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# Minimal Social Cues in the Dictator Game

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## 1 Introduction

Charitable giving is individually costly, and yet significant generosity is observed in the amount donated to charitable organizations in the United States. Last year was record setting for annual giving with donations totalling \$295 billion (Giving USA Foundation, 2007). Giving is also well documented in experimental games between unrelated, anonymous individuals (Forsythe, et al, 1994). Matters of *social distance* between giver and receiver, or between giver and a potential bystander, are also known to be relevant to giving behavior. Experimental evidence indicates that people are more giving if they know more about the potential recipients, for example if they see their counterparts or if they know their name, major, or hobbies (Eckel and Grossman, 1996; Bohnet and Frey, 1999a, 1999b; Burnham, 2003; Charness and Gneezy, 2007). Similarly, people are more giving if they think that someone else is monitoring their donations, whether that someone else is another subject or the experimenter (Hoffman *et al.*, 1996; Cason and Mui, 1997). This is why charities like public fundraising efforts. But giving behavior does not seem to be invariant across genders: in laboratory environments, females transfer more than males do (Eckel and Grossman, 1998), and males are more sensitive to the value the transferred amount has to recipients than females are (Andreoni and Vesterlund, 2001; Andreoni, *et al.*, 2003).

The relationship between choice behavior and social distance in these contexts is sensitive to even low-level signals. Contributions to public goods tend to increase when people make contributions in an environment with “watching eyes” — a pair of eyes drawn on an “honesty box” (Bateson, *et al.*, 2006) or a digital representation of a robot with large eyes on the subjects’ computer screens (Burnham and Hare, in press). Similar results have also been reported for the dictator game (Haley and Fessler, 2005). So people may become more generous when their choices are made in the presence of “watching eyes”. However, it remains

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Figure 1: Watching-eyes Configuration (left); Neutral Configuration (right)

unclear how powerful and psychologically potent the watching eyes have to be if they are to increase giving behavior.

This paper reports results of an incentivized laboratory experiment manipulating an extremely weak social cue in the dictator game. Prior to making their decision, we present dictators with a simple visual stimulus: either three dots in a “watching-eyes” configuration, or three dots in a neutral configuration (see Figure 1). The watching-eyes configuration is suggestive of a schematic face—a stimuli that is known to weakly activate the fusiform face area of the brain (Tong, *et al.*, 2000; Bednar and Miikkulainen, 2003; Johnson and Morton, 1991). Given the experimental evidence for automatic priming of watching eyes of others, it is thus reasonable to hypothesize that even though the social cue is very weak, this activation might be sufficient to produce a significant change in social behavior. Our results demonstrate that such a weak social cue does increase giving behavior—even under conditions of complete anonymity—and this difference in behavior across subjects is entirely explained by differences in the choice behavior of males. In fact, males in our treatment condition, who typically act more selfishly than do females in conditions of complete anonymity, give twice as much to anonymous recipients than females give.

## 2 Social Distance and Social Cues

The dictator game (DG) is played between two players, Dictator and Recipient.<sup>1</sup> Dictator is endowed with a pie of value  $M$  and must decide on some distribution of  $M$  between the two players. The Recipient cannot respond; the distribution of the pie chosen by Dictator is the final allocation. Non-cooperative game theory makes a clear prediction about Dictator’s choice behavior: in a one-shot interaction, a self-interested non-satiated Dictator will take the entire endowment, leaving nothing for Recipient. This prediction is invariant under any manipulation of payoff-independent variables in the DG: manipulating any variable whose

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<sup>1</sup>See Camerer (2003), Rigdon (2003), and List (2007) for surveys of DG research.

value has no impact on the utilities assigned to the outcomes in the game by necessity cannot change how a purely self-interested and maximizing Dictator values taking the whole of  $M$  and leaving nothing for Recipient.

It is well-known that behavior in the DG (among other environments) is sensitive to social distance. One way of achieving high levels of social distance in the DG is to shield the decision makers completely as in a double-blind protocol in which neither Recipient nor experimenter knows the choice behavior of a particular subject. In these extreme conditions, division of  $M$  is driven much closer to the self-interested outcome (Hoffman, *et al.*, 1994; Hoffman, *et al.*, 1996; Eckel and Grossman, 1996). Some proportion of the population exploits the anonymity.

