Chapter 3.3

Negative externalities of cheating: An experiment with charities

Valeria Maggian
Department of Economics, Ca' Foscari University, Venice, Italy

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JEL Classification: C91, D63, D91, L31

1. Introduction

Recently, in an increasing number of studies (Fischbacher and F¨ollmi-Heusi, 2013; Gächter and Schulz, 2016; Weisel and Shalvi, 2015), scholars have investigated the emergence and characterization of dishonesty by means of a die-under-cup task. In the standard version of the task, participants are asked to privately roll a six-sided die twice in the cup and to report the first roll: since payment is according to reported roll, individuals are incentivized to report a higher number with respect to the actual one. In these studies, reporting a lower number than the one corresponding to the maximum payoff is considered as an evidence of lying aversion. In the great majority of these studies, however, the organizational costs associated with lying are represented by the experimental budget, which does not necessarily reflect the usual situations people encounter in the real world. In particular, lying aimed to increase the liar's payoff often imposes a cost on others. For example, when cheating on an exam, students indirectly damage their (honest) classmates, by making comparison unfairly competitive. Similarly, when cheating on taxes, citizens decrease the amount of resources available for the community.

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In this experiment, we aim to test whether people's decision to lie also depends on the identity of the victim of the unethical behavior. In particular, we investigate the effects of imposing negative externalities on a charity organization when cheating. The consequences of the dishonest behavior will thus increase the liar's payoff while reducing the amount of money donated to a charity organization.

In our *Baseline treatment*, the cost of the lie is borne by the experimental budget while in our *Charity treatment* the individual's unethical behavior decreases the budget devoted to a charity organization. Our experiment provides evidence that social concerns are activated to a similar extent when cheating on an organization with clear and explicit benevolent objectives or on an anonymous organization. Our results suggest that the identity of the receiver of the lie does not play a significant role in the decision to behave unethically.

2. Related literature

Individuals' decision to lie depends on several factors. First, the degree of cheating has been showed to be influenced by the extent people can maintain a self-concept of integrity: misbehavior takes place only when it does not interfere with individual's self-image of being a good and honest person (Mazar et al., 2008). Moreover, the possibility to rely on self-serving justifications for lying has also been showed to influence the decision-making process of cheating (Shalvi et al., 2012, 2015). Second, people pay attention to the consequences of their actions when lying. In particular, individuals are less likely to cheat when their personal gain comes at someone else's cost (Gneezy, 2005). When the outcome of unethical behavior is or could be shared with another person, cheating has been found to increase (Ploner and Regner, 2013; Wiltermuth, 2011). However, even when having the opportunity to tell a lie that will increase both the other's and the liar's welfare, Erat and Gneezy (2012) show, by means of a laboratory experiment, that a nonnegligible portion of individuals refrain from it, supporting the hypothesis of *pure* lie aversion.

Recent work suggests that individuals making joint decisions in groups cheat more than individuals deciding alone, because others may benefit from dishonest behavior as well (Gino et al., 2013; Weisel and Shalvi, 2015; Wiltermuth, 2011). A strong dishonesty shift is observed when examining the inclination of behaving immorally in groups rather than singularly, also when there is no payoff commonality. When allowing people to communicate, they are more likely to exchange arguments to justify misbehaviors than to comply with the honesty norm (Kocher et al., 2018).

Another factor that influences the decision to act dishonestly but that has received less attention is found on the identity of the person or of the group of people who bears the consequences of unethical behavior. Amir et al. (2016) provide evidence that framing is important in this context. They show that the minor the harm caused by the lie, the higher the tendency to cheat to individuals,

independently on whether they are part of a group or not. However, this applies only when the cost of the lie to each individual in the group is made explicit; differently, if the harm cause by the lie is expressed in global terms, cheating toward groups increases. Meub et al. (2016) found that participants in their lab experiment were less likely to report false numbers to get a higher payoff when rolling a fair die if negatively affecting another subject rather than the experimenter.

