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Identifying Social Norms Using Coordination Games: Spectators vs. Stakeholders

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Abstract:

We investigate social norms for dictator game giving using a recently proposed norm-elicitation procedure (Krupka and Weber, 2013). We elicit norms separately from dictator, recipient, and disinterested third party respondents and find that elicited norms are stable and insensitive to the role of the respondent. The results support the use of this procedure as a method for measuring social norms.

Keywords: social norms; dictator games.

JEL Classification Numbers: C91

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1. INTRODUCTION

A variety of economic phenomena, from punishing non-cooperators to tipping in restaurants, have been explained as norm-driven behavior.¹ Recently economists have moved beyond post-hoc appeals to the explanatory power of social norms, and begun to incorporate the analysis of norms into positive economics by measuring social norms in experiments. For example, recent papers have used a norm-elicitation task introduced by Krupka and Weber (2013, hereafter KW) to study norm-driven behavior in dictator games (KW), gift-exchange games (Gächter et al., 2013), oligopoly pricing games (Krupka et al., 2012), and to explain the behavior of financial advisers and their supervisors towards their clients (Burks and Krupka, 2012).

In the KW method for measuring social norms a scenario is described to subjects who then have to judge each action in the scenario as “very socially inappropriate”, “somewhat socially inappropriate”, “somewhat socially appropriate”, or “very socially appropriate”. A subject receives a reward if her evaluation agrees with that of other subjects. Thus, subjects have an incentive to reveal what they perceive to be the collectively-shared judgment of appropriateness of the actions they evaluate, and not their own personal judgment.²

In principle, the norm-elicitation task could be given to either interested parties (“stakeholders”) or, as in most previous applications, to impartial observers (“spectators”). For example, norms about dictator game giving could be elicited from dictators, recipients, or disinterested third parties. Under the assumption that a stable norm about what constitutes socially appropriate behavior exists, and that subjects use this as a coordination device, any of these sub-groups are incentivized to reveal the underlying norm. If measured norms differ across these sub-groups it suggests either that norms are malleable, or that subjects’ responses are revealing something other than the social norm. This in turn would raise questions about the usefulness or validity of KW elicited norms.

One reason norms may be malleable is that stakeholders may manipulate their responses to justify their actions. For example, in dictator games a selfish dictator may distort her judgment of

¹ See Elster (1989) for a discussion and interpretation of how norms influence behaviour in a variety of settings.

² The material incentives used in the norm-elicitation task generate a coordination game with multiple equilibria. See KW for a discussion of how coordination games can be used to elicit social norms in an incentive-compatible way. See also Xiao and Houser (2005) and Houser and Xiao (2011) who use a related approach to incentivize evaluators to classify natural language messages with commonly shared meanings.

appropriateness to rationalize why she is not giving any money to the recipient.³ Moreover, stakeholders may use some feature of their experience in the game as a coordination device. For example, in dictator games participants may give responses that reflect what they did or observed others do in the game.

In this paper we present an experiment examining the KW norm-elicitation task, focusing on whether measured norms vary according to the role of respondents. In particular we elicit norms about dictator game giving and test whether measured norms differ among stakeholders (dictators and recipients), and spectators (disinterested third parties).

2. EXPERIMENTAL DESIGN

Our experiment is based on the version of the dictator game used by KW. At the outset of the game the dictator is endowed with 10 Euros while the recipient is endowed with 0 Euros. The dictator then decides how much of her endowment to give to the recipient, in increments of 1 Euro. The dictator's allocation decision determines the final payoffs for both players.

The focus of our experiment is on the social appropriateness of the actions available to the dictator in this game. We measure social appropriateness using the norm-elicitation task proposed by KW. In this task subjects read a description of the game and then rate whether each action available to the dictator is “very socially inappropriate”, “somewhat socially inappropriate”, “somewhat socially appropriate”, or “very socially appropriate”. At the end of the experiment subjects are randomly paired with another participant. One of the dictator's possible actions is then randomly selected, and both subjects receive 10 Euros if their appropriateness ratings for the selected action match, and 0 Euros otherwise.