Intuitively, the perceived social distance in an environment is related to the cues in that environment that make that distance salient. Thus, for example, in a situation where subjects must stand and meet each other, there are pretty obvious social cues present and the perceived social distance comparably lower than the high levels in a double-blind situation. There is a large literature surrounding social distance in DG experiments; broadly speaking, the results indicate that the lower the social distance—the stronger the social cues present—the less Dictator behavior conforms to what would be expected of self-interested maximizers (Bohnet and Frey, 1999a; Buchan, Croson, and Johnson, 2001; Burnham, 2003; Charness, Haruvy, and Sonsino, 2003; Krupka and Weber, 2006; Duffy and Kornienko, 2007).

We are interested in manipulating a social cue in the DG that is both very weak and yet plausibly relevant for perceived social distance: visual stimuli in one of the three dot configurations in Figure 1 (Kitayama and Imada, *in press*). These stimuli are weak social cues, and are underspecified enough to invite different perceptual interpretations. But there are important differences between them. While stimuli like those in the watching-eyes configuration cause weak activation in the fusiform face area of the brain, those like the neutral configuration fail to activate this area (Tong, *et al.*, 2000; Bednar and Miikkulainen, 2003; see also Johnson and Morton, 1991). It is thus interesting to see whether such a social cue increases charitable giving, whether those effects are gender invariant, and whether the social cue can work to reduce social distance *without Dictators realizing it*. We find evidence suggesting positive answers to all three questions.

### 3 Design and Procedures

Our design uses a double-blind protocol for the DG, and varies a simple visual stimulus to obtain two treatments: FACE and CONTROL. In FACE, subjects are presented, prior to making their decision, with the three dots configured in the watching-eyes configuration. In CONTROL, they see the 180-degree rotation, the neutral configuration.

Manipulation of the stimuli across treatments involves changing the configuration of a set of three dots on each Dictator’s decision sheet. The dots occur in the center of the decision

sheet, between brief instructions and the location where the Dictator records the allocation decision. Each subject is exposed to one and only one configuration on the decision sheet; hence, the design is between-subjects. In each session, half of the subjects are randomly allocated to FACE and the other half are randomly allocated to CONTROL.

Twelve experimental sessions were run at the Research Center for Group Dynamics' Robert Zajonc's Experimental Laboratories with undergraduate students at the University of Michigan from a variety of majors.<sup>2</sup> Sessions had sixteen to twenty subjects and took less than 45 minutes to complete ( $N = 58$  (FACE) and  $N = 55$  (CONTROL)). Each participant received a \$5 show-up payment and was immediately seated in the laboratory. After signing a consent form, each was given a set of instructions that explained the DG and procedures in neutral terms to avoid framing (see Appendix A). These were read aloud once everyone had arrived. Each subject was then randomly assigned the role of Dictator or Recipient and randomly matched with a completely anonymous counterpart.<sup>3</sup> Dictators remained in the laboratory and Recipients were escorted to a seat in the waiting room. The subjects then played the DG once and only once, and this fact was common information.

To implement the double-blind protocol, Dictators selected for themselves a large envelope containing two smaller envelopes. One envelope contained a decision sheet (see Appendices B and C). The other envelope contained a short demographic questionnaire (Appendix D) as well as two questions about procedure-believability (Appendix E) and a picture-completion task. Each document had a numeric code at the top. Likewise Recipients, after being seated in the waiting room, selected a large envelope containing a short demographic questionnaire and two questions about procedure-believability; each document also had a numeric code at the top.

As soon as all Dictators had an envelope, they were asked to open the one envelope containing their decision sheet and given 2 minutes to record their decision. They placed the sheet back in the envelope and dropped it in a box at the back of the laboratory. Once all Dictators were finished, they were asked to open the other envelope, and complete the questionnaires. During this time, the experimenter took the envelopes containing the decision sheets to another room where decisions were recorded.

Once all Recipients completed their questionnaires, each was called one at a time to receive their earnings based on their counterparts decision. Each slid their envelope containing the coded questionnaires under the door, the experimenter looked up the code, placed the amount

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<sup>2</sup>Data are available from the authors at request. The sessions took one month to complete. Subjects were recruited two ways: via flyers around campus and using the RCGD's subject pool. Those who had previously participated in similar experiments were excluded.

