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Promoting helping behavior with framing in dictator games

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Abstract

A number of recent papers on double-blind dictator games have obtained significant generous behavior when information regarding the recipient or any other social context is provided. In contrast, the lack of information discourages other-regarding behavior and the subject's behavior closely approximates the game-theoretic prediction based on the selfishness assumption. This paper uses framing to explore the role of helping behavior in dictator games. The whole experiment includes both classroom and regular experiments for the baseline and the framing treatment. To enlarge on the moral costs attached to selfish behavior in the game I included a "non-neutral" sentence at the end of the instructions, which reads, "Note that he relies on you". The baseline and framed DG are statistically different from each other, indicating that the additional sentence promotes generous-regarding behavior.
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1. Introduction

How sensitive are experimental subjects to information regarding their own choices? Are their decisions easily manipulable? Do framing effects really matter? Bertrand, Karlan, Mullainathan, Shafir, and Zinman (2005) show that small psychological nuances affect experiments not only in the lab, but also in field experiments where subjects make choices about loans which have real consequences. This paper offers experimental evidence regarding this issue in the Dictator Game.

Recent literature on Dictator Games[1] (DG hereafter) shows that a large percentage of the variability observed in the results is due to the control of key factors: the lack of ANONYMITY of the experimental subjects with respect to both experimentalists and other participants (see Hoffman, McCabe, & Simth, 1996); the absence of INFORMATION about the recipient (see, among others, Burnham, 2003 or Charness & Gneezy, forthcoming); the lack of an appropriate SOCIAL CONTEXT (Eckel & Grossman, 1996), which promotes both social behavior and increases dictator RESPONSIBILITY and, even more so, the lack of CREDIBILITY about the experiment (see Frohlich, Oppenheimer, & Moore, 2001).

A number of papers with neutral instructions and strong mechanisms for anonymity [see for instance, Bolton, Katok, and Zwick (1998) or Hoffman et al. (1996)] reports deviations from the theoretical prediction in very few cases, that is, completely selfish behavior. However it is very remarkable that, even in these neutral settings, a number of subjects behave socially thus the average contribution is positive and close to 10% of the total endowment.

In contrast, papers which deal with any of the issues mentioned above – non-neutral instructions, information about recipients, etc. – find more positive results in terms of altruism. Papers that provide examples of how sensitive dictators' behavior is to the experimental design include that by Eckel and Grossman (1996) using the American Red Cross as a recipient, Burnham's paper (2003) in which dictators are provided photos of their recipients, Charness and Gneezy (forthcoming) who give dictators the names of their recipients, Brañas-Garza (2006) who informs dictators about recipients' poverty or the paper by Frohlich, Oppenheimer, and Kurki (2004) where the initial endowment depends upon the joint production of the recipient and the dictator.

As a result of these modifications, the amount of money left to the recipients increases considerably, while the percentage of non-zero giving proves overwhelming. Thus, the conclusion is that the behavior of subjects in the DG is greatly influenced by how the situation is framed. The idea behind this is that the information provided to the dictators creates a *context* that motivates other-regarding behavior. As Eckel and Grossman (1996) state, in the absence of this context, purely selfish behavior drives individual decision making.

More recently, papers have also focused on selfish motivations which also promote altruism: dictators are considered to attach a cost (in moral terms) to the strategy of giving zero. The degree of dictator responsibility and hence, the magnitude of the cost, increase with the problem size. Brañas-Garza, Durán, and Espinosa (2005a) give dictators a ran-

[1] The Dictator Game is a decision problem in which a player (the dictator) decides how to allocate a fixed amount of money between another player (the recipient) and himself. Initially this was considered an excellent way of analysing human altruism because any amount of money not kept by the dictator was incompatible with a purely selfish subject and was accordingly interpreted as showing some kind of altruism.

dom device to solve an allocation problem. Surprisingly, 50% used this mechanism to relinquish their responsibility. In Dana, Weber, and Xi Kuang (2004) and Lazear, Malmendier, and Weber (2005) subjects are offered the possibility of exiting the DG at a cost. Based on these arguments a significant number of players choose to exit the game. Note that playing the game presents not only larger individual earnings but also potential Pareto (social) gains. Thus, the observed altruistic behavior *is not just the outcome of other-regarding preferences, but also arises from well-defined, self-centered preferences*.