The experiment is based on two treatments. In our **Spectators** treatment, as in KW, we collected social appropriateness ratings from subjects who had not previously participated in the dictator game they were asked to evaluate. Thus, raters were “impartial spectators” who had no interest at stake in the game. In contrast, at the beginning of a session of the **Stakeholders** treatment subjects were randomly assigned to the role of either dictator or recipient, and matched

³ There is some evidence that stakeholders and spectators differ in the extent to which they punish or reward actions that violate or conform to norms of fairness (e.g., Fehr and Fischbacher, 2004; Croson and Konow, 2009). A possible reason for this is that spectators agree and act on norms of fairness to a greater extent than stakeholders, whose self-interest may confound their normative judgments. See Konow (2005) for a review of the literature on stakeholders biases in fairness judgments

in pairs to play a one-shot version of the dictator game described above. After recipients had been informed about the decision of the dictator they were matched with, subjects rated the appropriateness of the actions available to dictators.⁴ Subjects were paid to coordinate with one other randomly selected subject who had taken the same role as themselves in the game, i.e. dictators coordinated with other dictators, and recipients coordinated with other recipients.

The experiment was programmed in z-Tree (Fischbacher, 2007) and was conducted at Maastricht University using 114 students recruited through ORSEE (Greiner, 2004). We conducted 2 sessions of the Spectators treatment (with 38 subjects in total) and 4 sessions of the Stakeholders treatment (with 76 subjects in total). In the Stakeholders treatment subjects were told that the experiment consisted of two parts, but were only given instructions about the norm-elicitation task at the end of the dictator game. Moreover, subjects were only paid for one task, randomly selected at the end of the session. Sessions lasted approximately 40 minutes and earned 9.81Euros, including a 5 Euros show-up fee.⁵

3. RESULTS

Figure 1 shows the mean appropriateness ratings elicited from subjects in the Spectators and Stakeholders treatments.⁶ In the latter case, we distinguish between ratings submitted by dictators and recipients. For comparison, the figure also includes the mean ratings reported by KW. Tables 1 and 2 show the full distributions of ratings in our treatments and in KW.

Starting with our Spectators treatment, we note that the ratings elicited in our experiment are remarkably similar to those observed in KW (see Figure 1 and Table 1). In both experiments, more than 80% of subjects evaluate the action (10, 0) that maximizes the dictator's payoff as "very socially inappropriate", and more than 80% evaluate the action (5, 5) that splits wealth equally between players as "very socially appropriate". In both experiments, actions leaving dictators with more than 60% of total wealth are viewed as inappropriate, whereas actions leaving dictators with 60% or less of total wealth are viewed as appropriate, although in both

⁴ We informed recipients of the outcome of the game to ensure that both dictators and recipients entered the norm-elicitation task with the same information.

⁵ See our supplementary materials for further details of the experimental procedures.

⁶ Mean ratings were constructed by converting responses into numerical scores using the same scale used by KW: "very socially inappropriate" = -1, "somewhat socially inappropriate" = -1/3, "somewhat socially appropriate" = 1/3, "very socially appropriate" = 1.

experiments there is less consensus about the appropriateness of actions that leave recipients with more than half of total wealth.

To detect any systematic differences between our data and KW data, we conduct Fisher's randomization tests comparing, for each action, the ratings elicited in our experiment and in KW.⁷ Ten of 11 comparisons are statistically insignificant at the 10% level. The exception occurs for the action (6, 4), which our raters evaluated as somewhat more appropriate than KW's raters. However, this result should be interpreted with caution given the inflation of the overall type I error rate due to multiple testing. None of the comparisons is statistically significant if we use a Bonferroni correction to account for multiple testing, and so overall our Spectators treatment successfully replicates the KW norm-elicitation experiment.