<sup>3</sup>The random allocation to role was accomplished via a draw from a bingo cage. Bingo balls numbered 1 through  $N$ , where  $N$  was the number of people who showed up to participate, were placed by the experimenter into a bingo cage located at the front of the room. Each subject approached and received a draw from the bingo cage: if the number drawn was between 1 and  $\frac{N}{2}$ , the subject was a Dictator; if the number drawn was between  $\frac{N}{2} + 1$  and  $N$ , the subject was a Recipient.

sent by the Dictator in the envelope, and slid the envelope back under the door to them. Once all Recipients had been paid, Dictators were called one at a time to receive payment. Each slid the envelope containing the coded questionnaires under the door, the experimenter looked up the code, placed the amount kept by the Dictator in the envelope, and slid the envelope back under the door to the subject. Average earnings (including a \$5 show-up payment) were \$12.70 for Dictators and \$7.30 for Recipients.

## 4 Results

Examining Dictator decisions across the two conditions, the average transfer in FACE is 37 cents higher, but this is not significantly different from CONTROL (\$2.48 versus \$2.11;  $p = .2418$ ).<sup>4</sup> From prior results, we expect that differences might surface in the distribution of transfers; Figure 2 graphically displays this information across treatments. The proportion of Dictators playing the dominant strategy of sending \$0 is 40% in CONTROL compared to only 25.42% in FACE; the proportion sending \$1 or more is 60% in CONTROL and 74.58% in FACE—the first of these proportions are significantly different ( $p = 0.0431$ ) and the second of these proportions is marginally significant ( $p = 0.0717$ ).<sup>5</sup>

Data from the picture completion task suggest that our treatment stimulus succeeded in priming low-level facial recognition mechanisms. In FACE, subjects complete the picture (on the stimulus reproduced on their post-decision making questionnaire) by drawing something classifiable as a face (human, cartoon, or animal – even a few devils!) at a rate of 58.63% compared to only 29% in CONTROL ( $p = .0015$ ).<sup>6</sup>

It is worth noting that we had several economics’ majors participate as Dictators ( $N = 11$ ), five in CONTROL and six in FACE. One might expect that economics majors’ behavior in the DG, with a strong norm of rationality, to be unaffected by the treatment.<sup>7</sup> In fact, 82% send \$0, regardless of condition. Interestingly, if we exclude data for these majors from the analysis, we then find a strongly significant generosity effect across the two treatments: the proportion of dictators who send \$1 or more is 62% in CONTROL compared to 80.77% in FACE

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<sup>4</sup>Unless otherwise noted, statistical tests were conducted using a two-tail test via the non-parametric Wilcoxon two-sample ranksum test.

<sup>5</sup>In Hoffman *et al.* (1994, 1996), approximately 65% of dictators give nothing and in Eckel and Grossman (1996, 1998), approximately 53% give nothing. The percentage in our baseline is *lower* than in these studies. Our procedures do differ from the double-blind conditions in these studies which use envelopes containing dollar bills and blank slips of paper so that a dictator can leave immediately following their decision. In our experiment, dictators made their decision by recording an amount on a decision sheet and also had to retrieve earnings by sliding a private code under the door to an experimenter. Our procedures differ largely because we wanted to gather demographic data (we are interested in gender differences), data on how Dictators complete the figure, and some information on the extent to which subjects believed their decisions were double-blind.

<sup>6</sup> $p$ -value was calculated using a two-sample difference in proportions test.

<sup>7</sup>See Marwell and Ames (1981), Carter and Irons (1991), Frank, *et al.* (1993), Selten and Ockenfels (1998), and Frank and Schulze (2000) for experimental evidence that economics’ majors tend to behave more in line with the standard economic predictions.

