim \chi^2 \tag{2}$$

where n_{ij} is the number of observations in cell ij (e.g. The number of couples in which both members are not opportunistic) and $m_{ij} = (\frac{n_i}{n})(\frac{n_j}{n})n$, n_i is the number of members of sex i who behave opportunistically, and thus m_{ij} is the expected number of couples who are in cell ij under the assumption of independence. The test statistic is distributed χ^2 with the null of independence between the husband and wife distributions.

4 Background Results

Before we examine matching between spouses, it is first useful to look at average behavior in the games and demographic predictors of individual behavior. I will not discuss these results in detail here, but rather include them for context. I discuss these background results in depth in another paper, while in this paper I would like to focus on matching.

4.1 Average Behavior in the Games

Figures 1, 2, and 3 first show histograms of the percentage of tokens given in each of the Secret Stranger, Secret Spouse, and Public Spouse games, broken out by gender. The figures also show kernel densities of the variables, split again by gender and plotted on the same chart to allow easy comparisons. Finally, the

[17] This is equivalent to what sociologists call the log-linear model of contingency tables when that contingency table is 2x2. Future work that examines opportunistic behavior at a finer scale will likely use log-linear models for polytomous variables.

figures also show scatter plots of the man's choice in the 25 token game (on the y-axis) plotted against the woman's choice in the same game.[18]

Notice first that the modal answer in most games is to give 40% of tokens. While this is an uneven distribution of tokens, it is an even distribution of money, as tokens given away are worth 30 ksh while tokens kept are worth 20 ksh. Notice next that men appear to change their behavior more between the Secret Spouse and Public Spouse games than do women, with men giving away more in the public game than in the secret game.

Next, observe that while the male and female distribution of responses in the Secret Stranger game are basically identical, men and women behave differently in the spouse games. Men are more likely to give more to their wives than are women to their husbands.

Table 2 summarizes play in the three games. The first column shows the means of male behavior in each of the three games, pooling all token amounts together. The second column shows pooled means for women, while the next two columns show means in just the 25 token game. First note that men give 33.2% in the 25 token Secret Stranger game. This result is in line with other studies in general, and is not much different than the result of 26.3% given in Jakiela 2009's Busia, Kenya sample. Next notice that men give substantially more to their spouses in the Secret Spouse game than to a stranger in the Secret Stranger game, giving 47.0% to their wives, consistent with the results in Unur, Peters, and Schultz 2007 and Chao and Kohler 2007. Finally, men give even more on average when their wives can observe their actions; they give 56.6% in the Public Spouse game. That men change their behavior when their wives will find out their choices is consistent with Ashraf 2009.

Patterns for women are broadly the same. Women keep 34.4% on average in the Secret Stranger game. This is in line with other studies, as is the result that women are a bit more generous than men on average.[19] Women also give more to their husbands in the Secret Stranger game (40.0%) than they do in the Secret Stranger game, and give more still in the Public Spouse game (47.4%). That women change their behavior when their husbands will find out is not consistent with Ashraf 2009, who finds that only in household where the husband is the primary financial decision maker do women respond to asymmetric information.

The last two columns of Table 2 show OLS regressions of the percentage of tokens given in the 25 token game on indicators for the type of game. That respondents give more in public than in secret is statistically significant, while the estimate of a larger gap for men than for women is not statistically significant.

It is very surprising that the average amount given to the spouse isn't higher, especially in the public games. Remember that tokens given are worth 30 KSH while tokens kept are worth only 20 KSH. If

[18] I used the jitter option to allow the observation of multiple couples clustered on the same point.

[19] Andreoni and Vesterlund 2001 review the evidence on gendered giving in the dictator game, and find that men are price sensitive in their altruism while women are not.

the respondent were trying to maximize household income, he should give all the tokens to his spouse. Maximizing total household income is simply not observed in this sample. Almost no one gave everything to their spouse; in only 44 of 2414 Secret Spouse game observations (1.8%) did the respondent give all tokens to their spouse. A few more gave all to the spouse in the Public Spouse game (84 of 2417 observations, or 3.5%), but it's still a very small minority. This evidence resoundingly rejects the notion that respondents maximize household income in this population, a clear rejection of the unitary model of household decision making.

The reader may be concerned that respondents did not understand that tokens given were worth more than tokens kept. This hypothesis can be rejected for several reasons. First, the enumerator explained many times that tokens given were worth more than tokens kept (see game scripts in the appendix). Respondents were given a sheet that showed the value of tokens to assist in their understanding, and were asked questions at every stage to check their understanding. If the respondent answered a question incorrectly, the instructions were repeated until the respondent could answer the check correctly. Second, the modal answer in most games was to give 40% of tokens, leading to an even split in monetary value. This indicates that most respondents were balancing the monetary awards that each participant would take home, indicating that they did understand the value of each token. Finally, respondents play the different types of game systematically differently, keeping more in games played against a stranger than against a spouse. That respondents give more when playing against their spouse, and give more still when their spouse will find out about their choices, indicates that the respondents understand the structure of the games.

4.2 Demographics and the Secret Stranger Game

First, I explore the relationship between demographic variables and an indicator of generous behavior in the baseline dictator game, the Secret Stranger game. Table 3 shows results for the following regression specification:

$$k_{iSST} = \beta_0 + \beta_x X_i + \eta_n + \epsilon_i \tag{3}$$

where k_{iSST} is the percentage of tokens given by individual i in the SST (Secret Stranger) game. The vector X_i contains individual characteristics. The regressions are split by gender. The regression coefficients show the relationship between individual characteristics and altruism in the standard dictator game.

Columns 3 and 4 show a similar specification, but with the left-hand side variable defined as an indicator that the respondent gave more than 40% of their tokens to the stranger (i.e. gave more than half the money to the stranger).

The results together show several interesting patterns. Older women give more to strangers, while older

men are less likely to be generous. Men with more education give less to strangers than do less educated men, while women's generosity is unresponsive to education. Men give less when they report more transfers from their wife over the last week.

Interestingly, income does not have a strong effect on giving. Weekly income and other financial variables are not important predictors of altruism for men or women in the 25 token game.

4.3 Demographics and the Secret and Public Spouse Games

Table 4 show the relationship between demographics and choices in the Secret and Public Spouse games. The regression specification is:

$$k_i = \beta_p + \beta_{xg} X_i + \epsilon_i \tag{4}$$

Here k_i is the percentage of tokens given in either the Public or Secret Spouse game. β_{xg} are the coefficients on the individual characteristics in the regression for game g. The regressions are estimated separately for men and women. The first four columns show the regressions without including baseline altruism, while the second set shows results when giving in the Secret Stranger game is included.

First note that baseline altruism is related to spousal giving for women in both public and secret, while for men, baseline altruism is related to giving to their wives only in secret. This suggests that men who are altruistic to strangers interact less opportunistically toward their wives. On the other hand, women who are generous to strangers are also generous to their husbands, regardless of whether their husband will discover their actions or not.

Second, notice that respondents give less to their spouse in the secret game when they report their spouse is very aware of their purchases. This suggests a monitoring story. This result will be fully explored in another paper.

4.4 Demographic Correlates of Opportunistic Behavior

Next we look at which individuals respond to asymmetric information. Figure 4 shows graphical representations of the distribution of the difference between the public and secret 25 token games. The first panel shows a histogram for men, and the second panel shows a histogram conditional on giving more in the public game. The second row shows the same plots for women. First note that nearly 50% of individuals do not change their behavior between the public and secret games. The plots in the final row show kernel densities broken out by gender, showing us that not only are women less likely to change their behavior between games, they also change their behavior less when there is a difference.

In future work I would like to look at opportunistic behavior with a finer lens, but for this paper I use only

a binary variable. I define this variable as an indicator of "Gives More in Public Game." This is a variable indicates that the individual changes his behavior when his actions are revealed, responds to asymmetric information, and behaves opportunistically. Table 5 shows tabulations of this binary variable for husbands and wives. The top panel shows results for all individuals in the 25 token game. 39.2% of men change their behavior between games and give more in the public game. 36.9% of women behave opportunistically.

The second panel shows the same tabulation but excludes individuals that behave unusually. I define opportunistic behavior as giving more in the public game, and I would like to define "not opportunistic" as "does not change behavior between public and secret games." As happens in laboratory games, however, some individuals do not fit into these two categories, and instead give *less* when their actions are revealed to their spouse. Dropping these individuals eliminates 98 couples, or 25% of the sample. This loss is not unreasonable for laboratory games.[20] After eliminating those couples, we find that 44% of the remaining men behave opportunistically, as do 44% of women.

Table 6 shows results of linear prediction models of the indicator variable on the left hand side. The first two columns show results for men and women separately, and the third and fourth columns show the same specification with the addition of "altruism."

The results here confirm the patterns seen in Table 4. Men who are more altruistic to strangers are less likely to behave strategically toward their wives, while altruistic women are no more or less likely to behave strategically toward their husbands. Older men are less likely to behave strategically, while men with more education are more likely to behave strategically. This is true both conditional and unconditional on baseline altruism. Demographic variables are not strong predictors of strategic behavior for women.