This paper promotes more generous behavior, albeit without any kind of "procedural/environmental" context. Instead of providing the dictators with information or devices, *I add an additional sentence to the neutral instructions while keeping anonymity mechanisms*. The purpose of the sentence is to call the subject's attention to a particular moral rule rather than to create a context in which that moral rule applies, as Eckel and Grossman (1996) and the other papers cited above did.

This experiment uses a sentence which is intended to encompass the "universal" moral rule of helping: "*Note that your recipient relies on you*".[2] This sentence is in line with several papers which focus on the emergence of helping behavior [see Schwartz, 1970; Eagly & Crowley, 1986]. I explore these ideas in two different settings: a classroom experiment and a regular economic experiment. I found that this sentence promotes generous behavior to a large extent. In fact, *the average, the median and the mode donation increases as a result of the additional sentence.* The rest of the paper is structured as follows. The experimental procedure is described in Section 2. The results are shown Section 3 and discussed in the fourth. Finally, conclusions are drawn in Section 5.

2. Methods and procedures

The full experimental procedure used in this paper includes two clear features: a simple procedure for framing – just a sentence – and two parallel settings: a classroom experiment and a regular economic experiment. I shall now explain both settings and the framing.

Both the classroom and the regular economic experiments comprised two treatments[3]: the baseline and the "framed" *Dictator Game*. In each experiment, both treatments were performed at the same time, in a single room, in order to increase experiment credibility – following Frohlich et al. (2001, Maryland one-room treatment).

2.1. Treatment 1

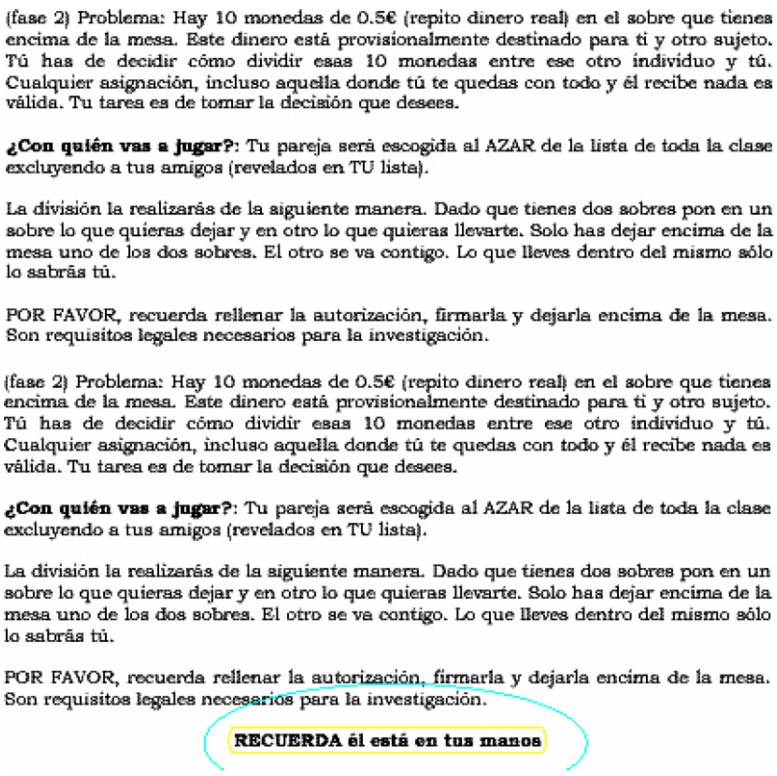
T1 (*Baseline*): A standard DG. Dictators were given their instructions and recipients were kept ignorant of what was going on. The instructions[4] read:

> "A fixed amount of 10 experimental units has been provisionally allocated to you and your recipient. These 10 units are equal to 0.5 extra points towards your final

[2] The original wording in Spanish was "Recuerda él está en tus manos". An alternative translation might be "He depends on you".

