

Are women expected to be more generous?*

Fernando Aguiar
IESA-CSIC, Córdoba

Pablo Brañas-Garza and Ramón Cobo-Reyes
University of Granada

Natalia Jiménez
University of Alicante and University of Granada

Luis Miller
Max Planck Institute of Economics

January 25, 2008

Abstract

This paper analyzes if men and women *are expected to behave differently regarding altruism*. Since the dictator game provides the most suitable design for studying altruism and generosity in the lab setting, we use a modified version to study the beliefs involved in the game. Our results are substantial: men and women are expected to behave differently. Moreover, while women believe that women are more generous, men consider women as generous as men.

Keywords: dictator game, beliefs, expectations, generosity, gender.

JEL Class.: C91, D64, J16.

1 Introduction

A vast amount of the literature in Social Sciences analyzes differences in behavior between men and women. This includes relevant topics of economic inquiry such as labor segregation, gender pay gap and patterns of tacit discrimination. In the last two decades, experimentalists have contributed to this research by providing explanations based on the differences in preferences between men and women (see Croson and Gneezy, 2006).¹

*We thank Tim Cason and two anonymous referees for their helpful comments and suggestions. Also, Martha revised the English language of this version. Financial support is gratefully acknowledge by Spanish Ministry SEJ2007-62081/ECON, Junta de Andalucía P07-02547 and CEA (SOCH2.05/43).

¹Experimental economists have just continued a fruitful line of research developed by experimental and social psychologists. For a review of the psychological evidence, see Eagly (1995).

Experimental economics have focused mainly in three different domains where gender bias is present. First, several experimental and field investigations have shown that women are more risk averse than men (Eckel and Grossman forthcoming). Second, men react very differently than women when facing highly competitive environments (Gneezy et al. 2003; Gneezy and Rusticini 2004; Niederle and Vesterlund 2007). Note that these two findings are also quite consistent with an evolutionary account of sex differences in preferences (Croson and Gneezy 2006).

The third domain where gender differences have been found is social preferences. However, as Cox and Deck (2006) analysis shows, the magnitude and direction of these differences are far from being known and explained. One potential reason for the latter is the fact that experimental economics research on gender and social preferences have mainly explored *behavioral* disparities (i.e., differences in revealed preferences). This paper contributes to this debate by exploring differences in beliefs between men and women, i.e., not gender differences *per se* but how subjects perceive behavioral differences between men and women.²

As a first attempt to address *perceived* gender differences in social preferences, in this paper, we examine a clear and straightforward question: Do subjects hold special beliefs for females regarding generosity? This first approximation is related only to individuals' perceived generosity.³ To achieve this end, we performed a highly intuitive design. Subjects (recipients) received detailed instructions explaining the dictator game and were then shown two boxes. The box on the left contained 20 dictatorial allocations made by 20 females, while the box on the right contained another 20 divisions made by 20 males. The experimental subjects were told that they would receive the amount of money written on one, just one, of the slips of paper drawn randomly (with replacement) from one of the two boxes. The subjects' task involved choosing one of the two boxes.⁴ They were also asked to fill out a questionnaire.

The results are substantial: *i*) only one-third of the subjects chose the "men" box; *ii*) almost 80% of women chose the female box; *iii*) only 52% of males prefer the male box.

The rest of the paper is structured as follows: design is described in Section 2, results are shown in Section 3 followed by a discussion of our main result in Section 4.

²Although the question about beliefs of others' generosity has not adequately being addressed by experimental economists, many papers elicit and report the beliefs of the participants in situations that trigger social preferences. Specifically, there are some evidence on the role played by gender beliefs on social preferences. See, for instance, Eckel and Grossman (2002) on risk-taking and stereotyping, or Buchan et al. (forthcoming) on trust.

³The Slovin and Gabardino (forthcoming) study has some similarities to ours, but they analyzed the frequency women and men choose a partner for both a Trust and a Dictator Game. Our design mainly differs from that of Slovin and Gabardino in the fact that subjects play both the role of dictator and recipient in their experiment while in ours, subjects play only as recipients.

⁴Recall that, whereas papers like Eckel and Grosman (1998) examine if women are more generous than men in DG, we explore if they are expected to be different.