The addressee of the immoral behavior seems thus to affect the occurrence of cheating, even if it is not clear through which channels. On the one hand, the experimenter only represents a faceless organization evoking minor social concerns, possibly increasing individuals' propensity to lie with respect to a situation where a real person is negatively affected by the unethical decision. On the other hand, the individual sense of responsibility might be watered down by the fact that all subjects participating in an experimental session are taking the same decision when cheating on the experimenter, while each one of them is the only accountable for dishonestly decreasing the other's payoff. Our experiment allows us to disentangle between these two forces, since the individual's decision to lie is fully comparable between our Baseline and Charity treatment.

Cojoc and Stoian (2014) take a dynamic point of view on cheating and investigate how having the opportunity to donate to a charity in the future affects the likelihood of engaging in dishonest behavior (at the expense of the experimenter) in the present. They observe that, with respect to a baseline condition where participants were not aware of the opportunity to donate, people were more likely to act dishonestly, but both honest and dishonest individuals were donating a lower amount. With a similar experimental design, Gneezy et al. (2014) found that subjects who are not given an opportunity to donate to a charity were more honest than subjects who can donate. However, in both studies, there is no trade-off between the decision to act dishonestly and the decision to donate. One can misbehave and take the money from the experimenter in order to donate them to the charity. Differently, in our experiment the focus is on the analysis of behavior when being aware that the dishonest act will necessarily decrease the amount devoted to a charity organization so that there is no room for self-serving justifications.

3. Experimental design

Our experiment consists of two parts. Part one is divided into five stages. In part one, subjects were randomly assigned into groups composed by six men and six women and participated in a multistage tournament (similar to Niederle et al., 2013).[a] No information about previous payoff was given until the very end of the experiment.

a. The objective of the study implemented in the first part of the experiment was to investigate the effects of gender quotas in promoting women's participation to competition at the last step of a multistage tournament, resembling a career ladder. Results of this study are presented in the working paper "Getting to the Top: A Laboratory Experiment on the Impact of Gender Quotas in a Multi-Stage Tournament" by Maggian et al. (2017).

In part two, we investigate the effects of making explicit the negative externalities of cheating on subjects' behavior, when implementing a variation of the die under-the-cup task (Shalvi et al., 2011).[b] In our experiment, reporting an odd number results in getting €4 while reporting an even number results in getting €1. Our experiment consists in two treatments. In our Baseline treatment, subjects were first instructed to roll the die and, only after having reported the outcome, they were informed about the charity. In particular, subjects were informed that €400 were devoted to the second part of the (Baseline) experiment and that once all the 96 participants had been paid according to their report, the remaining amount would have been donated to a charity. In the Charity treatment, the only difference, with respect to the Baseline treatment, is in the order of the instructions: before rolling the die, participants were informed about the charity and the donation's procedure so that, when making their reporting decision, they were aware of the negative externality imposed on it. In both treatments, each subject was given the opportunity to select to which charity to donate the money, by selecting one out of the five most known charities in France or by adding one more charity organization to the list. Participants were aware that the most voted charity would have received the money, once the experimental sessions were done.[c] Finally, as a last step of the experimental session, each individual was asked to answer some questions regarding his own average charitable behavior. In particular, we investigate whether (i) subjects were used to donate to charities, (ii) the average amount per year eventually donated, and (iii) the reasons why they might have decided not to donate to charities.

The experiment was conducted using z-Tree (Fischbacher, 2007), at GATE-LAB, the experimental laboratory of GATE (Lyon, France). 192 Subjects were recruited using HROOT (Bock et al., 2014) from September to December 2016. Both treatments were run in a between-subjects design and none participated in more than one treatment. Subjects were randomly assigned to treatments. Subjects received a show-up fee of €5 plus their earnings from one randomly selected stage between 1 and 4, their earnings from stage 5 (test for risk aversion (Crosetto and Filippin, 2013)), and from the die under-the-cup task.