[3] The classroom experiment also included a second step in which subjects (after changing roles) played another framed DG. These actions were ex post and did not affect the decisions shown in this paper.

[4] The above text was handed out after the following initial paragraph was read aloud: "Welcome to this experiment on decision making, etc." Between-subjects anonymity was fully guaranteed. The original instructions were written in Spanish.


(fase 2) Problema: Hay 10 monedas de 0.5€ (repito dinero real) en el sobre que tienes encima de la mesa. Este dinero está provisionalmente destinado para ti y otro sujeto. Tú has de decidir cómo dividir esas 10 monedas entre ese otro individuo y tú. Cualquier asignación, incluso aquella donde tú te quedas con todo y él recibe nada es válida. Tu tarea es de tomar la decisión que desees.

¿Con quién vas a jugar?: Tu pareja será escogida al AZAR de la lista de toda la clase excluyendo a tus amigos (revelados en TU lista).

La división la realizarás de la siguiente manera. Dado que tienes dos sobres pon en un sobre lo que quieras dejar y en otro lo que quieras llevarte. Solo has dejar encima de la mesa uno de los dos sobres. El otro se va contigo. Lo que lleves dentro del mismo sólo lo sabrás tú.

POR FAVOR, recuerda rellenar la autorización, firmarla y dejarla encima de la mesa. Son requisitos legales necesarios para la investigación.

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RECUERDA él está en tus manos

Fig. 1. Illustration of the framing.

grade in Intermediate Microeconomics.[5] Your task is to decide how to divide this amount of points between your recipient and yourself. Any division (even keeping all for yourself) is allowed. Your partner will be randomly selected from the 20 subjects sitting in the row to your left. Thank you for participating''

2.2. Treatment 2

T2 (*Framing*): A framed DG in which dictators received identical instructions to those given in treatment T1 with the exception of an additional (non-neutral) sentence at the end of the text. The sentence read as follows: ''*Note that your recipient relies on you*''. Although Fig. 1 refers to the regular experimental sessions (baseline – R1 & framed – R2), it gives a clear idea:

The regular experiment essentially replicates the classroom experiment (both treatments R1 and R2 were conducted at the same time in a single room) albeit I introduced some relevant variations in the regular experiment in order to increase dictator anonymity

[5] Intermediate Microeconomics is a central and compulsory subject in both Economics and Business degrees. The subject is graded from 0 to 10 points, 5 being the minimum grade to pass. Usually students have no other chances to get additional points.

Table 1
Differences among settings

	Classroom	Regular
Call	Voluntary exam	Public call
Anonymity	Single	Double
	–	Envelopes
Experimentalist	Professor	Stranger
Recipients	Any	No-friend
	In the same room	In the list
Incentives	–	Show-up fee
	Points	Money

(regarding the experimentalist). These included monetary rewards (ten 0.5€ coins plus a 2€ show-up fee for both dictators and recipients), double-blind procedures and two "unknown" instructors to conduct the experiment. Table 1 summarizes main features of both classroom and regular experiments.

Another key difference of this new setting is that subjects were asked to reveal the names of their friends in the class before playing the DG. After they revealed the list of their friends, they were informed that they would be matched up with a recipient.[6] Partners were then randomly chosen from the list of students enrolled in the first-year course with the exception of themselves and their friends. I chose to do so because our recent investigation focusing on *Favoritism* (Brañas-Garza, Durán, & Espinosa, 2005b) shows that when experimental subjects (dictators) play with their friends, they donate more. Then, this variation helps to control unobservable external effects.

Recall that the only difference between both treatments (T1 vs. T2; R1 vs. R2) is the sentence at the end of the instructions, as shown in Fig. 1.

