

Face-saving or fair-minded: What motivates moral behavior?*

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February 20, 2013

Abstract

We study the relative importance of intrinsic moral motivation and extrinsic social motivation in explaining behavior in the dictator game. We introduce a novel design that manipulates these two dimensions. The paper offers four main findings. First, intrinsic moral motivation is of fundamental importance. Second, extrinsic social motivation matters and is crowding-in with intrinsic moral motivation. Third, extrinsic social motivation generates behavior consistent with some participants being motivated by guilt and shame and others by social esteem and pride. Fourth, sharing behavior in the dictator game is strongly associated with charitable giving outside the lab and with political preferences.

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A prominent idea in behavioral economics is that people are morally motivated, and the introduction of moral preferences (Kahneman, Knetsch, and Thaler, 1986a,b) has generated important work in most fields of economics.¹ The most influential piece of empirical evidence underlying this development has been the observation that in lab experiments people consistently give away a substantial share of money in the dictator game. The dictator game was introduced by Forsythe, Horowitz, Savin, and Sefton (1994), and since then more than a hundred dictator games have been published from all parts of the world (Engel, 2011). A key feature of the dictator game is that it rules out selfish reasons for sharing, and the most common interpretation of generosity in the dictator game has therefore been that people are intrinsically morally motivated. A recent important literature (Dana, Cain, and Dawes, 2006; Dana, Weber, and Kuang, 2007; Broberg, Ellingsen, and Johannesson, 2007; Andreoni and Bernheim, 2009; Lazear, Malmendier, and Weber, 2012), however, has questioned this interpretation, arguing that in the dictator game people may be motivated by the fact that their decision is observed by an anonymous recipient: “Just knowing that one is the anonymous dictator that the receiver will think badly of can be sufficient to compel giving” (Dana et al., 2006, p. 201). Thus, sharing in the dictator game does not necessarily only reflect intrinsic moral motivation, but may also be driven by extrinsic social motivation.²

To understand the underlying motivation of moral behavior is of crucial importance in order to provide better models of human decision-making, and the present paper seeks to address this issue by studying the relative importance of intrinsic

¹Some examples include: political economy of redistribution (Alesina and Angeletos, 2005), bargaining (De Bruyn and Bolton, 2008), game theory (Rabin, 1993), public good provision (Fischbacher and Gächter, 2010), contracts (Fehr, Hart, and Zehnder, 2011), labor markets (Charness, 2004), general equilibrium theory (Dufwenberg, Heidhues, Kirchsteiger, Riedel, and Sobel, 2011), development (Karlan, 2005), incentive theory (Ellingsen and Johannesson, 2008), and axiomatic utility theory (Karni and Safra, 2002).

²The distinction between intrinsic and extrinsic motivation has a long history in psychology and sociology, and has more recently also been introduced in economics, see for example Frey and Oberholzer-Gee (1997); Gneezy and Rustichini (2000); Bénabou and Tirole (2003). In the economic literature, the focus has been on the interaction between the individual’s intrinsic motivation to perform a task for its own sake and the extrinsic motivation of doing the task to achieve an external monetary reward. In the present study, the focus is on the interaction between the individual’s intrinsic moral motivation to share because he or she considers it the morally right thing to do and the extrinsic social motivation to share because it gives an external social reward.

moral motivation and extrinsic social motivation in the dictator game. The key feature of our experiment is that we introduce a novel treatment design that manipulates these two dimensions of the distributive problem. In one treatment variation, we manipulate the moral argument for sharing, in another we manipulate the information given to the recipient about the context and the dictator's decision.

We manipulate the moral argument for sharing by changing the conditions of the recipient, where we focus on entitlements and needs, which have been suggested to be the moral considerations that account for the largest fraction of giving in the real world (Konow, 2010). In the baseline treatment, the recipient is a student who has not contributed to the money that is to be distributed, whereas in two other treatments we introduce an entitlement argument and a needs argument for sharing, respectively. In the entitlement treatment, the recipient is a student who has contributed to the same extent as the dictator; in the needs treatment, the recipient is a poor microfinance client in a developing country. To study the role of information, we implement these three treatments in a 3×2 design, where in one set of treatments the recipient is given complete information about the context and decision made by the dictator (in the following referred to as treatments with complete information), and in the other set of treatments is given no such information (in the following referred to as treatments with no information). This design allows us to study intrinsic moral motivation by comparing sharing behavior in the baseline treatment to sharing behavior when there is a moral argument for sharing, and to study extrinsic social motivation by comparing the treatments where the recipient is given complete information to the treatments where the recipient is given no information. Furthermore, this design also allows us to study whether introducing an extrinsic social motive for sharing is crowding-in or crowding-out the intrinsic moral motivation.