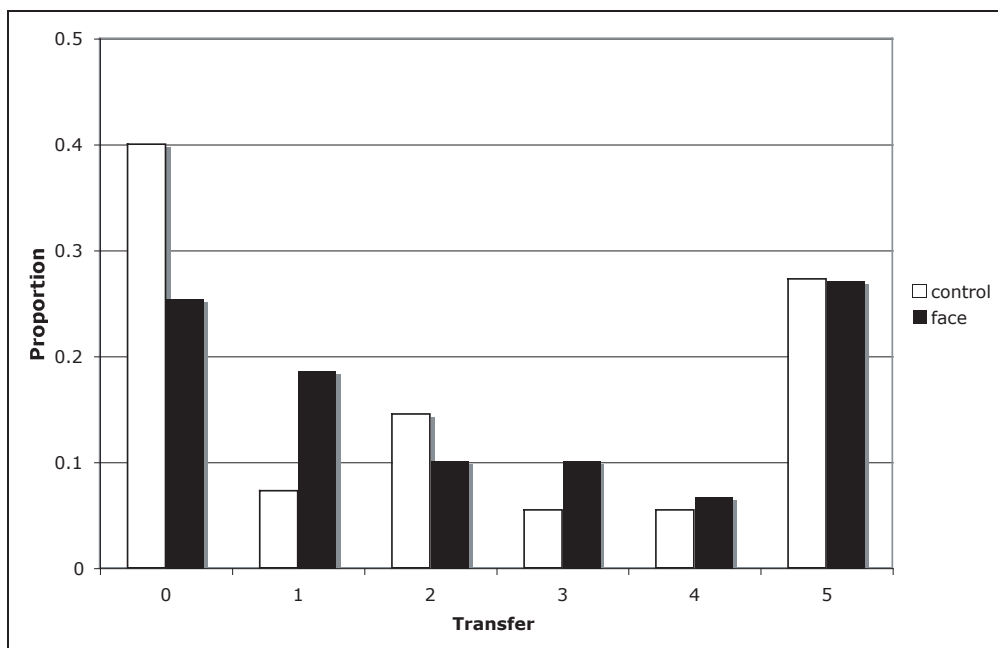


Figure 2: Distribution Transfers

( $p = 0.0366$ ).

Additionally, if we examine the distributions of transfer conditional on the Dictator’s gender there are interesting and significant treatment effects. Figure 3 shows the distribution of transfers for male dictators and Figure 4 shows the distribution of transfers for female dictators. Table 1 reports by gender the average amount transferred for each treatment and the percent of Dictators sending \$1 or more.

First, in the baseline, the amount transferred by female dictators is significantly higher than for male dictators ( $p = .0007$ ). We conducted a Logit analysis to see if females, regardless of amount transferred, were more likely to transfer money than males. Regressing DONATE (DONATE= 1 if transfer > 0) on GENDER (GENDER= 1 if female), we see females are 2.6 times more likely than males to fall in this category ( $p = 0.021$ ). The gender result in CONTROL are consistent with the gender differences Eckel and Grossman (1998) and Andreoni and Vesterlund (2001) report in a double-blind DG. Our result however is not consistent with the lack of gender differences in Dictator giving found in Haley and Fessler’s baseline (2005) and Bolton and Katok (1995). One difference between our protocol and their studies is that we used neutral framing of the decision task in the instructions, whereas their studies used non-neutral terms such as “game” and “player” in the instructions. It is an empirical question about whether framing of the DG as a “game” and decision roles as “players”—as opposed to “decision task” and “Proposer/Receiver”—might impact generosity, and it is an empirical