Interestingly, the strategic behavior of men is much better explained by their individual characteristics than is the behavior of women. This can be seen both in the individual coefficients and is summarized by the R^2 terms (0.199 for men in the model including baseline altruism, compared to 0.055 for women).

5 Main Results

5.1 Matching on Altruism

We begin by examining whether husbands and wives are matched on "altruism." The final panel of Figure 1 shows a scatter plot of husband and wife giving in the 25 token Secret Stranger game for the true matches observed in the data. There is no obvious correlation between husband and wife's behavior. Indeed, the correlation between husband and wife's giving in the 25 token Secret Stranger game is 0.0398, which is not

[20] I need a reference here.

significantly different from zero.

Next we examine matching in a linear regression framework. Table 7 shows OLS regression results. The first two columns show a regression of own giving in the 25 token Secret Stranger game regressed on spouse's giving in the same game and a constant. The first column shows results for men and the second for women.[21] Columns 3 and 4 show the same regressions but this time control for covariates. Controlling for covariates allows us to address the correlation between the *unexplained* portion of the husband's altruism and the *unexplained* portion of the wife's altruism. Again we see no statistical evidence for matching on altruism.

Table 8 shows results for matching on altruism as measured by a binary variable. I create an indicator for "More Than Fair," or gives more that 40% in the Secret Stranger Game. Again we see no matching on altruism between spouses.

5.2 Matching on Opportunistic Behavior

Now we move on to see if couples are matched on their opportunistic behavior. Figure 5 shows scatter plots of husband and wife opportunistic behavior in the 25 token game. The first panel shows all couples, while the second excludes men who give less in the public game and the third panel excludes such women. There is no obvious correlation between husband and wife's behavior. Table 5 shows crosstabs of matching on this binary indicator of opportunistic behavior for the 25 token game. By this measure, opportunistic men are slightly more likely to be married to opportunistic women than are non-opportunistic men. In the 25 token game, non-opportunistic men are paired with opportunistic women in 32.2% of observations, while opportunistic men are married to opportunistic women in 44.2% of observations. The simple correlation of this binary measure in the 25 token game is 0.1208, which is statistically different from zero with a p-value of 0.0166. The chi-squared statistic for a test of independence between the husband and wife distributions is 5.73, which rejects the null at a p-value of 0.017.

As a robustness check, the second panel of Table 5 shows a cross tabulation of opportunistic behavior after excluding couples in which one or both give *less* in the public game (a choice that is inconsistent with theory). The patterns after excluding these couples are roughly similar and stronger. The correlation between husband's and wife's choices is .1088 in this restricted sample and is statistically different from zero with a p-value of 0.000. The Pearson's χ^2 statistic for independence between the husband and wife distributions is 6.40, which rejects the null at a p-value of 0.011.

Next we test for matching on this binary measure of opportunistic behavior using regression analysis. We first run a simple regression of an indicator for own opportunistic behavior in the 25 token game on spouse's

[21] Note that the coefficients in these regressions are just rescalings of each other. The first shows the covariance between husband and wife behavior scaled by the variance of male behavior, while the second shows the covariance scaled by the variance of female behavior.

opportunistic behavior with a constant. The first two columns of Table 9 show these simple regressions for men and women. As the correlation showed, men and women married to opportunistic spouses are more likely to be opportunistic themselves. Including covariates does not change the point estimate or significance of the spouse's opportunistic indicator.[22] Table 10 shows the same regressions including a control for the respondent's giving in the 25 token secret stranger game. We see that after controlling for men's "altruism", the opportunistic behavior of their wife is no longer an important predictor of male opportunistic behavior. Women's opportunistic behavior, on the other hand, is not affected by their baseline altruism, while the opportunistic behavior of their husband continues to be an important predictor. The last two columns of the table show results when controlling for other covariates.

Running the same analysis on only those couples who give the same or more in the public game yields roughly the same results. Tables 12 and 13 in the appendix present this robustness check.

6 Discussion and Conclusion

This paper explores the relationship between a respondent's play and their spouse's choices in a variety of dictator games. I find no evidence of assortative matching on play in the traditional dictator game (the Secret Stranger game). This suggests that couples are not sorted on their generosity to strangers. Using the difference in play between a dictator game played against the spouse in secret and another game played in public, I measure opportunistic behavior between spouses. Approximately the same fraction of men and women behave opportunistically (39% of men and 37% of women). A variety of model specifications find that opportunism is positively correlated between spouses. In the richest model specification, a woman is 16.5 percentage points more likely to be opportunistic if her husband is, a 28% increase. The coefficient for men is also positive, but after controlling for a man's altruism, the opportunistic behavior of his wife is not significantly correlated with his opportunistic behavior.

These results have important implications for how we formulate new non-cooperative models of the household. New models that relax the assumption of perfect contracting and incorporate mismatched fundamental preferences (such as time preferences) suggest that in misaligned couples, *both* members of the couple should behave opportunistically to enforce their preferences on the household. While the data here indicate that there is some degree of assortative matching on opportunistic behavior, the sorting is far from perfect. This

[22]The covariates include an indicator that the respondent played the secret game before the public game (this was randomly assigned), the respondent's age, educational attainment, number of children, total weekly income, share of weekly household income (with a dummy for missing values, as many people said they didn't know their spouse's income), the percentage of the respondent's expenditures they said their spouse benefitted from, the percentage of expenditures they said their spouse knew about, an indicator that the respondent said "I am the primary financial decision maker", an indicator that the respondent said "My spouse is the primary financial decision maker (the omitted category is "We make financial decisions together equally"), and transfer to and from the spouse over the past week.

evidence suggests that in addition to relaxing the assumption of perfect contracting, we should allow for asymmetric information between couples, perhaps especially about fundamental preferences.

In future work, I hope to explore whether we find evidence of learning about fundamental preferences over time, as reflected in increasing homogamy in opportunistic behavior over the course of the marriage.

References

Anderson, S., & Baland, J. M. (2002). The Economics of Roscas and Intrahousehold Resource Allocation. Quarterly Journal of Economics, 117(3), 963-995. MIT Press.

Andreoni, James and Lise Vesterlund (2001) "Which is the fair sex? Gender differences in altruism." Quarterly Journal of Economics

Ashraf, Nava (2009) "Spousal Control and Intra-Household Decision Making: An Experiment in the Phillipines." American Economic Review 99(4): 1245-1277.

Becker, Gary (1965) "A Theory of the Allocation of Time." The Economic Journal 75(299): 493-517.

Browning, M., & Chiappori, P. A. (1998). 11Efficient intra-household allocations : A general characterization and empirical tests." Econometrica, 66(6), 1241-1278.

Camerer, Colin. (2003) Behavioral Game Theory.

Chao, L., and Kohler, H.-P. (2007) "The Behavioral Economics of Altruism , Reciprocity , and Transfers within Families and Rural Communities : Evidence from Sub-Saharan Africa." PARC Working Paper Series, (March).

Chiappori, P.-A. and O. Donni (2009). "Non-unitary Models of Household Behavior: A Survey of the Literature." Working Paper.

Chiappori, P. A., Fortin, B., & Lacroix, G. (2002). Marriage Market , Divorce Legislation , and Household Labor Supply. Journal of political Economy, 110(1), 37-72.

Cochard, Francois, Helene Couprie, and Astrid Hopfensitz (2009) "Do Spouses Cooperate? And if Not: Why?" Working Paper

Duflo, E., & Udry, C. (2004). Intrahousehold Resource Allocation in Cote d??Ivoire: Social Norms, Separate Accounts and Consumption Choices. Working Paper.

Hertzberg, Andrew (2012) "Exponential Individuals, Hyperbolic Households." Working Paper.

Hoel, Jessica (2012) "Which Spouses Behave Strategically? Laboratory Evidence from Kenya and its Implications for Models of the Household." Working Paper.

Iversen, V., Jackson, C., Kebede, B., Munro, A., and Verschoor, A. (2011). "Do Spouses Realise Cooperative Gains? Experimental Evidence from Rural Uganda." World Development, 39(4), 569-578.

Jakiela, Pamela (2009) "How Fair Shares Compare: Experimental Evidence from Two Culture" Working Paper

Kahneman, Daniel, Jack Knetsch, and Richard Thaler (1986) "Fairness as a constraint on profit seeking: Entitlements in the market." American Economic Review 76:728-741.

Klohnen, E. C., & Mendelsohn, G. A. (1998). "Partner selection for personality characteristics: A couple-centered approach." Personality and Social Psychology Bulletin, 24, 268278.

Luo, Shanhong & Eva Klohnen (2005). "Assortative Mating and Marital Quality in Newlyweds: A Couple-Centered Approach." Journal of Personality and Social Psychology 88(2) 304-326.

Manser, M., & Brown, M. (1980). Marriage and household decision-making: A bargaining analysis. International Economic Review, 21(1), 31-44.