After the dictators have decided how much to give away, but before this is revealed to the recipients, the dictators are given the opportunity to switch to the other information condition. Dictators in the complete information treatments can decide that no information is given to the recipient, and dictators in the no information treatments can decide that complete information is given to the recipient. Their information choices allow us to explore in more detail the nature of the extrinsic

social motivation. In particular, we can study whether the extrinsic social motivation for giving is consistent with participants being motivated by guilt and shame or by social esteem and pride, where the crucial distinction between these two sources of motivation in the present study is that guilt and shame generate disutility and social esteem and pride generate positive utility.³ The information choice also sheds light on why some people actively seek to avoid sharing situations, which has been observed both in the lab (Dana et al., 2006; Broberg et al., 2007; Lazear et al., 2012) and in the field (DellaVigna, List, and Malmendier, 2012). In the last part of the experiment, we collect background information and ask the participants to comment on what motivated their decision, which adds to our understanding of the decision making process underlying the observed behavior.

The paper offers four main findings. First, we provide evidence of intrinsic moral motivation being of fundamental importance for the sharing behavior of the participants. When there is no obvious moral argument for sharing, most participants do not give anything to the recipient, whereas they give away a substantial share when we introduce a moral argument. The importance of the moral argument is also reflected in the explanations made by the participants, where they emphasize both entitlements and needs considerations. Second, we show that extrinsic social motivation matters, and we identify a crowding-in effect in situations where there is a moral argument for sharing. Third, we show that the participants are divided on whether to give information or not to the recipients, which is consistent with some participants being motivated by guilt and shame and others by social esteem and pride. Fourth, we show that the sharing behavior in the dictator game is strongly associated with self-reported charitable giving outside the lab and with political preferences.

The rest of the paper is organized as follows: Section 1 presents the sample and the experimental design. Section 2 provides an overview of the treatment effects and relates them to the explanations provided by the participants, whereas Section 3 reports from a regression analysis. In Section 4, we show how the results from the

³This distinction is consistent with the models offered in the recent economic literature on extrinsic social motivation, see for example Battigalli and Dufwenberg (2007); Ellingsen and Johannesson (2008); Andreoni and Bernheim (2009); Ellingsen and Johannesson (2011), but clearly does not exhaust the differences investigated in this literature.

second part of the experiment shed light on the nature of extrinsic social motivation, and in Section 5 we discuss related literature and how our findings relate to charitable behavior in the field.

1 Sample and design

We recruited participants among students at the Norwegian School of Economics (NHH), and 200 of them were randomly allocated to the role as dictator. In addition to the dictators, there was an equal number of recipients who did not make any decisions in the experiment, as we explain in more detail below.

We had seven sessions that each lasted about 40 minutes and took place on the same day. Individuals were randomly allocated to treatments within sessions and each subject participated in only one session. All dictators received a show-up fee of 100 NOK (approximately 17.50 USD), in addition to what they earned in the distribution phase of the experiment. The experiment was double blind, i.e., neither participants nor experimenters could associate decisions with particular participants, and used a web-based interface.⁴

At the beginning of the experiment, all dictators were informed about the rules of the game, and given a description of how the game would proceed.⁵ The experiment consisted of three phases: a production phase, a distribution phase, and a questionnaire phase. In the production phase the dictators were asked to work for 15 minutes on a task consisting of ticking off numbers in a matrix. They were told that they had completed the task when they had reached a threshold level of correct responses, and all participants managed to do so. We did not say anything in advance about payment for completing the task.

In the distribution phase, the dictators were randomly allocated into different

⁴Special care was taken so that the payment procedure ensured participant-experimenter anonymity. At the end of the experiment the computer assigned a payment code to each of the dictators, and a group of assistants, who were not present in the lab during the experiment, prepared envelopes containing the payments corresponding to each payment code. The assistants also made sure that it was impossible to identify the amount of money by simply looking at the envelope. After bringing the envelopes to the lab, the assistants immediately left and the envelopes were handed out in accordance with the payment codes.