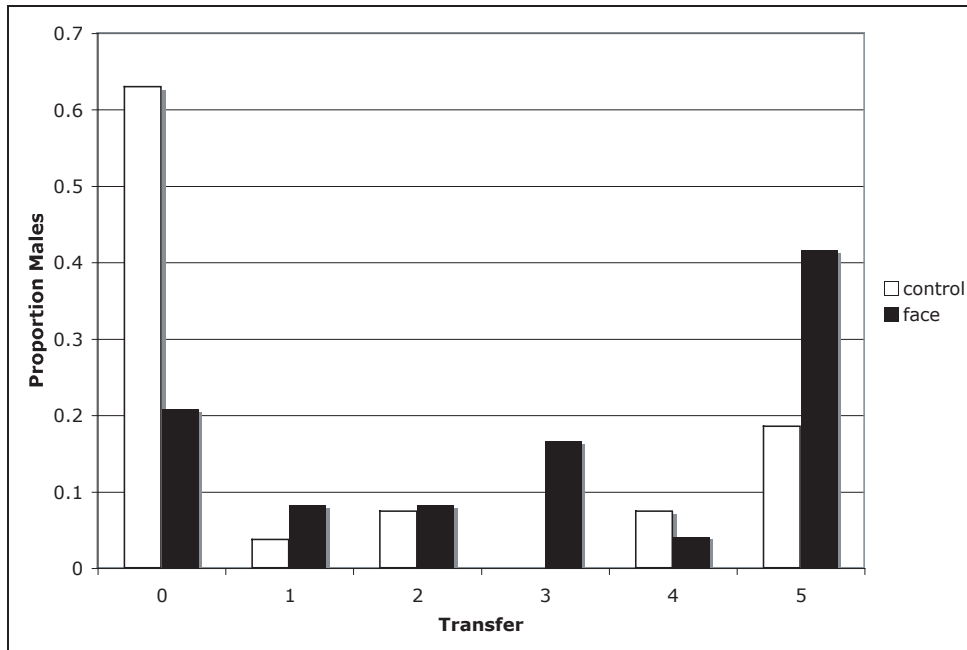


Figure 3: Distribution Transfers, Male Dictators

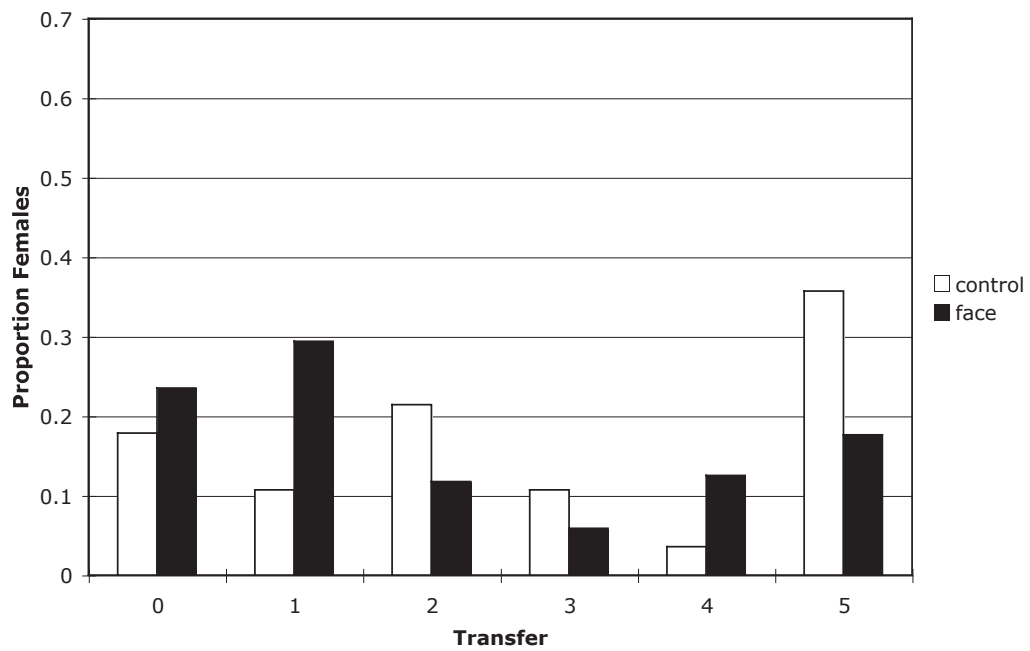


Figure 4: Distribution Transfers, Female Dictators



	N	Avg. Transfer (\$)	\$1 or more (%)
MALE-CONTROL	27	1.41 (2.08)	37.04 (49.21)
MALE-FACE	24	3.00 (2.04)	79.17 (41.49)
FEMALE-CONTROL	28	2.79 (1.95)	82.14 (39.00)
FEMALE-FACE	34	2.12 (1.95)	73.53 (44.78)

Table 1: Descriptive Statistics by Gender

question whether these effects of framing might differ across genders. Nevertheless, results in a variety of experimental bargaining games suggest that framing influences the level of observed cooperative behavior: e.g., market-framing in the ultimatum game (Hoffman, *et al.*, 1994), labeling a counterpart as a “friend” or “foe” in a trust game (Burnham, *et al.*, 2000), and using “moralistic” frames or “justice vs. fairness” procedures in the DG (Brañas-Garza, 2007; Shariff and Norenzayan, 2007; Schurter and Wilson, 2007) all change the levels of cooperative behavior compared to neutral baselines. Hence it is natural to conjecture that “game” framing in the instructions has similar effects. Furthermore, there is a clear sense in which games are viewed as competitive in nature and hence, a Dictator could more easily (self-) justify taking more for herself under such a frame. Our neutral baseline is broadly consistent with the stylized facts from DG experiments.