The *classroom experiment* was conducted in March 2004 at the University of Jaén, Spain. The total population sample was comprised of 80 students. The students were volunteers from two groups enrolled in the course titled "Intermediate Microeconomics".[7] All of the students were first-year business majors in their second semester, meaning that they had been given no previous training in Game Theory. Students were recruited by open invitation to participate in a voluntary exam. Eighty-one students came to the voluntary exam the day of the experiment. Given that my design required the number of subjects to be a multiple of four, one of the subjects was randomly selected to act as monitor and awarded 0.25 points as a show-up fee. The remaining 80 subjects participated in the experiment. Once students were randomly placed in four rows containing 20 individuals each, the Column 1 subjects (left side) played treatment T1 at the same time as the column 3 individuals played treatment T2. Columns 2 and 4 subjects were recipients. As in Frohlich et al. (2001, Maryland one-room treatment) recipients were in front of dictators.

The *regular experiment* was conducted in January 2006 at the University of Granada using first-year students with identical training to those in T1-2. The possibility to

[6] The original instructions in Spanish read: **¿Con quién vas a jugar?:** Tu pareja será escogida al AZAR de la lista de toda la clase excluyendo a tus amigos (revelados en TU lista). A close translation could be: **Who are you going to play with?:** Your partner will be randomly chosen from the whole class list, with the exception of your friends (given in YOUR list).

[7] Note that the author was the teacher of this course.

participate in an experiment was announced in both morning sections classes (A and B) in Economics. Since I needed a list of friends for each subject (in order to control favoritism), it was more likely to find it within the same class. However, participation was voluntary. Students wishing to participate were invited to go to a nearby room.

In order to ensure anonymity I gave the experimental subjects two envelopes: one for the money they would keep and another for the money they would like to donate. The instructions clearly explained the decision problem, the basic rules (see instructions on page 7 – the "experimental units" were substituted for "0.5€ coins") and the fact that when the experiment ended, the students had to exit the room, leaving only one envelope on the table (the money for the recipient). Subjects were informed that would be randomly paired with any individual on the class list, except themselves and their friends. To increase reputation and to avoid any doubt about the procedure, I informed the students that a list with the name (and earnings) of the recipients,[8] not the dictators, would be made public one hour later. Another potential problem of the classroom setting was that the Intermediate Microeconomics professor was in charge of the investigation. Thus to avoid any "experimentalist effect", this session was conducted by two Master students[9] who were unknown to the students. Twenty-seven individuals received regular instructions (treatment R1) and 26 received framed instructions (R2) as shown in Fig. 1 and explained above (see instructions on page 7). On average, the subjects – both dictators and recipients – earned 4.5€ (including the show-up fee) in less than half an hour.

3. Results

The effect of framing on dictators' donations is shown in Table 2. Recall that T1 and R1 were baseline treatments, whereas T2 and R2 were the modified treatments.

Previous to explore framing effects I study how variations in the experimental settings (see Table 1) affected behavior. First, I find three potential sources of variability: (a) strong anonymity conditions (double-blind procedures including envelopes, strangers conducting the session, etc.); (b) recipients who have no friendship with the dictator and, finally, (c) the use of money instead of points. I expect that both the larger social distance and the lack of friends within the pool of recipients (a + b) enhance selfish behavior decreasing donations. I have no prior conclusion regarding the last item (c).

As shown in Table 2, subjects are much more generous in the regular experiment than in the classroom experiment (R1 vs. T1), in fact, the former, doubles the average contribution (2.4 vs. 1.2). The Mann–Whitney non-parametric test for unpaired samples rejects the null of equal distribution ($\chi^2 = -2.60$; $p = 0.00$) showing that R1 and T1 are not drawn from the same population. The most remarkable result is that, even with stronger conditions for anonymity, subjects in the regular setting are more generous. This effect seems to indicate that students give a higher valuation to extra-credit points than money. Note that this effect might be considered as an example of "high stakes".