Table 2 reports the distribution of responses of subjects in the Stakeholders treatment. There are very few differences between the ratings submitted by dictators and recipients, and these ratings are in fact very similar to those collected in the Spectators treatment. As in KW and in our Spectators treatment, both dictators and recipients generally agree that the action (10, 0) is least appropriate and the action (5, 5) is most appropriate. Moreover, for each action, the modal response by either dictators or recipients coincides with that in the Spectators treatment.

We use randomization tests to compare the ratings elicited in the Spectators treatment with those elicited from either dictators or recipients in the Stakeholders treatment. None of the comparisons is statistically significant at the 10% level. Moreover, we do not find any significant difference between ratings submitted by dictators and recipients. These results suggest that the KW norm-elicitation procedure is robust to potential stakeholder biases.⁸

4. CONCLUSION

We find that norms of dictator game giving elicited from dictators and recipients are similar to those elicited from disinterested third parties. These results suggest that norms elicited using the KW procedure are not malleable to judgment biases associated with the role of the respondents, nor are they affected by respondents' previous experience with the decision setting they are asked

⁷ See Moir (1998) for a discussion of the randomization test.

⁸ The results are robust to comparing medians rather than means. Median tests indicate forty-two of 44 comparisons are statistically insignificant at the 10% level. The two exceptions are between our spectators and KW for the actions (4, 6) and (3, 7). None of the comparisons is significant if we use a Bonferroni correction.

to evaluate. This supports the use of the KW norm-elicitation procedure as a method for measuring social norms.

Our results stand in contrast with the findings reported in a recent study by Rustichini and Villeval (2014). In their experiment subjects report personal judgments about the fairness of actions available to players in dictator, ultimatum and trust games, both before and after playing the games. They find evidence of “moral hypocrisy” in the sense that individuals whose actions violate their initial fairness judgments manipulate their later judgments to reconcile these judgments with their actual decisions. These findings point to the vulnerability of personal judgments of fairness to self-serving distortions and manipulations.

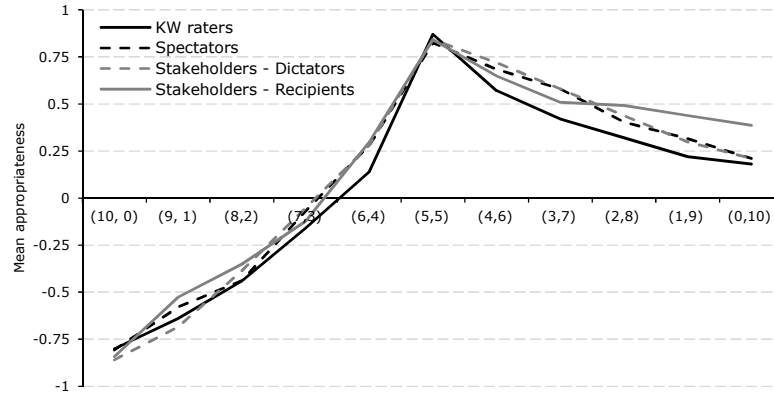
While these findings may appear to contradict our results, we note that a crucial difference between Rustichini and Villeval (2014) and us lies in the nature of the elicited norms. Rustichini and Villeval (2014) ask subjects to report their own *personal* norms, i.e. judgments about what they consider to be appropriate actions in a given decision setting. In contrast, the KW task aims at eliciting subjects’ perception of the underlying *social* norm, i.e. judgments about what they perceive others may consider to be appropriate. Indeed, Burks and Krupka (2012) find systematic differences between social norms elicited using KW task and non-incentivized personal norms. Taken together these results highlight the importance of distinguishing between personal norms, i.e. private rules or obligations that may be subject to self-serving biases and moral hypocrisy, and social norms as collectively-shared understandings of what constitutes socially acceptable behavior.

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FIGURES AND TABLES

Figure 1 – Mean appropriateness ratings across treatments



Note: the horizontal axis displays the final wealth allocation corresponding to each of the 11 actions available to dictators in the dictator game.