2 Experimental design and procedures

Two different sessions were conducted at the University of Granada (Spain) with 40 and 28 participants, respectively. Subjects were recruited via posters placed throughout the University announcing the experiment. Individuals confirmed their attendance via E-mail.⁵ The two experimental sessions were conducted consecutively. Both experimental sessions were controlled in such a way as to prevent participants from communicating with one another.⁶ On average, each subject earned 8 euros (including a 2.5 euro show-up fee) for a one-hour session.

Subjects were given written instructions (see the attached file) which were also read aloud by the experimenter to ensure that all participants received the same information. Communication between subjects was not allowed.

The experiment was conducted in two different phases. In the first phase subjects were required to make four sequential decisions.⁷ Subjects were then asked to answer a short questionnaire asking them to justify their decisions during the experiment.

In the following, we focus on the basic task subjects faced. Two different boxes labeled “women” and “men” were placed at the front part of a room. Each box contained 20 slips of paper. Each slip was printed with the donation made by each of 40 dictators (20 women + 20 men) which were randomly selected -using a list of random numbers generated by computer- from an entire subject pool that had participated in previous sessions of a standard dictator game.⁸

The only decision participants had to make was to select the box they preferred (either the “women” or the “men” box). First, they have to write down their decision on a piece of paper (which had a code on the top right corner). After collecting the decision sheets of all participants, each subject was called with her code to extract one slip of paper from the box she had already chosen. The number printed on the slip of paper determined the money she would earn. After writing down the corresponding number of coins each participant had won, her slip of paper was put again in the specific box. Therefore, all participants faced the same sample of allocations.

The initial intuition underlying this design is based on the assumption that subjects want to maximize their expected payoffs and therefore participants tend to choose the box in which they expect to obtain a higher average payoff.

⁵Among the participants, 25 studied Economics, 27 Business, 6 Engineering, and 10 Humanities and Social Sciences.

⁶There are no statistical differences between participants’ behavior in the sessions regarding the main task of the experiment (Mann-Whitney $Z = -0.149, p = 0.881$).

⁷The first part of the experiment involved four steps: choosing a box, drawing a payment card and making two guesses regarding the money they expected to earn. However, only the first step is analyzed in this paper.

⁸This previous dictator game experiment was conducted at the University of Granada in January 2006. In that experiment every participant received ten 50-cent coins and was asked to divide this amount of money between herself and another unknown person. The minimum allocation was 0 and the maximum allocation was 5 (only one female allocation was above this range, giving 6 to the recipient). The mean of the 20 randomly selected female allocations was 3.2 and the standard deviation 1.73, whereas the mean male allocation was 2.45 and the standard deviation 1.96. For more details see Brañas-Garza (2007).

Thus, subjects’ choices will reveal their beliefs about which sex is more generous in the dictator game.

After completing all the tasks and answering the questionnaire, payoffs were calculated and subjects were paid in cash privately.

3 Results

We will now explore decisions of the participants. The results are summarized in Table 1 which shows the number of males choosing males and females and the number of females choosing females and males. Table 1 contains the 68 subjects who took the decision.

As reported in Table 1, the “women” box was chosen in 63.2% of the cases. This effect is even more evident when differentiating by gender (of subjects choosing the box). We observe that 78.7% of the females chose the “women” box. In contrast, only 48.6% of the males chose the “women” box. The χ^2 -Pearson test supports the hypothesis that the decision-makers’ sex does affect the choice of box ($\chi^2 = 6.67$, $p = 0.01$).

Table 1: SUBJECTS DECISIONS

		<i>females</i>	<i>males</i>	<i>total</i>
<i>Gender Chosen</i>	<i>women</i>	26(78.7%)	17	43(63.2%)
	<i>men</i>	7	18(51.4%)	25
	<i>total</i>	33	35	68

Result 1: Women do consider that they are more generous but males do not report any gender bias.

4 Conclusion

This paper explores a very interesting issue in experimental economics: which sex is expected to be “more generous”? With this aim we design a very simple mechanism. Subjects have to choose between two different boxes labelled “men” and “women” placed in a room. The boxes contain slips of paper printed with the decisions made by players in a previous dictator game. Subjects’ payoffs depend on the number printed on the slip of paper. Subjects only have to choose which box (men or women) they want their slip of paper to be randomly drawn from.