Our primary result is that the presence of a weak social cue—the stimulus in the watching-eyes configuration—impacts giving behavior of *males but not females*. In particular, males send significantly more in FACE: \$1.41 in CONTROL compared to double that in FACE, \$3.00 ( $p = .006$ ). Additionally, significantly more male Dictators send \$1 or greater in FACE: 37.04% in CONTROL compared to double that in FACE, 79.17% ( $p = .0027$ ). We conducted a Logit analysis to see the extent to which gender influences the amount transferred in FACE. Regressing AMOUNT (AMOUNT= 1 if transfer > average transfer) on GENDER (GENDER= 1 if male), we see males are 3.35 times more likely than females to fall in this category ( $p = 0.048$ ). Together these results demonstrate a strong tendency of male Dictators to behave more altruistically in the presence of this weak social cue. On the other hand, female Dictators are completely non-responsive to the treatment condition. The difference in average transfers by female Dictators across treatments is not significant ( $p = 0.1592$ ); the difference in proportion of female Dictators who send \$1 or greater is not significantly different across the treatments ( $p = 0.4233$ ). However, as reported above, female Dictator giving is already extremely high

in the baseline compared to males: 82% are sending \$1 or more dollars compared to only 37% of males. Therefore the weak social cue in the FACE treatment increases male giving, bringing it in line with the giving observed by females—the average amounts sent no longer differ and the proportion of generous Dictators is also not significantly different ( $p = 0.1232$  and  $0.6242$ ).

A natural hypothesis is that females are more sensitive to social cues—their choice behavior is more sensitive to how it may impact the attitudes of others—and hence making those potential impacts just a little more salient has greater impact on their behavior compared to male giving behavior. These results indicate, surprisingly, that it is *males* who are sensitive to weak social cues in a highly anonymous situation. This is likely because males, but not females, seek to exploit the double-blind environment. But in the FACE treatment, even though subjects report believing that the procedures were in fact double-blind, exploiting the double-blind environment is thwarted.<sup>8</sup> Processing the stimulus ultimately activates the fusiform face area of the brain, making the environment seem—at a pre-conscious level, perhaps accessible to the decision making processes but not to introspection—less anonymous and hence less socially distant. Females, on the other hand, seem (to some extent) to view the choice problem in the CONTROL treatment as a social allocation task. Thus, a weak cue in FACE that makes the potential impact of her choice on the attitudes of others marginally more salient has no effect on her giving behavior.

## 5 Discussion and Conclusions

A double-blind protocol is known to influence giving, pushing the distribution toward selfish division. Our two main results are that: first, even in this context, we see that the presence of an extremely weak social cue shifts the distribution toward more generous division; second, this effect is due to the differential impact that the watching-eyes stimulus have on male dictators.

While there is a large literature relating social distance to giving in the DG, most of that literature manipulates fairly high-level social cues, such as whether or not the subjects have been introduced before the choice task. Our results, like those in Haley and Fessler (2005), and the public good experiments in Burnham and Hare (2004) and Bateson *et al.* (2006), are striking in part because the cue manipulated is simply a visual stimulus representing watching eyes. Yet our results also differ importantly from these; in part because the watching-eyes

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<sup>8</sup>The post-experimental questionnaire included the following question (on a scale 1 to 10): “Did you believe you were completely anonymous?”. The average reported level by Dictators did not differ across treatments: 9.07 in CONTROL and 8.26 in FACE ( $p = 0.1234$ ). There are no significant differences in the answers between males and females on this question. It is interesting to note that for males, the reported level of believability is marginally significantly *lower* in the FACE condition: 9.2 versus 8.0 ( $p = 0.0640$ ). For the Recipients, pooling across treatments, the average report by them was also very high, 8.53.

stimulus we use is abstract, minimal, and has a natural control. The treatment stimulus in earlier studies bear no systematic relationship to the control stimulus: in some cases there is no non-trivial visual stimulus in the control treatments). It is thus difficult using this stimulus to isolate the extent to which giving behavior is impacted by a weak social cue in these environments. Our visual treatments, in contrast, are uniform in this respect. More significantly, the stimulus in previous experiments are neither abstract nor minimal. Instead they tend to be *relatively strong*: they represent a (partial) face—a face that seems, in the case of Haley and Fessler (2005), aggressive and punishing or at least steely-eyed or, in the case of Burnham and Hare (2004), happy and doe-eyed robot named *KISMET* (subjects see the name). If stimuli like these activate the fusiform face area, which seems plausible, it arguably does so on the level of cartoons not on the (weak activation) level of schematic faces. Thus our results, based on the more minimal dot-configuration stimuli, suggest a strong result.