4. Experimental results

In both the Baseline and the Charity treatment subjects reported a significantly higher number of odd numbers than 50% (binomial test, $p = 0.000$). In particular,

b. See the Experimental Instructions (originally in French) in the Supplementary Material in the online version at https://doi.org/10.1016/B978-0-12-815857-9.00012-1.

c. In particular, participants were informed that the receipt of the donation would have been made available on the researcher's website once the experimental sessions were over. The complete web address and the exact date were communicated to each participant at the end of the experiment.

d. If everyone would have had reported the roll of the die honestly, we should have devoted about 320 out of €800 to the charity. However, after having paid all 192 participants according to their report, we finally donated €146 to the Charity. The most voted one was Médecins sans frontiers.

the proportion of individuals reporting an odd number is equals to 80.21% independently on the treatment.[d]

We observe no difference in behavior with respect to the treatment. Subjects respond to incentives in the same way, no matter the identity of the one bothering the consequences of their misconduct.

In the following we investigate whether personal characteristics or individual's charitable behavior in private life may further explain the observed behavior.

In the literature, there is some evidence of males being more dishonest than females, when having the opportunity to increase personal gain (Dreber and Johannesson, 2008; Friesen and Gangadharan, 2012). Fig. 1 displays the proportion of men and women reporting an odd number in the die-under-the-cup task under the Baseline and Charity treatment. Our findings are in line with recent studies providing evidence of no gender effect in unethical behavior (Abeler et al., 2014; Barkan et al., 2012; Belot and Schröder, 2013; Cadsby et al., 2010; Gino and Margolis, 2011; Gino and Pierce, 2009; Gravert, 2013; Holm and Kawagoe, 2010). We observe no significant difference in neither of the treatment with respect to gender (Chi-square test. Baseline treatment, $p=0.442$; Charity treatment, $p=0.798$).

As a further step, we examine whether individuals' charitable behavior in their private life might have affected their choices in the Charity treatment. On the one hand, a person who is already donating a lot to charities might be more tempted to misreport the roll of a die to increase her personal gain. On the other hand, it is also possible that people with stronger other regarding

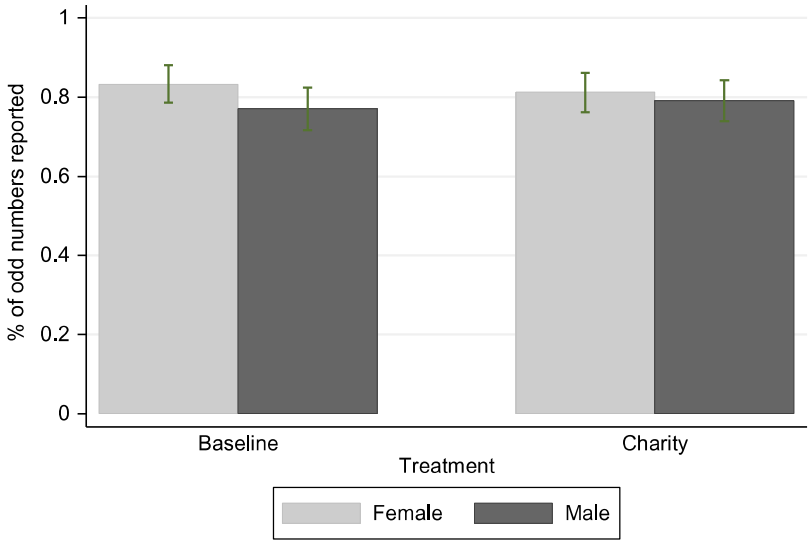

FIG. 1 Proportion of men and women reporting an odd number in the die under-the-cup task, by treatment.

preferences, possibly signaled by their donating behavior, are also less likely to act dishonestly (Maggian and Villeval, 2016). It is important to note, however, that the information provided by individuals on the final questionnaire is self-reported, thus nonverifiable. As a consequence, we are aware that one might have exaggerated her donating behavior in order to appear a good person with respect to the experimenter.