Mazzocco, Maurizio (2004) "Saving, Risk Sharing, and Preferences for Risk." The American Economic Review 94(4) 1169-1182.

McElroy, M. B., & Horney, M. J. (1981). Nash-bargained household decisions: Toward a generalization of the theory of demand. International Economic Review, 22(2)

Robinson, Jonathan. (2012) "Limited Insurance within the Household: Evidence from a Field Experiment in Kenya." American Economic Journal: Applied Economics, forthcoming.

Schaner, Simone. (2012) "Intrahousehold Preference Heterogeneity, Commitment, and Strategic Savings: Theory and Evidence from Kenya." Working Paper.

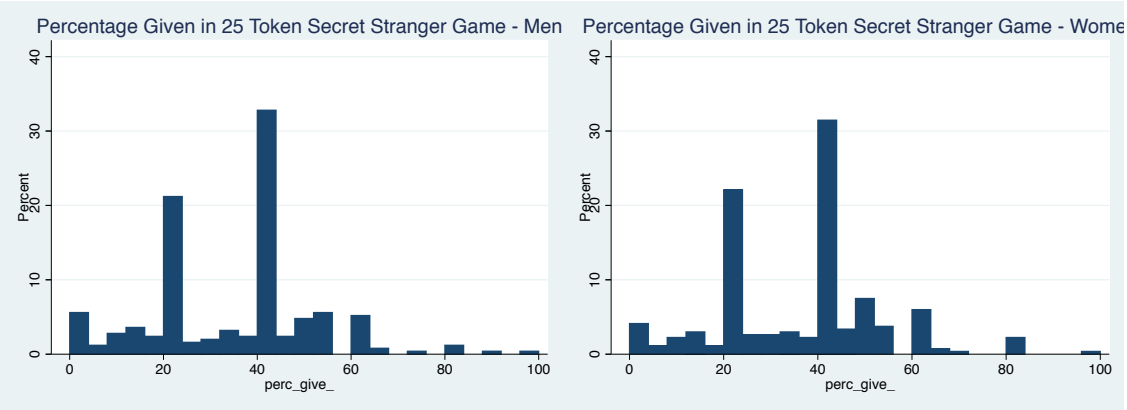
Unur, A. Sinan, H. Elizabeth Peters, and William D. Schultze (2007) "Altruism and Relatedness in a Multi-Person Dictator Experiment" Working Paper

Figures

Figure 1: Pictures of Secret Stranger Distributions

(a) Men: Secret Stranger, 25 token

(b) Women: Secret Stranger, 25 token



(c) Kernel Density Secret Stranger: Men v. Women, 25 token game

(d) Scatter of Altruism within Spouses: 25 token game

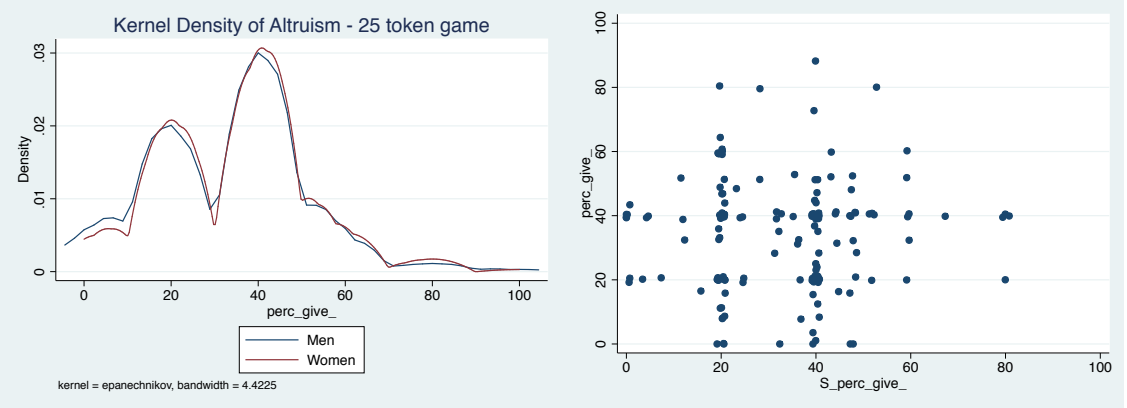
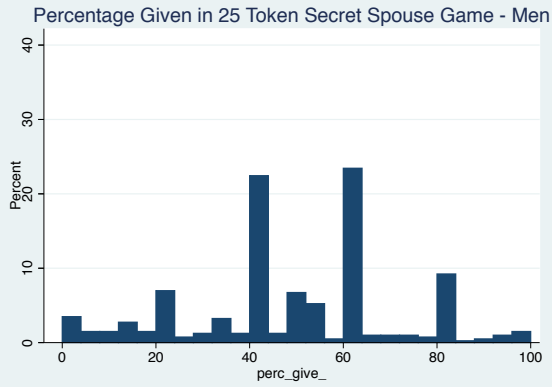


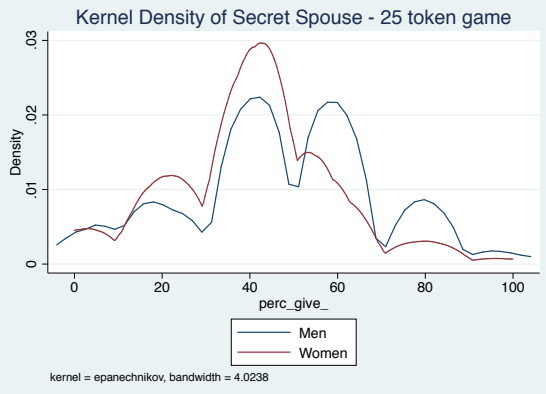
Figure 2: Pictures of Secret Spouse Distributions

(a) Men: Secret Spouse, 25 token



(b) Women: Secret Spouse, 25 token

(c) Kernel Density Secret Spouse: Men v. Women, 25 token game



(d) Scatter of Secret Spouse within Spouses: 25 token game

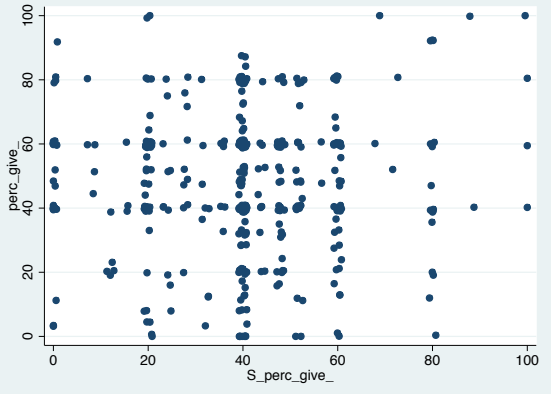
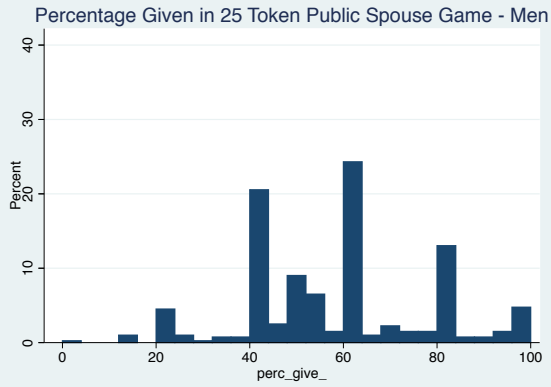
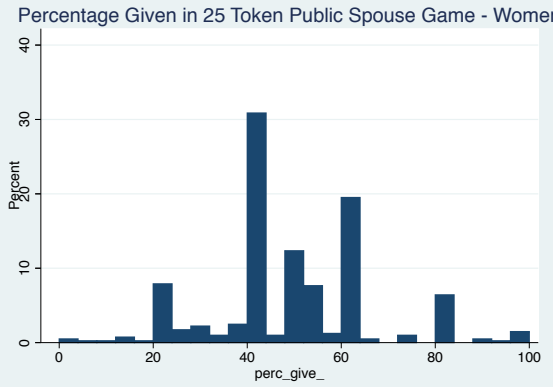