Table 1 – Appropriateness ratings: KW & Spectators treatment

Action	KW raters					Spectators				
	Mean	--	-	+	++	Mean	--	-	+	++
(10, 0)	-0.80	82%	10%	3%	5%	-0.81	84%	8%	3%	5%
(9,1)	-0.64	61%	31%	3%	6%	-0.58	53%	34%	11%	3%
(8,2)	-0.44	35%	51%	10%	4%	-0.44	32%	53%	16%	0%
(7,3)	-0.16	8%	62%	26%	4%	-0.07	3%	55%	42%	0%
(6,4)	0.14	3%	30%	61%	7%	0.28	0%	18%	71%	11%
(5,5)	0.87	0%	3%	14%	83%	0.82	3%	3%	13%	82%
(4,6)	0.57	0%	7%	50%	43%	0.68	0%	11%	26%	63%
(3,7)	0.42	1%	22%	39%	37%	0.58	3%	18%	18%	61%
(2,8)	0.32	6%	31%	23%	40%	0.40	11%	21%	16%	53%
(1,9)	0.22	17%	24%	19%	40%	0.32	18%	21%	5%	55%
(0,10)	0.18	26%	13%	18%	43%	0.21	32%	11%	3%	55%

Note: responses are “very socially inappropriate” (--), “somewhat socially inappropriate” (-), “somewhat socially appropriate” (+), “very socially appropriate” (++). Modal responses are shaded.

Table 2 – Appropriateness ratings: Stakeholders treatment

Action	Stakeholders - Dictators					Stakeholders - Recipients				
	Mean	--	-	+	++	Mean	--	-	+	++
(10, 0)	-0.86	89%	3%	5%	3%	-0.84	84%	11%	3%	3%
(9,1)	-0.68	61%	32%	8%	0%	-0.53	47%	37%	13%	3%
(8,2)	-0.39	26%	55%	18%	0%	-0.35	24%	61%	11%	5%
(7,3)	-0.05	0%	58%	42%	0%	-0.12	11%	53%	32%	5%
(6,4)	0.28	0%	24%	61%	16%	0.30	0%	18%	68%	13%
(5,5)	0.84	0%	3%	18%	79%	0.84	0%	3%	18%	79%
(4,6)	0.72	0%	3%	37%	61%	0.65	3%	5%	34%	58%
(3,7)	0.58	0%	11%	42%	47%	0.51	5%	18%	21%	55%
(2,8)	0.44	3%	26%	24%	47%	0.49	8%	21%	11%	61%
(1,9)	0.30	18%	21%	8%	53%	0.44	16%	16%	5%	63%
(0,10)	0.21	32%	8%	8%	53%	0.39	24%	8%	5%	63%

Note: responses are “very socially inappropriate” (--), “somewhat socially inappropriate” (-), “somewhat socially appropriate” (+), “very socially appropriate” (++). Modal responses are shaded.

SUPPLEMENTARY MATERIAL (NOT FOR PUBLICATION)

PRELIMINARY INSTRUCTIONS

[Both treatments:]

Welcome to our decision-making experiment. For your participation, you will be paid a show-up fee of €5. In addition, you may receive some additional money based on your choices and the choices of others during the experiment.

It is important that you do not talk to any of the other participants until the experiment is over. If you have a question at any time, raise your hand and a monitor will come to your desk to answer it.

[Stakeholders treatment only:]

This experiment consists of two parts: PART 1 and PART 2.

In each part of the experiment you may be asked to make one or more decisions. Decisions that are made in one part of the experiment cannot affect earnings in the other part of the experiment.

Only one part of the experiment will be taken into account in determining your final earnings from today's experiment. At the end of PART 2 of the experiment, the computer will randomly choose one of the parts for payment. At the end of the experiment, you will be paid your earnings from the selected part, in addition to your €5 show-up fee, in cash and in private.

Please note that your identity will not be revealed to anyone during or after the experiment. Thus, your decisions will be anonymous.