⁵Instructions were given in Norwegian, see the appendix for an English translation.

treatments. In the base treatment (T1), they were informed that they had earned 200 NOK (\$35) for completing the production phase. They were also told that they were matched with another student at NHH, randomly selected from the student body member registry. The dictators were then asked to decide how to share their earnings between themselves and this other person. They were informed that the money would be sent to the other person, after the experiment, together with the following letter explaining the context and the decision of the dictator: “You have been selected to receive x NOK from an economic experiment conducted at the Norwegian School of Economics (NHH). Your name has been randomly selected among the students at NHH. In this experiment a participant, who is also a student at NHH, has earned 200 NOK by performing a task. The participant was then informed that he (or she) had been matched with another person, randomly selected among the other students at NHH (i.e. you), and was asked to decide how much of the 200 NOK he wanted to give to you. Before he made his choice, he was shown a copy of this letter. He decided to give you x NOK, which is enclosed to this letter. If the envelope does not contain any money, however, the participant decided not to give you any of his earnings.” To ensure that the dictators could trust that the transfer would actually take place if they decided to give away a share of the money, they were informed (in all treatments) that after the experiment, they could obtain an anonymous copy of the transaction from the accounting department as verification.⁶

In the other treatments we manipulated two dimensions of the distributive problem. In the treatments T2-T3, we manipulated the moral argument for sharing; in the treatments T1*-T3*, we manipulated the information given to the recipient about the context and the dictator’s decision. In all other respects, the treatments were identical. In particular, in all treatments the dictator had to decide how much, out of 200 NOK, to transfer to a recipient.

In T2, we introduced an entitlement argument for sharing. We did so by letting the recipient be another student at NHH who had also signed up for the experiment,

⁶The participants would then have to send an e-mail with their payment code to the accounting department, which would verify that the transfer had taken place. 1 out of 200 dictators did request a verification. The participants were also given the opportunity to provide anonymous comments on the experiment. In these comments no one expressed any doubt about the transfers taking place.

but who was randomly assigned the role as recipient and sent to a different room. The recipients were asked to do the same task as the dictators, again without any mentioning of payment for completing the task. When the recipients had completed the task, they were paid the show-up fee and told that they had completed the experiment. Each dictator in this treatment was matched with one such recipient, and then told that each had earned 100 NOK by completing the task. The dictator was also told that the recipient was not aware of this payment, but would be informed by the letter that would accompany the money that the dictator decided to transfer to the recipient.⁷ Thus, in contrast to T1, the recipient in T2 could be seen as having the same entitlements as the dictator, a moral argument that could motivate sharing.

In T3, we introduced a needs argument for sharing. We did so by letting the recipient be a client in the microfinance institution PRIDE Tanzania.⁸ Again, the context of both the dictator and the recipient was explained in detail in the letter that accompanied any money given away.⁹ Thus, in contrast to T1, the recipient in

⁷The wording of the letter to the recipient in treatment T2 was as follows: “You have been selected to receive x NOK from an economic experiment conducted at the Norwegian School of Economics (NHH). Your name has been randomly selected among the students in the room you were sitting in during the experiment on Tuesday November 3. In this experiment a participant in a different room, who is also a student at NHH, has earned 100 NOK by performing the same task as you. The participant was then informed that he (or she) had been matched with another person, randomly selected among the other students that participated in the experiment (i.e. you). He was informed that you had completed the same task. He was also informed that you had earned the same amount, 100 NOK, but that you had not been informed about this. We then asked him to decide how much of the joint earnings of 200 NOK, he wanted to give to you. Before he made his choice, he was shown a copy of this letter. He decided to give you x NOK, which is enclosed to this letter. If the envelope does not contain any money, however, the participant decided not to give you any of the money that the two of you had earned.”

⁸PRIDE Tanzania is the largest microfinance institution in Tanzania, with approximately 70 000 clients. The clients involved in the present study were all selected from a branch in Dar es Salaam. Norway is one of the richest and Tanzania one of the poorest countries in the world, a fact that is well-known by most Norwegians. GDP per capita is 47 times higher in Norway than Tanzania, see Table 6 in International Comparison Program (2008), and the Norwegian government and Norwegian donors are extensively involved in aid work in Tanzania. For a more detailed discussion of the clients and context of PRIDE Tanzania, see Berge, Bjorvatn, and Tungodden (2012).

⁹The wording of the letter to the recipient in treatment T3 was as follows: “You have been selected to receive x NOK (equivalent to y USD) from an economic experiment conducted at the Norwegian School of Economics (NHH) in Norway. Your name has been randomly selected among the clients in the micro finance institution PRIDE TANZANIA in Dar es Salaam in Tanzania. In this experiment a participant, who is a student at NHH, earned 200 NOK by performing a task. The participant was then informed that he (or she) had been matched with another person, randomly

T3 could be seen as having greater need for the money, also a moral argument that could motivate sharing.

The second treatment variation manipulated the information given to the recipient. The treatments T1*-T3* correspond to treatments T1-T3 in all respects, except for the recipient not receiving any information about the context and the decision made by the dictator. The non-informative letter accompanying any money transferred would only state the following basic information: “You have been selected to receive x NOK from an economic experiment conducted at the Norwegian School of Economics (NHH).” Thus, the recipient would not know that the money he received reflected a choice made by another person or have any information about the amount of money actually available in this experiment.¹⁰ If extrinsic social motivation is an important source of motivation in the dictator game, we would expect to see less sharing in the treatments in which no information was given to the recipient.