Figure 3: Pictures of Public Spouse Distributions

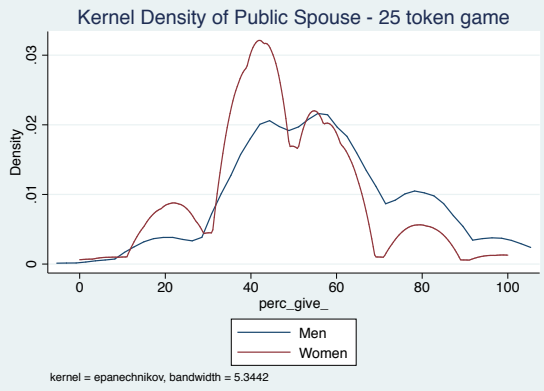
(a) Men: Public Spouse, 25 token



(b) Women: Public Spouse, 25 token



(c) Kernel Density Public Spouse: Men v. Women, 25 token game



(d) Scatter of Public Spouse within Spouses: 25 token game

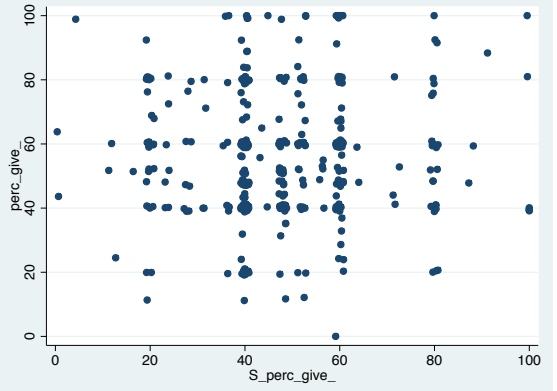
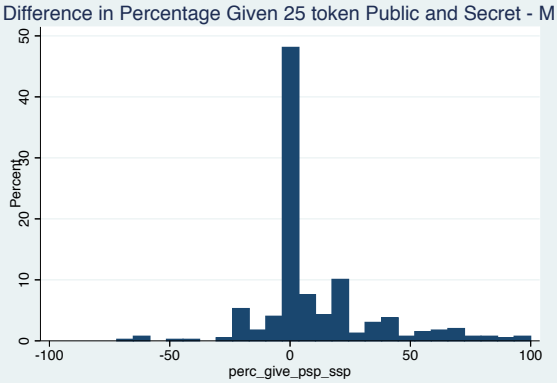


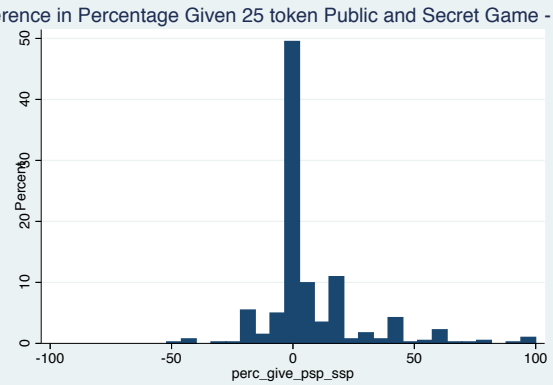
Figure 4: Pictures of Strategy Distributions

(a) Men: Strategy, 25 token

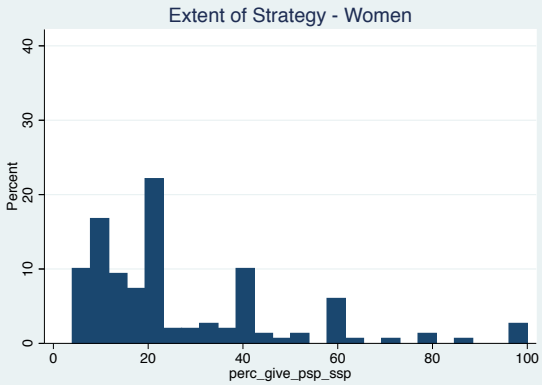


(b) Men: Conditional on Positive Strategy, 25 token

(c) Women: Strategy, 25 token



(d) Women: Conditional on Positive Strategy, 25 token



(e) Kernel Density Strategy: Men v. Women, 25 token game

(f) Kernel Density Strategy, Conditional: Men v. Women, 25 token game

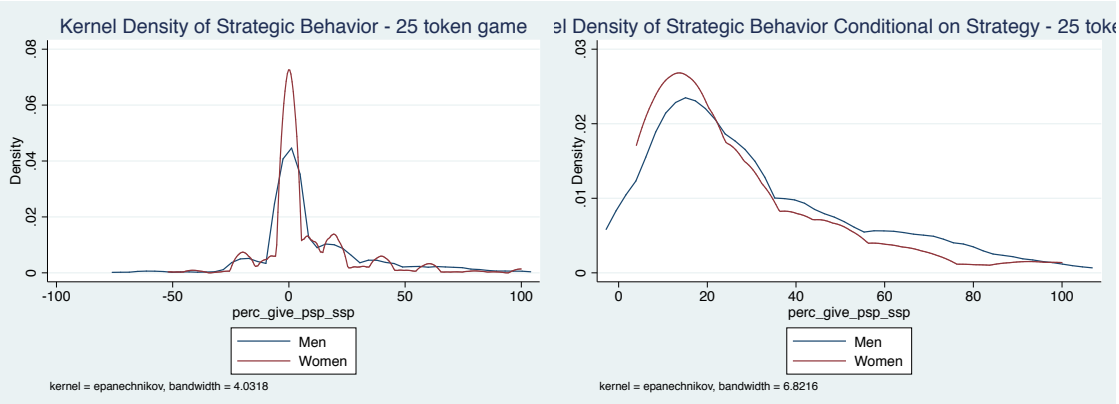
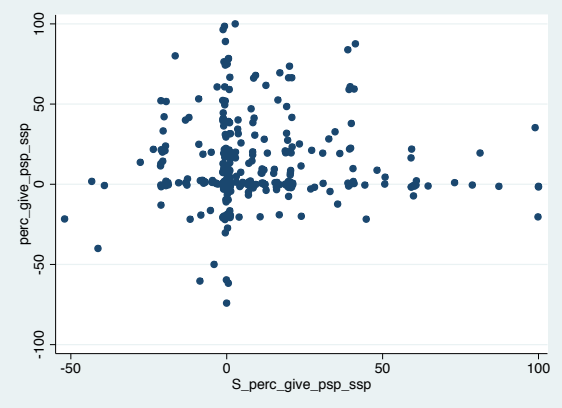
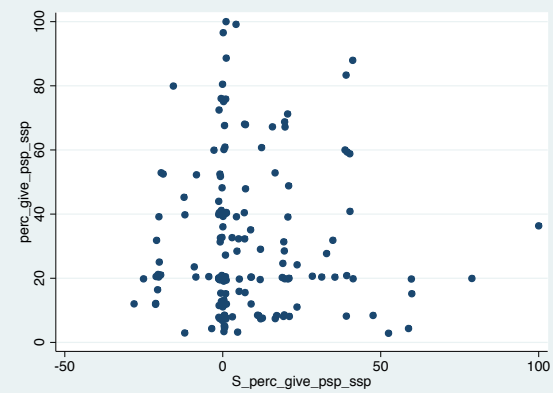


Figure 5: More Pictures of Strategy Distributions

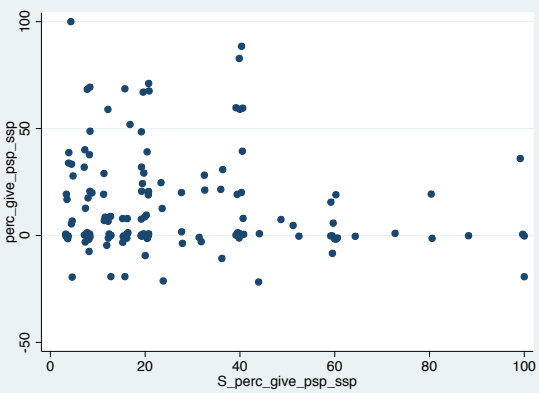
(a) Scatter of Strategy within Spouses: 25 token game



(b) Scatter of Strategy within Spouses, Conditional on Men Pos Strat: 25 token game



(c) Scatter of Strategy within Spouses, Conditional on Women Pos Strat: 25 token game



Tables

Table 1: Summary Statistics, Demographics and Finances: Means, Standard Deviations, 25th and 75th Percentiles

	Men		**Women**	
	Mean (StD)	p25 p75	Mean (StD)	p25 p75
Age	46.7 (16.55)	32 60	37.02 (14.08)	25 47
Education	7.87 (3.7)	6 11	6.4 (3.57)	5 8
Number of Living Children	3.86 (2.58)	2 5	3.79 (2.36)	2 5
Total Income Last Week, Thousands of KSH	1.55 (4.71)	0 1.25	0.65 (2.28)	0.01 0.55
Share of Couple's Income Last Week	49.45 (40.26)	0 86.96	53.31 (44.6)	0 100
Missing: Share of Couple's Income Last Week	0.26 (0.44)	0 1	0.3 (0.46)	0 1
Share of Expenditures that Benefit Spouse	70.51 (32.32)	49.59 100	85.07 (21.52)	77.01 100
Share of Expenditures Known to Spouse	87.13 (24.94)	87.91 100	86.16 (25.3)	86.31 100
I am the Primary Financial Decision Maker	0.46 (0.5)	0 1	0.29 (0.46)	0 1
My Spouse is the Primary Financial Decision Maker	0.15 (0.36)	0 0	0.33 (0.47)	0 1
Transfers to Spouse Last Week, Thousands of KSH	0.21 (0.4)	0 0.29	0.02 (0.13)	0 0
Transfers from Spouse Last Week, Thousands of KSH	0.03 (0.36)	0 0	0.18 (0.75)	0 0.15
Length of Partnership, Moved In	19.9 (15.56)	7 31	17.09 (13.97)	5 27
Length of Partnership, Married	19.66 (15.56)	6 31	16.67 (13.99)	5 26