Shortly, you will receive detailed instructions about PART 1 of the experiment. You will receive detailed instructions about PART 2 of the experiment once everyone in the room has completed PART 1 of the experiment.

NORM ELICITATION INSTRUCTIONS

[Spectators treatment only:]

In the task, you will read description of a situation on your computer screen. This description corresponds to a situation in which one person, "Individual A", must make a decision. For this situation, you will be given a description of the decision faced by Individual A. This description will include several possible choices available to Individual A.

After you read the description of the decision, you will be asked to evaluate the different possible choices available to Individual A and to decide, for each of the possible actions, whether taking that action would be "socially appropriate" and "consistent with moral or proper social behavior" or "socially inappropriate" and "inconsistent with moral or proper social behavior."

[Stakeholders treatment only:]

In this part, you are asked to evaluate the different possible choices that were available to [you]/ [the person you were matched with] (Individual A) in Part 1 and to decide, for each of the possible actions, whether taking that action would be "socially appropriate" and "consistent with moral or proper social behavior" or "socially inappropriate" and "inconsistent with moral or proper social behavior."

[Both treatments:]

By socially appropriate, we mean behavior that most people agree is the "correct" or "ethical" thing to do. Another way to think about what we mean is that if Individual A were to select a socially inappropriate choice, then someone else might be angry at Individual A for doing so. In each of your responses, we would like you to answer as truthfully as possible, based on your opinions of what constitutes socially appropriate or socially inappropriate behavior.

To give you an idea of how this part will proceed, we will go through an example and show you how you will indicate your responses.

Example Situation

Individual A is at a local coffee shop near campus. While there, Individual A notices that someone has left a wallet at one of the tables. Individual A must decide what to do. Individual A has four possible choices: take the wallet, ask others nearby if the wallet belongs to them, leave the wallet where it is, or give the wallet to the shop manager. Individual A can choose one of these four options.

The table below presents a list of the possible choices available to Individual A. For each of the choices, you will be asked to indicate whether you believe choosing that option is very socially inappropriate, somewhat socially inappropriate, somewhat socially appropriate, or very socially appropriate. To indicate your response, you would place a check mark in the corresponding box.

Individual A's choice	<i>Very Socially Inappropriate</i>	<i>Somewhat Socially Inappropriate</i>	<i>Somewhat Socially Appropriate</i>	<i>Very Socially Appropriate</i>
Take the wallet				
Ask others nearby if the wallet belongs to them				
Leave the wallet where it is				
Give the wallet to the shop manager				

If this was the situation for this study, you would consider each of the possible choices above and, for that choice, indicate the extent to which you believe taking that action would be "socially appropriate" and "consistent with moral or proper social behavior" or "socially inappropriate" and "inconsistent with moral or proper social behavior". Recall that by socially appropriate we mean behavior that most people agree is the "correct" or "ethical" thing to do.

For example, suppose you thought that taking the wallet was very socially inappropriate, asking others nearby if the wallet belongs to them was somewhat socially appropriate, leaving the wallet where it is was somewhat socially inappropriate, and giving the wallet to the shop manager was very socially appropriate. Then you would indicate your responses as follows:

Individual A's choice	<i>Very Socially Inappropriate</i>	<i>Somewhat Socially Inappropriate</i>	<i>Somewhat Socially Appropriate</i>	<i>Very Socially Appropriate</i>
Take the wallet	√			
Ask others nearby if the wallet belongs to them			√	
Leave the wallet where it is		√		
Give the wallet to the shop manager				√

Are there any questions about this example situation or about how to indicate your responses?

[Spectators treatment only:]

In a few minutes you will be given the description of a situation where Individual A, a participant in an experiment, has to make a decision. After you read the description, you must consider the possible decisions and indicate how socially appropriate these are in a table similar to the one shown above for the example situation.

One of the possible choices that Individual A could make will be randomly selected by the computer. Your earnings from the task will be €10 if your evaluation of this action matches that of another randomly selected participant, and zero otherwise.