Table 1 reports the marginal effect of reporting an odd number between the Charity and the Baseline treatment with respect to a series of independent variables. Our set of probit regressions confirms our previous analysis with respect to the gender of our participants: the female variable is never significant. Interestingly, in model (3) we observe that the more often individuals donate to charities the lower the probability to report an odd number. Moreover, the donated amount positively affects individual's likelihood to report an odd

TABLE 1 Determinants of Unethical Behavior

Dependent variable	1 if an odd number is reported, 0 otherwise			
Independent variables	(1)	(2)	(3)	(4)
Charity	1.11×10^{-16}	0.000	0.006	0.007
1 if Charity, 0 if Baseline	(0.057)	(0.057)	(0.054)	(0.071)
Female		−0.042	0.036	0.089
1 if Woman, 0 otherwise		(0.057)	(0.054)	(0.073)
Previously donated 0 = "Never"; 1 = "Less than two times per year"; 2 = "Between 2 and five times per year"; 3 = "More than five times per year"			−0.109* (0.054)	−0.150** (0.068)
Donated amount Continuous variable from 0 to 500			0.004** (0.002)	
Log of the donated amount				0.084* (0.044)
Observations	192	192	192	108
Pseudo R^2	0.000	0.769	0.038	−0.068
LR chi2	0.00	0.53	7.33	6.88
Prob > chi2	1.000	0.003	0.119	0.1425

Notes: The table reports marginal effects of the respective independent variables on the probability of reporting an odd number. Standard errors in *parentheses*. Significance levels: *$p<0.10$; **$p<0.05$; ***$p<0.01$.

number, also when considering its logarithmic transformation, as shown by the significant coefficient of "log of the donated amount" variable in model (4). A Chow test provides evidence that the coefficients estimated over the Baseline treatment are not different than the coefficients estimated over the Charity treatment ($p=0.325$).

In all models, if we include a series of dummy variables for the field of study of our participants, we observe that results are unchanged.[e] This evidence differs with respect to the results presented in Chapter 3.2. The authors found, in their experiment 1, that asking participants to donate a value of any coin to a nonprofit organization when privately tossing a coin and getting the prize-losing side diminishes the impact of cheating for business economics and psychology participants, but not for engineering students. However, in their experiment, there is no trade-off between cheating or being honest and donating to the nonprofit organization, since one may still decide (not) to donate when tossing a coin and getting the prize-winning (losing) side. In our study, cheating automatically reduces the amount of money donated to the charity and increases the payoff of the individual, so that the negative externalities of cheating are made salient.

5. Conclusion

We conduct an experiment in the laboratory to examine the effect on the individuals' willingness to lie of imposing negative externalities of cheating on a charity organization. Our results reveal no significant difference on unethical behavior with respect to the identity of the victim who bears the cost of the lie (the experimental budget vs the amount devoted to a charitable organization).

Our findings are consistent with the hypothesis that individual sense of responsibility might be watered down when cheating on an organization. Individuals are found to be more likely to act unethically than when harming another subject, since in the latter situation each individual is the only accountable for dishonestly decreasing the other's payoff. When the identity of the receiver of the lie is an organization, no matter whether an impersonal one (i.e., the experimental institution) or one evoking a well-defined social concern (i.e., a charitable organization), people perceive it in a more global and impersonal fashion. Consequentially, as suggested by recent research (Amir et al., 2016; Kogut and Ritov, 2005; Slovic, 2007), the individual's level of caring is diminished, due to the greater psychological distance, and subjects are less likely to take into account the externalities associated with their (immoral) actions on them.

The results of this chapter emphasize that the cost imposed on others associated with one's self-serving behavior is not necessarily perceived different

e. Participants in our experiment were studying for attending six different bachelor degrees courses: Economics ($n_B=6$ and $n_C=7$ in the Baseline and Charity treatment, respectively), Management ($n_B=36$ and $n_C=37$), Engineering ($n_B=40$ and $n_C=39$), Sociology ($n_B=1$ and $n_C=0$), Medicine ($n_B=4$ and $n_C=2$), or other disciplines ($n_B=9$ and $n_C=11$).

depending on the identity of the victim, when it consists in an organization. Policies designed to limit unethical actions should take into account whether to inform individuals about the negative externalities they are causing, avoiding referring to global and impersonal terms.

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