Table 2: Summary of Game Play

Percentage of Tokens Given

VARIABLES	Male Means All Obs.	Female Means All Obs.	Male Means 25 Token Game	Female Means 25 Token Game	OLS: Pooled 25 Token Game	OLS: Interactions 25 Token Game
Constant (Secret Stranger)	34.00	35.91	33.18	34.43	33.83***	34.43***
	(16.83)	(17.49)	(17.57)	(17.21)	(0.764)	(1.053)
Secret Spouse	46.82	41.71	47.03	40.06	9.711***	5.633***
	(21.08)	(18.82)	(22.18)	(19.18)	(0.968)	(1.326)
Public Spouse	55.84	48.44	56.58	47.37	18.11***	12.94***
	(18.35)	(16.59)	(19.67)	(17.17)	(0.967)	(1.207)
Male (Secret Stranger)						-1.243
						(1.531)
Male * Secret Spouse						8.216***
						(1.918)
Male * Public Spouse						10.46***
						(1.908)
Observations	406 couples * 2 people * 3 games				2,125	2,125
R-squared					0.115	0.145
F-test Secret = Public					113.5	51.75
Prob > F					0	0
F-test Secret Male = Secret Public						2.016
Prob>F						0.156

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

Table 3: Demographic Predictors of Play in Secret Stranger Game

VARIABLES	(1) Men Linear	(2) Women Linear	(3) Men I(More Than Fair)	(4) Women I(More Than Fair)
Age	0.00133	0.195*	-0.00354*	0.000655
	(0.0794)	(0.105)	(0.00209)	(0.00249)
Education	-1.001***	0.400	-0.0272***	0.00165
	(0.369)	(0.388)	(0.00932)	(0.00944)
Number of Living Children	0.151	-0.758	0.0142	-0.00601
	(0.460)	(0.536)	(0.0109)	(0.0127)
Total Income Last Week	0.325	0.431	0.0110	0.0117
	(0.391)	(0.762)	(0.00733)	(0.0295)
Share of Couple's Total Income Last Week	-0.0331	0.0214	-0.000128	-0.000189
	(0.0409)	(0.0416)	(0.000958)	(0.000984)
Missing: Share of Couple's Total Income Last Week	-1.617	2.318	0.0826	-0.00261
	(3.932)	(4.089)	(0.0979)	(0.0982)
Share of Expenditures that Benefit Spouse	-0.0250	-0.0855	0.000232	-0.00257
	(0.0330)	(0.0562)	(0.000783)	(0.00173)
Share of Expenditures Known to Spouse	-0.0151	-0.0112	-0.00169	-0.00101
	(0.0452)	(0.0487)	(0.00109)	(0.00112)
I am the Primary Financial Decision Maker	-0.365	4.970	-0.0744	0.0424
	(2.467)	(3.043)	(0.0613)	(0.0734)
My Spouse is the Primary Financial Decision Maker	0.328	3.262	-0.00683	-0.00935
	(3.462)	(2.560)	(0.0881)	(0.0660)
Transfers to Spouse Last Week	-0.275	-20.28	-0.0765	-0.462
	(3.600)	(20.43)	(0.0863)	(0.305)
Transfers from Spouse Last Week	-19.28**	-0.337	-0.272	0.0239
	(8.721)	(0.965)	(0.194)	(0.0304)
Played Secret before Public Spouse Game	2.217	1.076	0.0609	0.0652
	(2.500)	(2.268)	(0.0572)	(0.0565)
Constant	44.30***	31.04***	0.664***	0.512**
	(7.687)	(9.348)	(0.204)	(0.249)
Observations	230	249	230	249
R^2	0.072	0.043	0.082	0.037

Robust standard errors in parentheses

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

Table 4: Demographic Predictors of Play, Secret and Public Spouse Games

VARIABLES	(1) Men Secret	(2) Men Public	(3) Women Secret	(4) Women Public	(5) Men Secret	(6) Men Public	(7) Women Secret	(8) Women Public
Percent Given, Secret Stranger					0.311***	-0.00786	0.199**	0.289***
					(0.101)	(0.0921)	(0.0963)	(0.0764)
Age	0.176**	0.0776	0.0443	0.0764	0.193**	0.0591	0.101	0.0531
	(0.0734)	(0.0730)	(0.0852)	(0.0679)	(0.0929)	(0.0944)	(0.0964)	(0.0838)
Education	-0.345	0.391	0.211	0.361	-0.351	0.361	0.488	0.450
	(0.366)	(0.318)	(0.384)	(0.288)	(0.407)	(0.414)	(0.452)	(0.349)
Number of Living Children	-0.259	0.364	-0.0582	-0.793**	0.0801	0.321	-0.0892	-0.668
	(0.407)	(0.393)	(0.422)	(0.383)	(0.588)	(0.452)	(0.484)	(0.428)
Total Income Last Week	0.428***	0.293	-0.274	-0.592***	0.201	0.179	-0.536	-1.283*
	(0.153)	(0.208)	(0.219)	(0.140)	(0.212)	(0.211)	(1.298)	(0.700)
Share of Couple's Total Income Last Week	-0.0738	-0.0783*	0.0331	0.0265	0.0240	-0.0425	0.0448	0.0459
	(0.0507)	(0.0410)	(0.0343)	(0.0314)	(0.0584)	(0.0500)	(0.0381)	(0.0342)
Missing: Share of Couple's Total Income Last Week	-3.885	-8.399**	6.092*	3.923	5.443	-5.437	9.094**	7.197**
	(4.641)	(3.522)	(3.360)	(3.111)	(5.384)	(4.239)	(4.096)	(3.579)
Share of Expenditures that Benefit Spouse	-0.0544	-0.0539	0.117***	0.0883**	-0.0371	-0.0322	0.164***	0.212***
	(0.0358)	(0.0332)	(0.0448)	(0.0409)	(0.0410)	(0.0423)	(0.0594)	(0.0524)
Share of Expenditures Known to Spouse	-0.117***	-0.0169	-0.0854**	-0.0189	-0.131***	-0.0299	-0.0922**	-0.0420
	(0.0402)	(0.0433)	(0.0404)	(0.0376)	(0.0480)	(0.0514)	(0.0446)	(0.0403)
I am the Primary Financial Decision Maker	1.688	1.196	0.816	-3.551	3.702	1.452	0.523	-2.587
	(2.520)	(2.226)	(2.494)	(2.354)	(3.099)	(2.981)	(2.815)	(2.486)
My Spouse is the Primary Financial Decision Maker	3.453	2.950	2.490	-1.633	-1.322	0.658	1.952	-1.792
	(3.235)	(3.388)	(2.494)	(2.095)	(3.933)	(4.399)	(3.026)	(2.537)
Transfers to Spouse Last Week	0.224	-0.247	0.636	7.222***	7.094*	2.849	-14.79	-7.774
	(2.586)	(2.142)	(2.634)	(1.758)	(3.796)	(3.324)	(9.460)	(5.785)
Transfers from Spouse Last Week	1.186	-0.812	1.178	0.908	9.227	-3.592	1.165	1.365
	(0.796)	(0.870)	(0.742)	(0.588)	(11.15)	(9.217)	(1.376)	(0.828)
Played Secret before Public Spouse Game	-3.761*	0.466	-1.410	1.512	-2.293	0.220	-2.533	0.156
	(2.212)	(2.021)	(2.047)	(1.814)	(2.777)	(2.624)	(2.467)	(2.113)
Constant	61.18***	58.14***	30.32***	37.48***	35.67***	55.08***	16.48*	16.46*
	(7.996)	(7.785)	(7.702)	(6.784)	(10.66)	(10.48)	(9.911)	(8.537)
Observations	375	372	377	378	229	226	248	249
R^2	0.079	0.042	0.045	0.043	0.169	0.031	0.105	0.172

Robust standard errors in parentheses

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

Table 5: Binary Opportunism Crosstab, 25 token game

All

Man ⇓	Woman ⇒ Not Opportunistic	Opportunistic	Total
Not Opportunistic	162	77	236
row perc.	67.78	32.22	-
col. perc.	65.32	53.10	60.81
Opportunistic	86	68	154
row perc.	55.84	44.16	-
col. perc.	34.68	46.90	39.19
Total	248	145	393
row perc.	63.10	36.90	-

χ^2 statistic=5.7329 Pr = 0.017

Excluding Couples in Which One or Both Members Give Less in the Public Game

Man ⇓	Woman ⇒ Not Opportunistic	Opportunistic	Total
Not Opportunistic	103	62	165
row perc.	62.42	37.58	-
col. perc.	62.42	47.69	55.93
Opportunistic	62	68	130
row perc.	47.69	52.31	-
col. perc.	37.58	52.31	44.07
Total	165	130	295
row perc.	55.93	44.07	-