Our results in the baseline also support those of Eckel and Grossman (1998) and Andreoni and Vesterlund (2001)—women are significantly more generous than men in a double-blind dictator game (where the price of giving is a one-for-one dollar transfer), sending almost twice as much as men. Moreover, the proportion of female dictators sending \$1 or more to the recipient in the baseline is much higher than that of males: 82% compared to only 37%.

These results extend the prior research on social distance by examining differences in giving behavior in the presence of an extremely weak social cue. We find significant gender differences across the two treatments. Male dictator behavior is found to be highly responsive to the presence of these watching eyes—males give twice as much to Recipients in FACE as they do in CONTROL. On the other hand, female dictator behavior remains unchanged in the presence of eyes. This is consistent with the psychological literature on relational-interdependence; females are more likely to define themselves in terms of close relationships than males are (Cross and Madson, 1997; Cross, *et al.*, 2000). People who are characterized along this dimension then view relationships as integral to their everyday life. This may be true in anonymous, one-shot interactions as well. Therefore, we hypothesize that when making resource allocation decisions females having this greater import of relationships will be more likely to view the task as a social exchange, and hence whether or not someone is “watching” their decision may be irrelevant to their giving behavior.

Testing cross-cultural behaviors in environments like the DG provides a chance to examine cultural similarities and differences in social preferences (Henrich, *et al.*, 2004; Henrich and Henrich, 2006; Buchan, Johnson, and Croson, 2006; Henrich, *et al.*, 2006; Ishii and Kurzban, in press). We are currently using our stimuli as the basis for a cross-cultural comparison of dictator giving.

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## A Instructions for Both Treatments and Decision Sheets

Welcome to this experiment on decision-making. In addition to the \$5 you have received for showing up on time, you may earn an additional amount of money, which will be paid to you in cash at the end of the experiment completely anonymously.

You will be randomly divided into two groups: Proposers and Receivers—so half of the people in today’s experiment will be Proposers and the other half will be Receivers. Proposers will remain in Room 212 and Receivers will move to Waiting Room 2.

Every participant will have a unique secret code. Based on this unique secret code, you will be randomly paired with one person in the other room. You will not be told who this other person is either during or after the experiment, and he or she will not be told who you are during or after the experiment. Only an assistant who is hired to pay you at the end of the study will use this information to determine the amount each of you are to receive.

The experiment is conducted as follows. The Proposer begins with an additional \$X. The Proposers task is to decide how much of this money each person in the pair is to receive. The Proposer can allocate any portion of the \$X to the Receiver.

The Proposer’s earnings are: \$X minus the amount specified for the Receiver to receive. The Receiver’s earnings are: the amount specified by the Proposer for the Receiver. The experiment is then over.

### *Procedures*

- ▷ The Proposer will receive a manila envelope containing a decision sheet. He or she will have 2 minutes to complete the decision sheet, place it back in the envelope, and drop the envelope at the back of the room. Once all Proposers have made their decisions, the experimenter will hand the envelopes to an assistant for recording.
- ▷ Each Proposer will receive a unique secret code printed on an envelope. To receive payment, the Proposer will slide his or her envelope under a closed door, an assistant will look up his or her allocation decision, place any earnings in an envelope, plus the \$5 show-up fee, and slide it back under the door.
- ▷ Each Receiver will receive a unique secret code printed on an envelope. To receive payment, each Receiver will slide his or her envelope under a closed door, an assistant will look up his or her Proposers allocation decision, place any earnings, plus the \$5 show-up fee, in an envelope and slide it back under the door.



*Anonymity*

The experiment is structured so that no one, including the experimenter, will know the decision you make today. Each person will receive a unique secret code that cannot be matched with any individual decision maker. Note: The code will be used to receive payment.