Our results are quite interesting: *i*) the majority of the population (63%) chose the box of women’s donations and, *ii*) this percentage is even stronger for women, if we make the analysis discriminating by gender (79% of women chose

the female box). In fact, women were more generous than men in the previous experiment (3.2 vs 2.45, on average).⁹

The fact that people entertain different beliefs, and thus different expectations, about the actions of men and women could influence labor market behavior in at least two different ways. First, if women are expected to be less competitive, this may turn into less job vacancies for women in highly competitive environments (usually the best paid). Second, if women are perceived to be more generous, this may turn into labor segregation (women being offered predominantly care jobs) and higher number of parental leaves taken by women. As Grimshaw and Rubery (2001) put it:

“Moreover, if as a result of accepted patterns of gender behavior and socialization, women are less comfortable in a competitive environment, then this new focus on employability and boundaryless careers may favor men over women”.

References

- [1] N. Buchan, R. A. Croson and S. Solnick. Forthcoming. “Trust and Gender: An Examination of Behavior, Biases, and Beliefs in the Investment Game”, *Journal of Economic Behavior and Organization*.
- [2] P. Brañas-Garza. 2007. “Promoting helping behavior with framing in dictator games”, *Journal of Economic Psychology* 28(4): 477-486.
- [3] D.J. Cooper, J.H. Kagel, W. Lo, Q.L. Gu. 1999. “Gamint against managers in incentive systems: experimental results with Chinese students and Chinese managers”. *American Economic Review* 89, 781–804.
- [4] J. Cox and C. Deck. 2006. “When Are Women More Generous than Men?”, *Economic Inquiry* 44(6): 587-598.
- [5] R. Croson and U. Gneezy. 2006. “Gender Differences in Preferences”, The Wharton School *mimeo*.
- [6] A. H. Eagly. 1995. “The science and politics of comparing women and men”, *American Psychologist* 50, 145-158.
- [7] C. Eckel and P. J. Grossman. 1998. “Are Women Less Selfish than Men?: Evidence from Dictator Experiments”, *The Economic Journal* 108:726-735.

⁹The reader must keep in mind that our subject pool was composed by university students. The main objection made to this kind of population is the subject pool bias. However, experimental literature has shown that although there are some quantitative subject pool effects, the qualitative patterns of behavior are rather similar across different pools (see Falk and Fehr 2003, Cooper et al. 1999 or Fehr and List 2003), so we could considered obtained results as a first approximation of the populations beliefs.

- [8] C. Eckel and P. Grossman. 2002. "Sex Differences and Statistical Stereotyping in Attitudes Toward Financial Risk." *Evolution and Human Behavior* **23**(4): 281-295.
- [9] C. Eckel and P. J. Grossman. Forthcoming. "Men, women and risk aversion: experimental evidence", Handbook of Experimental Economic Results.
- [10] A. Falk and E. Fehr. 2003. "Why labour market experiments?", *Labour Economics* **10**: 399-406.
- [11] E. Fehr, and J. List. 2003. "The Hidden Costs and Returns of Incentives-Trust and Trustworthiness among CEOs". WP 134. Institute for Empirical Research in Economics, University of Zurich, Zurich.
- [12] U. Gneezy, M. Niederle and A. Rustichini. 2003. "Performance in Competitive environments: Gender differences" *The Quarterly Journal of Economics* **118**(3): 1050-1074.
- [13] U. Gneezy and A. Rustichini. 2004. "Gender and Competition at a young age" *American Economic Review* **94**(2): 377-381.
- [14] D. Grimshaw and J. Rubery. 2001. "The gender pay gap: a research review", Research Discussion Series, *Equal Opportunities Commission*, Manchester.
- [15] M. Niederle and L. Vesterlund. 2007. "Do women shy away from competition? Do men compete too much?", *The Quarterly Journal of Economics* **122**(3): 1067-1101.
- [16] R. Slonim and E. Garbarino. Forthcoming. "Increases in trust and altruism from partner selection: Experimental evidence", *Experimental Economics*.