χ^2 statistic=6.4024 Pr = 0.011

Table 6: Demographic Predictors of Opportunistic Behavior

VARIABLES	(1) OLS Men	(2) OLS Women	(3) OLS Men	(4) OLS Women
Percent Given, Secret Stranger			-0.00500**	-0.00119
			(0.00198)	(0.00180)
Age	-0.00491***	0.000823	-0.00573***	-0.00316
	(0.00181)	(0.00233)	(0.00214)	(0.00298)
Education	0.0181**	0.00365	0.0244***	-0.000404
	(0.00779)	(0.00874)	(0.00906)	(0.0110)
Number of Living Children	0.00207	-0.0328***	0.00487	-0.0270**
	(0.00943)	(0.0106)	(0.0116)	(0.0123)
Total Income Last Week	-0.00535	-0.00614	-0.00449	0.00490
	(0.00413)	(0.00603)	(0.00400)	(0.0293)
Share of Couple's Total Income Last Week	0.000746	-0.000545	-0.000161	-0.000737
	(0.000982)	(0.000935)	(0.00119)	(0.00115)
Missing: Share of Couple's Total Income Last Week	0.00357	-0.141	-0.175	-0.121
	(0.0897)	(0.0903)	(0.108)	(0.114)
Share of Expenditures that Benefit Spouse	-0.00108	-0.00166	-0.00102	-0.00142
	(0.000771)	(0.00128)	(0.000917)	(0.00179)
Share of Expenditures Known to Spouse	0.00199**	0.000639	0.00244**	0.000363
	(0.000989)	(0.00100)	(0.00123)	(0.00119)
I am the Primary Financial Decision Maker	-0.0747	-0.0616	-0.0422	-0.0408
	(0.0561)	(0.0648)	(0.0716)	(0.0810)
My Spouse is the Primary Financial Decision Maker	0.0846	-0.0588	0.171*	-0.0592
	(0.0782)	(0.0625)	(0.101)	(0.0787)
Transfers to Spouse Last Week	-0.0226	0.284***	-0.132	0.358
	(0.0665)	(0.0835)	(0.0847)	(0.604)
Transfers from Spouse Last Week	-0.0734***	-0.0249	-0.192	-0.0276
	(0.0195)	(0.0161)	(0.267)	(0.0320)
Played Secret before Public Spouse Game	0.139***	0.00283	0.0961	-0.0125
	(0.0508)	(0.0505)	(0.0655)	(0.0616)
Constant	0.298	0.656***	0.535**	0.821***
	(0.181)	(0.212)	(0.232)	(0.277)
Observations	371	377	225	248
R^2	0.109	0.049	0.199	0.055

Robust standard errors in parentheses

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

Table 7: Secret Stranger Matching

VARIABLES	(1) Men	(2) Women	(3) Men	(4) Women
Spouse: Percent Given, Secret Stranger	0.0419	0.0377	0.0512	0.0101
	(0.0841)	(0.0756)	(0.0959)	(0.0817)
Age			-0.0160	0.196
			(0.115)	(0.127)
Education			-0.772	0.434
			(0.494)	(0.439)
Number of Living Children			0.445	-1.409**
			(0.570)	(0.611)
Total Income Last Week			0.146	-0.453
			(0.302)	(1.424)
Share of Couple's Total Income Last Week			0.0398	0.0384
			(0.0575)	(0.0453)
Missing: Share of Couple's Total Income Last Week			5.145	3.734
			(5.764)	(4.584)
Share of Expenditures that Benefit Spouse			-0.0297	-0.179**
			(0.0458)	(0.0816)
Share of Expenditures Known to Spouse			-0.00208	-0.0459
			(0.0611)	(0.0520)
I am the Primary Financial Decision Maker			-0.897	6.586*
			(3.385)	(3.633)
My Spouse is the Primary Financial Decision Maker			-1.923	5.160
			(4.831)	(3.288)
Transfers to Spouse Last Week			0.467	-12.50
			(4.117)	(22.97)
Transfers from Spouse Last Week			-21.05*	-3.943
			(12.62)	(5.397)
Played Secret before Public Spouse Game			-0.0224	6.266**
			(3.198)	(2.766)
Constant	32.51***	32.08***	37.02***	39.23***
	(3.122)	(2.873)	(11.20)	(11.30)
Observations	159	159	146	146
R^2	0.002	0.002	0.073	0.139

Standard errors in parentheses

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

Table 8: Secret Stranger Matching, Indicator for Give More than Fair

VARIABLES	(1) Men I(More Than Fair)	(2) Women I(More Than Fair)	(3) Men I(More Than Fair)	(4) Women I(More Than Fair)
Spouse: Give More Than 40%, Secret Stranger	-0.00212	-0.00216	0.0329	-0.0244
	(0.0789)	(0.0807)	(0.0868)	(0.0865)
Age			-0.00341	0.000667
			(0.00259)	(0.00328)
Education			-0.0268**	0.00496
			(0.0113)	(0.0114)
Number of Living Children			0.0100	-0.0138
			(0.0130)	(0.0161)
Total Income Last Week			0.00556	-0.0185
			(0.00699)	(0.0365)
Share of Couple's Total Income Last Week			0.000229	0.000454
			(0.00132)	(0.00119)
Missing: Share of Couple's Total Income Last Week			0.170	0.0840
			(0.133)	(0.120)
Share of Expenditures that Benefit Spouse			-2.64e-05	-0.00399*
			(0.00105)	(0.00214)
Share of Expenditures Known to Spouse			-0.00276*	-0.00139
			(0.00140)	(0.00136)
I am the Primary Financial Decision Maker			-0.0897	0.0841
			(0.0792)	(0.0950)
My Spouse is the Primary Financial Decision Maker			-0.153	-0.0176
			(0.111)	(0.0864)
Transfers to Spouse Last Week			-0.0433	-0.544
			(0.0966)	(0.602)
Transfers from Spouse Last Week			-0.303	-0.0340
			(0.289)	(0.141)
Played Secret before Public Spouse Game			0.0421	0.154**
			(0.0737)	(0.0721)
Constant	0.208***	0.214***	0.782***	0.575*
	(0.0365)	(0.0368)	(0.256)	(0.292)
Observations	159	159	146	146
R^2	0.000	0.000	0.115	0.081

Standard errors in parentheses

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

Table 9: Matching on Opportunism, 25 token game

VARIABLES	(1) Men	(2) Women	(3) Men	(4) Women
Spouse: Give More in Public	0.122**	0.119**	0.113**	0.126**
	(0.0508)	(0.0496)	(0.0515)	(0.0537)
Age			-0.00497***	0.00105
			(0.00192)	(0.00232)
Education			0.0164**	0.00120
			(0.00798)	(0.00857)
Number of Living Children			0.00324	-0.0336***
			(0.0103)	(0.0117)
Total Income Last Week			-0.00636	-0.00477
			(0.00561)	(0.0116)
Share of Couple's Total Income Last Week			0.000815	-0.000142
			(0.000955)	(0.000933)
Missing: Share of Couple's Total Income Last Week			0.00110	-0.0862
			(0.0891)	(0.0914)
Share of Expenditures that Benefit Spouse			-0.00113	-0.00146
			(0.000768)	(0.00125)
Share of Expenditures Known to Spouse			0.00190*	0.000954
			(0.000999)	(0.00104)
I am the Primary Financial Decision Maker			-0.0749	-0.0524
			(0.0548)	(0.0656)
My Spouse is the Primary Financial Decision Maker			0.0888	-0.0486
			(0.0763)	(0.0619)
Transfers to Spouse Last Week			-0.0142	0.303
			(0.0675)	(0.184)
Transfers from Spouse Last Week			-0.0809	-0.0223
			(0.0682)	(0.0346)
Played Secret before Public Spouse Game			0.137***	-0.00556
			(0.0506)	(0.0508)
Constant	0.347***	0.322***	0.281	0.529**
	(0.0309)	(0.0311)	(0.184)	(0.210)
Observations	393	393	368	370
R^2	0.015	0.015	0.121	0.063

Standard errors in parentheses

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

Table 10: Matching on Opportunism including "altruism" as a covariate, 25 token game