For instance, if the example situation above was the actual situation and the possible choice "Leave the wallet where it is," was selected by the computer and if your evaluation had been "somewhat socially inappropriate," then your task earnings would be €10 if the person you are matched with also evaluated the action as "somewhat socially inappropriate", and zero otherwise.

Now, please wait for the description of the situation to appear on your screen.

[Stakeholders treatment only:]

In a few minutes you will see the list of possible actions that were available to Individual A in Part 1 and you must consider the possible decisions and indicate how socially appropriate these are in a table similar to the one shown above for the example situation.

One of the possible choices that Individual A could make will be randomly selected by the computer. Your Part 2 earnings will be €10 if your evaluation of this action matches that of another randomly selected participant in your room, and zero otherwise. Note that all the participants in your room had the same role as you [(Individual A)] / [(Individual B)] in Part 1.

For instance, if the example situation above was the actual situation and the possible choice "Leave the wallet where it is," was selected by the computer and if your evaluation had been "somewhat socially inappropriate," then your Part 2 earnings would be €10 if the person you are matched with also evaluated the action as "somewhat socially inappropriate", and zero otherwise.

DICTATOR GAME INSTRUCTIONS

[Stakeholders treatment only, dictators and recipients:]

In this part, there are two different roles: Individual A and Individual B. Based on the number you randomly drew, you are assigned to the role of [Individual A]/ [Individual B]. Everyone seated in your room [(Room A)]/ [(Room B)] has the same role as you [(Individual A)]/ [(Individual B)] and everyone seated in the other room [(Room B)]/ [(Room A)] has the role of [Individual B]/ [Individual A]. You will be randomly matched with one of the participants in the other room.

[You are]/ [Individual A is] endowed with €10 and [Individual B is]/ [you are] endowed with €0. [Your]/ [Individual A's] task is to allocate the €10 [you are]/ [he/she is] endowed with between [yourself]/ [him/herself] and [Individual B]/[yourself] .

[You]/ [Individual A] can decide to allocate €10 anyway [you like]/ [he/she likes] in €1 increments . [You]/ [Individual A] can allocate all €10 to [yourself]/ [him/herself] and €0 to [the person you are matched with]/ [you]; [you]/ [Individual A] can allocate some part of money to [yourself]/ [him/herself] and some to [the other person]/ [you], or [you]/ [Individual A] can allocate €0 to [yourself]/ [him/herself] and all €10 to [the other person]/ [you].

[Your]/ [Individual A's] decision determines how much [you]/ [Individual A] and [the person you are matched with]/ [you] will earn in Part 1. If [you]/ [Individual A] decide to allocate €X to [yourself]/ [him/herself] and € (10-X) to [the other person]/ [you], [you]/ [Individual A] will earn €X and [the person you are matched with]/ [you] will earn € (10-X).

After [making your]/ [Individual A has made a] decision, both participants will be informed of the choice in Part 1 and proceed to Part 2 of the experiment.

[Spectators treatment only:]

Individual A, a participant in an experiment, receives the following instructions:

“Welcome to our decision-making experiment. In this experiment, everybody will receive a show-up of €5. In addition, participants may receive some additional money based on their choices and the choice of others during the experiment.

In this experiment, there are two different roles: Individual A and Individual B. Each Individual A will be matched with an Individual B.

Individual A is endowed with €10 and Individual B is endowed with €0. Individual A's task is to allocate the €10 he/she is endowed with between him/herself and Individual B.

Individual A can decide to allocate €10 anyway he/she likes in €1 increments. Individual A can allocate all €10 to him/herself and €0 to Individual B; Individual A can allocate some part of money to him/herself and some to Individual B, or Individual A can allocate €0 to him/herself and all €10 to Individual B.

Individual A decision determines how much Individual A and Individual B will earn. If Individual A decides to allocate €X to him/herself and € (10-X) to Individual B, Individual A will earn €X and Individual B will earn € (10-X).

After Individual A has made a decision, both participants will be informed of the choice and paid their earnings.”.