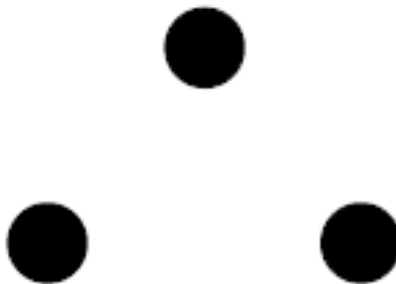
This completes the instructions. If you have a question at any time, please raise your hand and an experimenter will come by to answer it.

## B Decision Sheet: Control Condition

### Money Allocation Sheet

You have received \$5 for showing up on time.

You now have an additional \$10 to allocate between you and the Receiver you are paired with in the other room (in \$1 increments). Please record how much money you will keep for yourself, and how much you will allocate to the Receiver.



I will keep: \$ \_\_\_\_\_

I will give: \$ \_\_\_\_\_

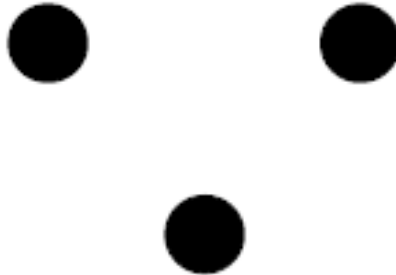
Total: \$ 10

C Decision Sheet: Face Condition

**Money Allocation Sheet**

You have received \$5 for showing up on time.

You now have an additional \$10 to allocate between you and the Receiver you are paired with in the other room (in \$1 increments). Please record how much money you will keep for yourself, and how much you will allocate to the Receiver.



I will keep: \$ \_\_\_\_\_

I will give: \$ \_\_\_\_\_

Total: \$ 10

## D Demographic Questionnaire

Code: \_\_\_\_\_  
Date: \_\_\_\_\_

### Demographic Questionnaire

1. Gender: Male Female
2. Age: \_\_\_\_\_
3. Which of the following are you attending? (circle one): a. undergraduate college b. graduate school
4. Which year of college or graduate school are you in? 1 2 3 4 5 6 7 8+
5. Major: \_\_\_\_\_
6. Country where you were born:
  - a. U.S.
  - b. Other (please specify): \_\_\_\_\_
7. Country of citizenship:
  - a. U.S.
  - b. Other (please specify): \_\_\_\_\_
8. How long have you lived in the United States? a. All my life b. \_\_\_\_\_ year(s)
9. How many of your parents were born in the U.S.? 0 1 2
10. How many of your grandparents were born in the U.S.? 0 1 2 3 4
11. What is the highest educational attainment of your father?
  - a. Some high school
  - b. Completed high school
  - c. Some college
  - d. Completed college (bachelor's)
  - e. Some post-graduate
  - f. Post-graduate degree (MD, Ph.D., LLB, MS, etc.)
12. What is the highest educational attainment of your mother?
  - a. Some high school
  - b. Completed high school
  - c. Some college
  - d. Completed college (bachelor's)
  - e. Some post-graduate
  - f. Post-graduate degree (MD, Ph.D., LLB, MS, etc.)
13. What is your occupation? \_\_\_\_\_
14. What is the income of your immediate family (to the best of your knowledge)?
  - a. Less than \$60,000
  - b. \$60-100,000
  - c. \$100-160,000
  - d. more than \$160,000
15. If you are an American citizen, permanent resident, or have a green card, what is your racial/ethnic background? If you identify with more than one racial or ethnic group, please circle/write all that apply.
  - a. African American
  - b. American Indian
  - c. Asian American
  - d. Hispanic/Latino
  - e. White/Caucasian
  - f. Others (please specify): \_\_\_\_\_
16. If you are not an American citizen, permanent resident, or do not have a green card, what is your ethnic background? If you identify with more than one ethnic group, please write all that apply.  
\_\_\_\_\_
17. What is/are your native language/s? (the language/s you speak at home) \_\_\_\_\_

Thank you for your participation.

## E Procedure-believability Questionnaire

Please read each statement, and circle your answer using the following scale from 1 to 10:

(1) Do you believe your decision was completely anonymous?

<b>Don't believe at all</b>									<b>Completely believe</b>
1	2	3	4	5	6	7	8	9	10

(2) Do you believe you are paired with an individual in the other room?

<b>Don't believe at all</b>									<b>Completely believe</b>
1	2	3	4	5	6	7	8	9	10