VARIABLES	(1) Men	(2) Women	(3) Men	(4) Women
Spouse: Give More in Public	0.0489	0.146**	0.0435	0.165**
	(0.0647)	(0.0606)	(0.0653)	(0.0654)
Percent Given, Secret Stranger	-0.00543***	-0.000597	-0.00497***	-0.000478
	(0.00177)	(0.00172)	(0.00185)	(0.00178)
Age			-0.00549**	-0.00221
			(0.00241)	(0.00291)
Education			0.0240**	-0.00184
			(0.0100)	(0.0105)
Number of Living Children			0.00414	-0.0280*
			(0.0124)	(0.0143)
Total Income Last Week			-0.00490	0.00489
			(0.00644)	(0.0289)
Share of Couple's Total Income Last Week			-0.000159	-0.000323
			(0.00118)	(0.00109)
Missing: Share of Couple's Total Income Last Week			-0.180	-0.0800
			(0.113)	(0.109)
Share of Expenditures that Benefit Spouse			-0.00104	-0.00104
			(0.000977)	(0.00178)
Share of Expenditures Known to Spouse			0.00237*	0.000991
			(0.00121)	(0.00122)
I am the Primary Financial Decision Maker			-0.0445	-0.0335
			(0.0713)	(0.0806)
My Spouse is the Primary Financial Decision Maker			0.169*	-0.0600
			(0.0981)	(0.0760)
Transfers to Spouse Last Week			-0.131	0.437
			(0.0918)	(0.593)
Transfers from Spouse Last Week			-0.193	-0.0239
			(0.309)	(0.0432)
Played Secret before Public Spouse Game			0.0969	-0.0213
			(0.0656)	(0.0618)
Constant	0.560***	0.310***	0.525**	0.591**
	(0.0718)	(0.0727)	(0.240)	(0.277)
Observations	242	259	223	246
R^2	0.042	0.024	0.197	0.080

Standard errors in parentheses

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

A Additional Tables

Table 11: Demographic Predictors of Opportunistic Behavior, Drop Couples that Give Less in Public

VARIABLES	(1) OLS Men	(2) OLS Women	(3) OLS Men	(4) OLS Women
Percent Given, Secret Stranger			-0.00475**	-0.00202
			(0.00211)	(0.00193)
Age	-0.00533***	-0.000359	-0.00633***	-0.00512
	(0.00199)	(0.00254)	(0.00228)	(0.00347)
Education	0.0201**	0.00369	0.0251**	-0.000838
	(0.00856)	(0.00950)	(0.00979)	(0.0123)
Number of Living Children	0.00243	-0.0384***	0.00871	-0.0339*
	(0.00981)	(0.0133)	(0.0111)	(0.0173)
Total Income Last Week	-0.00730*	-0.00767	-0.00530	0.0141
	(0.00389)	(0.00654)	(0.00427)	(0.0335)
Share of Couple's Total Income Last Week	0.00117	-0.000517	0.000443	-0.00118
	(0.00104)	(0.00104)	(0.00125)	(0.00129)
Missing: Share of Couple's Total Income Last Week	0.0428	-0.166*	-0.158	-0.168
	(0.0959)	(0.0996)	(0.113)	(0.126)
Share of Expenditures that Benefit Spouse	-0.00125	-0.00154	-0.00105	-0.00128
	(0.000831)	(0.00135)	(0.000976)	(0.00194)
Share of Expenditures Known to Spouse	0.00136	0.000445	0.00222	0.000130
	(0.00113)	(0.00116)	(0.00137)	(0.00142)
I am the Primary Financial Decision Maker	-0.115*	-0.0466	-0.0683	-0.00392
	(0.0609)	(0.0695)	(0.0768)	(0.0889)
My Spouse is the Primary Financial Decision Maker	0.117	-0.0390	0.218**	-0.0489
	(0.0869)	(0.0691)	(0.110)	(0.0877)
Transfers to Spouse Last Week	-0.0680	0.294***	-0.201**	0.0933
	(0.0711)	(0.0864)	(0.0849)	(0.621)
Transfers from Spouse Last Week	-0.0778***	-0.0807	-0.142	-0.0504
	(0.0192)	(0.0895)	(0.264)	(0.126)
Played Secret before Public Spouse Game	0.139**	-0.0187	0.101	-0.0283
	(0.0556)	(0.0554)	(0.0708)	(0.0674)
Constant	0.424**	0.802***	0.587**	1.059***
	(0.196)	(0.230)	(0.252)	(0.310)
Observations	323	327	199	211
R^2	0.131	0.059	0.224	0.087

Robust standard errors in parentheses

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

Table 12: Matching on Opportunism, 25 token game, Drop Couples that Give Less in Public

VARIABLES	(1) Men	(2) Women	(3) Men	(4) Women
Spouse: Give More in Public, drop Negative	0.147**	0.147**	0.150**	0.140**
	(0.0578)	(0.0578)	(0.0585)	(0.0627)
Age			-0.00534**	0.000102
			(0.00221)	(0.00282)
Education			0.0206**	-0.00400
			(0.00935)	(0.01000)
Number of Living Children			0.00312	-0.0433***
			(0.0116)	(0.0150)
Total Income Last Week			-0.0100*	-0.00619
			(0.00573)	(0.0122)
Share of Couple's Total Income Last Week			0.00201*	-1.12e-05
			(0.00110)	(0.00111)
Missing: Share of Couple's Total Income Last Week			0.0975	-0.106
			(0.105)	(0.108)
Share of Expenditures that Benefit Spouse			-0.000666	-0.00132
			(0.000890)	(0.00141)
Share of Expenditures Known to Spouse			0.00173	0.000265
			(0.00120)	(0.00124)
I am the Primary Financial Decision Maker			-0.0880	-0.0635
			(0.0633)	(0.0766)
My Spouse is the Primary Financial Decision Maker			0.0946	-0.0345
			(0.0908)	(0.0727)
Transfers to Spouse Last Week			0.00499	0.345*
			(0.0725)	(0.198)
Transfers from Spouse Last Week			-0.0911	-0.0846
			(0.0684)	(0.100)
Played Secret before Public Spouse Game			0.132**	-0.0140
			(0.0595)	(0.0594)
Constant	0.376***	0.376***	0.195	0.750***
	(0.0384)	(0.0384)	(0.214)	(0.247)
Observations	295	295	276	281
R^2	0.022	0.022	0.158	0.084

Standard errors in parentheses

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

Table 13: Matching on Opportunism including "altruism" as a covariate, 25 token game, Drop Couples that Give Less in Public

VARIABLES	(1) Men	(2) Women	(3) Men	(4) Women
Spouse: Give More in Public, drop Negative	0.0944	0.168**	0.0844	0.158**
	(0.0739)	(0.0725)	(0.0735)	(0.0787)
Percent Given, Secret Stranger	-0.00486**	-0.00143	-0.00441**	-0.00125
	(0.00214)	(0.00206)	(0.00218)	(0.00218)
Age			-0.00552**	-0.00281
			(0.00277)	(0.00365)
Education			0.0278**	-0.00714
			(0.0116)	(0.0125)
Number of Living Children			0.00871	-0.0416**
			(0.0142)	(0.0194)
Total Income Last Week			-0.00879	0.00895
			(0.00660)	(0.0337)
Share of Couple's Total Income Last Week			0.00174	-0.000611
			(0.00143)	(0.00134)
Missing: Share of Couple's Total Income Last Week			-0.0379	-0.133
			(0.140)	(0.132)
Share of Expenditures that Benefit Spouse			-0.000558	-0.000868
			(0.00113)	(0.00213)
Share of Expenditures Known to Spouse			0.00241*	-0.000135
			(0.00143)	(0.00152)
I am the Primary Financial Decision Maker			-0.0399	-0.0608
			(0.0844)	(0.0968)
My Spouse is the Primary Financial Decision Maker			0.187	-0.0452
			(0.116)	(0.0910)
Transfers to Spouse Last Week			-0.105	0.618
			(0.0984)	(0.840)
Transfers from Spouse Last Week			-0.163	-0.0712
			(0.323)	(0.139)
Played Secret before Public Spouse Game			0.0772	-0.0316
			(0.0774)	(0.0747)
Constant	0.549***	0.399***	0.307	0.926***
	(0.0867)	(0.0903)	(0.284)	(0.347)
Observations	179	190	166	183
R^2	0.038	0.034	0.233	0.112

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

B Game Scripts

Note: The games were implemented with respondents by a trained native Dholuo speaker in Dholuo in an individual interview. The scripts were written in English, then forward and backtranslated twice into Dholuo. The scripts shown here are in English. Dholuo translations are available on request.

INTRODUCTION TO GAMES

Thank you for your participation in the survey. Now I would like to invite you to participate in some games. First, I will give you some instructions for the game. You should feel free to ask me to repeat something if you dont catch it at first. After the instructions, I will ask you a few questions to check your understanding. Its ok if you dont answer the questions correctly at first; I will just repeat the instructions of the game.

GENERAL GAME INSTRUCTIONS

1. In these games you will have a chance to win real money. Jessica, the leader of this project, has arranged for the money. The money you win has come from Jessicas school so that she can complete this project.

2. These games you will play with a partner. In some games your partner will be your husband/wife. But in some of the games your partner will be a stranger.

3. You will make two types of decisions [hold up two fingers]; 1) secret decisions and 2) public decisions. For the secret decision, I will not tell anyone about your choices except Jessica, the leader of this project. For the public decision you make I will tell only your partner and Jessica, but no one else in your village.

4. Today we will play several different games over different amounts of money. One of these games will come true.

5. We will enter all of your games into the computer in the office. The computer will randomly decide which game comes true. We will then combine your choices with the choices of your partners, and together they will determine how much money you win.

6. You will receive your money next week when we come back for a follow up interview.

Now I would like to ask you a few questions to check your understanding of the instructions. If you dont understand some part, I will just repeat the instruction and that will be fine.