[8] To do this we followed a very simple procedure. We took the complete class list and deleted, for each individual, both his own name and the name of his friends. Once we had a pure stranger list, we randomly chose one of the names on the list. We had no problems with our time commitment and made the list public within the hour!

[9] The instructions also said that the money for the experiment was not ours but had come from a research project coordinated by a Professor from the Basque Country University (as was the case).

Table 2
Donations in T1, T2, R1 & R2

	Donations			
	T1	T2	R1	R2
0	11	2	5	1
1	1	0	2	2
2	4	3	6	3
3	2	7	6	5
4	1	5	5	10
5	1	3	3	5
N	20	20	27	26
Mean	1.2	3.1	2.4	3.3
Median	0	3	3	4
Mode	0	3	2/3	4
Std. deviation	1.5	1.4	1.6	1.3

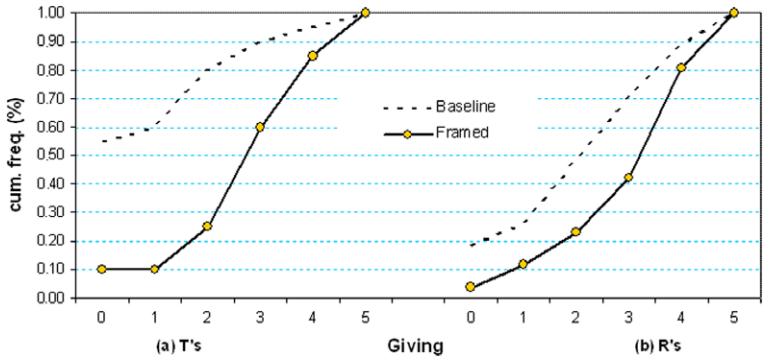


Fig. 2. The framing effect.

Now I analyze the success of the moral framing in promoting more generous behavior by comparing the framed treatments with their associated baseline treatments. Recall that the additional sentence reads: *Your recipient relies on you* (*in Spanish* "*is in your hands*"). My motivation here is that by making the dictators aware of their recipients' powerlessness, they will respond by displaying more generous behavior.[10]

The statistical analysis of the donations provided in Table 1 shows that the use of the additional sentence (i) increases the average, the mode and the median contribution, (ii) the number of subjects leaving nothing almost vanishes and (iii) the percentage of subjects dividing the pie in a very fair manner notably increases.

The Mann–Whitney ($\chi^2 = -3.42$; $p = 0.00$) rejects the null indicating that T1 and T2 are not drawn from the same population, the comparison between R1 and R2 ($\chi^2 = -2.10$; $p = 0.03$) also support differences among treatments. Thus *the additional sentence has an effect on subjects' behavior*.

[10] Observe that we motivate altruism in the sense of charity (see Khalil, 2004).

By looking at Fig. 2, where the cumulative frequencies for these two treatments are plotted, its clear that donations in T2(R2) first-order stochastically dominate the donations of the baseline treatment T1(R1). Hence, the additional sentence promotes more generous behavior.

Therefore, my conclusion is that the addition of a promoting helping cue affects behavior.

4. Discussion

What this paper adds to previous literature? In recent years, there has been a large number of DG papers which analyze several aspects of social distance – including both procedures and information about the recipient – as determinants of giving (see Frohlich et al., 2004 for a concise review). Seminal papers on this regard focused on whether and how the *experimenters-subjects* social distance may affect altruistic behavior [see for instance, Hoffman et al., 1996; Bolton et al., 1998; Frohlich et al., 2001]. The second group of papers focused on *between recipient-dictator* distance (social context): Eckel and Grossman (1996) used the local Red Cross as recipient; Charness and Gneezy (forthcoming) gave dictators recipient's family names; whereas Burnham (2003) provided their photographs or Brañas-Garza (2006) indicated that they were poor.