Questions about General Game Instructions

FO Instructions: If the respondent answers correctly, say "Yes, thats right" then repeat the correct answer. If the respondent answers incorrectly, follow the instructions given on the line.

1. Where did the money come from? [Jessicas School; if wrong, repeat #1.]

2. Who will be your partner in these games? [My spouse or a stranger; if wrong, repeat #2.]

3. When your decision is secret, who will I tell about your choice? [No one except the leader of this project; if wrong, repeat #3.]

4. When your decision is public who will I tell about your choices? [My partner and the leader of this project only; if wrong, repeat #3.]

5. Will I ever tell your village elder about your choices? [No. If wrong, say "I will sometimes tell your partner, but I will never tell anyone else in your village about your choices."]

6. Of the many games we play today, how many of your choices will come true? [One; if wrong, repeat #4.]

7. How will we pick which of your games come true? [The computer will pick randomly; if wrong, repeat #5.]

8. When will you receive your money from the game that comes true? [Next week; if wrong, repeat #6]

Great! Now that you understand the general rules of the games, lets talk about one game in specific.

SECRET STRANGER DECIDER GAME

(If the first:) Now lets play the first game. This game is called the Secret Stranger Decider Game.

(If not the first:) Now lets play a different game. This game is called the Secret Stranger Decider Game. The rules are a bit the same and a bit different from the last game.

Game Rules

1. Your partner is a stranger. I cant tell you who the stranger is and I will never tell the stranger who you are.

2. At the end of the week we will put the names of those who participated into the computer and will pick out one randomly to be your stranger partner.

3. Your choices in this game will be secret. I will not tell the stranger how you have played. I will also not tell anyone else in the village how you have played.

4. In this game I will give you bottle caps that represent real money.

5. You can keep all these bottle caps and money for yourself or you can give some or all to the stranger.

6. The bottle caps you keep are worth ksh20 for yourself. But if you give them to the stranger, they are worth ksh30 to the stranger. For example, if you keep 3 bottle caps, they are worth 60 shillings to you. If you give 3 bottle caps, they are worth 90 shillings to the stranger. You can use this sheet to help you understand the value of the bottle caps. This column shows how much the caps are worth if you keep them and this column shows how much the caps are worth if you give them.

7. Here are two labeled tins. This one is labeled SELF and this one is labeled STRANGER 1. Drop the bottle caps you would like to keep in the tin labeled SELF and the bottle caps you would like to give in the tin labeled STRANGER 1.

8. Because this game is secret, the stranger will not know if you give them money, and they will also not know if you do not give them money. Again I would like to ask you a few questions to check your understanding of the rules of the Secret Stranger Decider Game.

Questions for Secret Stranger Game

FO Instructions: If the respondent answers correctly, say "Yes, thats right" then repeat the correct answer. If the respondent answers incorrectly, follow the instructions given on the line.

1. Here are 5 bottle caps. If you keep them by putting them in the SELF tin (FO: Demonstrate), how much are they worth to you? [100ksh; if wrong, repeat #6]

2. If you give the 5 bottle caps by putting them in the STRANGER tin (FO: Demonstrate), how much are they worth to the stranger? [150ksh; if wrong, repeat #6]

3. Who is your partner for this game? [A stranger; if wrong, repeat #1]

4. Will I tell your partner what you decided? [No; if wrong, repeat #3]

5. Will I tell your husband/wife what you decided? [No; if wrong, repeat #3]

Ok! Now lets play the game! Here are 5 bottle caps. You can make your choice as you wish.

Ok. You have chosen to keep X bottle caps worth X to you and give X bottle caps worth X to the stranger. Is that correct?

If no, "Ok, here are the 5 bottle caps again. You can make your choice as you wish."

If yes, "Ok, lets continue. Here are 10 bottle caps. You can make your choice as you wish."

FO: Repeat for other values as needed.

SECRET SPOUSE DECIDER GAME

(If the first:) Now lets play the first game. This game is called the Secret Spouse Decider Game.

(If not the first:) Now lets play a different game. This game is called the Secret Spouse Decider Game. The rules are a bit the same and a bit different from the last game.

Game Rules

1. Your partner in this game is your spouse.

2. Your choices in this game will be secret. I will not tell your spouse how you have played. I will also not tell anyone else in the village how you have played.

3. In this game I will give you bottle caps that represent real money.

4. You can keep all these bottle caps and money for yourself or you can give some or all to your spouse.

5. The bottle caps you keep are worth ksh20 for yourself. But if you give them to your spouse, they are worth ksh30 to your spouse. For example, if you keep 2 bottle caps, they are worth 40 shillings to you. If you give 2 bottle caps, they are worth 60 shillings to your spouse. You can use this sheet to help you understand the value of the bottle caps. This column shows how much the caps are worth if you keep them and this column shows how much the caps are worth if you give them.

6. Here are two labeled tins. This one is labeled SELF and this one is labeled SPOUSE. Drop the bottle caps you would like to keep in the tin labeled SELF and the bottle caps you would like to give in the tin labeled SPOUSE.

7. Because this game is secret, your spouse will not know that the money comes from you. They will not know if you give them money, and they will also not know if you do not give them money.

Again I would like to ask you a few questions to check your understanding of the rules of the Secret Spouse Decider Game.

Questions for Secret Spouse Game

FO Instructions: If the respondent answers correctly, say "Yes, thats right" then repeat the correct answer. If the respondent answers incorrectly, follow the instructions given on the line.

1. Here are 7 bottle caps. If you keep them by putting them in the SELF tin (FO: Demonstrate), how much are they worth to you? [140ksh; if wrong, repeat #5]

2. If you give the 7 bottle caps by putting them in the SPOUSE tin (FO: Demonstrate), how much are they worth to your spouse? [210ksh; if wrong, repeat #5]

3. Who is your partner for this game? [Spouse; if wrong, repeat #1]

4. Will I tell your spouse what you decided? [No; if wrong, repeat #2]

5. Will I tell your village elder what you decided? [No; if wrong, repeat #2]

6. Will your spouse know how much you gave to them in this game? [No; if wrong, repeat #7]

Ok! Now lets play the game! Here are 5 bottle caps. You can make your choice as you wish.

Ok. You have chosen to keep X bottle caps worth X to you and give X bottle caps worth X to your spouse. Is that correct?

If no, "Ok, here are the 5 bottle caps again. You can make your choice as you wish."

If yes, "Ok, lets continue. Here are 10 bottle caps. You can make your choice as you wish."

FO: Repeat for other values as needed.

PUBLIC SPOUSE DECIDER GAME

(If the first:) Now lets play the first game. This game is called the Public Spouse Decider Game.

(If not the first:) Now lets play a different game. This game is called the Public Spouse Decider Game. The rules are a bit the same and a bit different from the last game.

Game Rules

1. Your partner in this game is your spouse.

2. Your choices in this game will be public. I will tell your spouse how you have played. But, I will not tell anyone else in the village how you have played.

3. In this game I will give you bottle caps that represent real money.

4. You can keep all these bottle caps and money for yourself or you can give some or all to your spouse.

5. The bottle caps you keep are worth ksh20 for yourself. But if you give them to your partner, they are worth ksh30 to your spouse. For example, if you keep 10 bottle caps, they are worth 200 shillings to you. If you give 10 bottle caps, they are worth 300 shillings to your spouse. You can use this sheet to help you understand the value of the bottle caps. This column shows how much the caps are worth if you keep them and this column shows how much the caps are worth if you give them.

6. Here are two labeled tins. This one is labeled SELF and this one is labeled SPOUSE. Drop the bottle caps you would like to keep in the tin labeled SELF and the bottle caps you would like to give in the tin labeled SPOUSE.

Again I would like to ask you a few questions to check your understanding of the rules of the Public Spouse Decider Game.

Questions for Public Spouse Game

FO Instructions: If the respondent answers correctly, say "Yes, thats right" then repeat the correct answer. If the respondent answers incorrectly, follow the instructions given on the line.

1. Here are 9 bottle caps. If you keep them by putting them in the SELF tin (FO: Demonstrate), how much are they worth to you? [180ksh; if wrong, repeat #5]

2. If you give the 9 bottle caps by putting them in the SPOUSE tin (FO: Demonstrate), how much are they worth to your spouse? [270ksh; if wrong, repeat #5]

3. Who is your partner for this game? [Spouse; if wrong, repeat #1]

4. Will I tell your spouse what you decided? [Yes; if wrong, repeat #2]

5. Will I tell your village elder what you decided? [No; if wrong, repeat #2]

Ok! Now lets play the game! Here are 5 bottle caps. You can make your choice as you wish.

Ok. You have chosen to keep X bottle caps worth X to you and give X bottle caps worth X to your spouse. Is that correct?

If no, "Ok, here are the 5 bottle caps again. You can make your choice as you wish."

If yes, "Ok, lets continue. Here are 10 bottle caps. You can make your choice as you wish."

FO: Repeat for other values as needed.