However, very recent literature on giving shows that altruism also arises from *self-centered* rather than *other-regarding preferences*: subjects (dictators) are considered to attach a moral cost choosing the selfish strategy, that is, giving zero in the dictator game. For instance, in Brañas-Garza et al. (2005a) dictators, after finishing their assignments, are given the chance to "amend" the unfair outcome and most of them paid for it. Dana et al. (2004) or Lazear et al. (2005) offer dictators the possibility of exiting the DG at a cost and a significant percentage of them choose to exit the game. These papers are examples of subjects who are ready to sacrifice their own payoffs in order to reduce their own (moral) costs.

This paper continues on this emerging literature. I use framing to explore how dictator giving varies according to larger moral costs. Moral costs which are triggered with a simple mechanism: a sentence.

The reason why I use a cue which promotes helping behavior is also simple. The main difference between the Dictator and the Ultimatum game is, precisely, that in the former, the recipient does not have any right to claim, whereas in the latter the recipient may reject the offer. Although rejecting the offer both get zero (the dictator and the recipient), the recipient has at least "some" bargaining power. In contrast, in the DG, the recipient is just a passive player (who never plays). The dictator perceives that he has the complete power and that the recipient is powerless. Hence, the decision is unfair. The cue reminds dictators how unfair is the situation saying that, "the recipients depend on them".

Thus, the framing generated with the additional sentence just increases the moral cost attached to the dictatorial decision and, consequently, the level of contributions enlarges.

The second reading of this paper is more methodological: a *simple and direct cue to subjects causes the effect* that the experimentalist was interested in promoting. In a certain sense this effect is not surprising due to the type of message used in this paper. In contrast, a parallel view might be negative: how easy subjects' behavior is manipulable or how unstable are preferences. Very simple devices drive experimental subjects to alter their behavior.

The third idea continues the previous one. A rapid view of both graphs plotted in Fig. 2 give us a salient result: *the framing effect is stronger within the classroom setting* – compare, for instance, differences in average contributions between T1(R1) and T2(R2). A possible explanation for this might be[11] that when the cue is provided by your own professor (as in the classroom setting) the message is not just a piece of information but *rather an advice*; a guidance arising from the professor. In contrast, within the regular setting the cue could be read just like a message. Hence the participation of the professor increases the validity of the message.

Finally, its important to conjecture how these results might be relevant out of the lab, in the field. This paper gives an interesting message: individual preferences might be modified in order to promote social behavior. Simple frame which enhances subjects' (social) responsibility seems to be a powerful device to get this effect. Moreover, the intensity of the effect looks proportional to the *autoritas* of the individual/institution who provides the message.

5. Conclusions

The traditional way of promoting other-regarding behavior in DG experiments is to create a context in which fairness and altruism come about as natural responses (see Eckel & Grossman, 1996). In this paper, that context has been replaced with a sentence, i.e. I add a sentence to the neutral instructions used in standard DG experiments. The aim of adding this sentence is to draw the subjects' attention to a particular social or moral rule. Hence rather than creating the context in which a particular social or moral rule applies, I induce subjects to use a particular rule.

The additional sentence, "*Note that your recipient relies on you*", reminds subjects that their position in the game is advantageous but unfair. The framing makes dictators become aware of the powerlessness of their recipients. As a result of the framing enlarging moral costs attached to the selfish strategy, dictators responded by displaying more generous behavior.

I analyze this framing in two different settings: a classroom experiment using grade points and regular experiments with monetary incentives (and double-blind). Both environments support the same result: *the above sentence is successful in increasing dictator donations*. In fact, purely selfish behavior, which is so commonly observed in DG with neutral instructions and strong mechanisms for anonymity, almost vanishes in this experiment.

Finally, the comparison between the different treatments allow me to extract two additional ideas: (i) students consider extra-credit points more valuable than (small amount of) money; (ii) the source of the message (the person who gives the cue) is also critical.

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[11] This idea was given by Herb Gintis. I thank him gratefully.

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