Table 1 summarizes the six treatments in the experiment. By comparing treatment T1* to treatments T2*-T3*, we can study whether the introduction of a moral argument in itself provides motivation for sharing, since in these treatments we have excluded the possibility that the dictator gives away money because her decision is observed by an anonymous recipient. By comparing treatments T1-T3 to the corresponding treatments T1*-T3*, we can study whether social concerns motivate sharing in the dictator game, since the only difference across these two sets of treatments is the information given to the recipient. In particular, we can study the role of information both in a situation where there is no obvious moral argument for sharing, by comparing T1 and T1*, and in situations where there clearly are moral arguments for sharing, by comparing T2-T3 and T2*-T3*.

[Table 1 about here.]

selected among the clients in PRIDE TANZANIA in Tanzania (i.e. you), and was asked to decide how much of his earnings he wanted to give to you. Before he made his choice, he was shown a copy of this letter. He decided to give you x NOK (equivalent to y USD), which is enclosed to this letter. If the envelope does not contain any money, however, the participant decided not to give you any of the money that the two of you had earned.”

¹⁰If the dictator decided not to send any money in these treatments, we did not send a letter to the recipient. This is just an extreme version of the recipient not being given any information about the context and the dictator’s decision.

In the second part of the experiment, to shed some further light on the external social motive for sharing, we announced that the dictators had the opportunity to switch to the other information condition.¹¹ Dictators in the treatments T1-T3 were given the opportunity to choose that no information would be given to the recipient and dictators in treatments T1*-T3* were given the opportunity to choose that complete information would be given to the recipient. The dictators were also told that they could revise their dictator decision if they decided to switch to the other information condition. Dictators who decided not to switch, were asked the hypothetical question of what they would have transferred to the recipient if they had been presented with the other information condition initially. If an underlying motivation for sharing when the decision is observed by a recipient is to reduce guilt and shame, we would expect some participants in treatments T1-T3 to change to the no information condition. Correspondingly, if an underlying motivational factor for sharing in social situations is social esteem and pride, then we should expect some participants in treatments T1*-T3* to change to the complete information condition.

In the final part of the experiment, the dictators were asked background questions about their age, years of business training, gender, political preferences, and charitable giving. They were, on average, 22 years old, had two years of business training, and 35% of them were females. The reported political preferences show less support for the left-wing coalition government than in the population at large.¹² On charitable giving, 67.5% reported having donated less than 500 NOK in the previous year, and 32.5% reported having donated 500 NOK or more. By comparing the share given to self-reported political preferences and charitable donations, we can study whether generous lab behavior is associated with particular political views or generous behavior outside the lab.

¹¹The announcement was completely unexpected for the dictators, so the introduction of this possibility could not have affected their initial dictator choices. This is also consistent with the anonymous comments given by the participants, where no one mentions that they had foreseen this possibility.

¹²23.5% reported having voted for the left-wing coalition government in the previous election, 17.5% for centrist parties, 54.5% for right-wing parties, 1.5% for other parties, and 3% did not respond to this question.

2 Descriptive statistics

Table 2 reports the average share given in each of the six treatments. Looking first at the left column, we observe that participants matched with students who have not worked give away 11.6% when the recipient receives no information (T1*).¹³ As shown in Figure 1, a large majority of the participants do not give away anything in this treatment, and many of them explain this by the absence of a moral argument for giving. In particular, the participants highlight the absence of an entitlement motive, “The other participant has not done anything to deserve the money” (participant 20), but some also mentioned the absence of a needs motive, “[The] other participant is most likely not in economic need” (participant 103).¹⁴ In contrast, only a few students motivate their choice by reference to selfish considerations, participant 91 being an exception, “I wanted to keep as much as possible myself.” Thus, in this treatment, most participants seem to find moral and selfish considerations to be aligned and to justify not giving away anything.

[Table 2 about here.]

[Figure 1 about here.]

The other two treatments with no information given to the recipient introduce moral arguments for giving, i.e. entitlements and needs, and in both cases the average share given increases considerably. When the recipient is another student who can also be seen as having entitlements to the money that is to be distributed (T2*), we observe from Table 2 that share given increases to 21%; when the recipient is a needy microfinance client (T3*), the share given increases to 43.3%. Furthermore, when comparing T1* and T2* in Figure 1, we observe a substantial decrease in the share of participants keeping everything for themselves (from 65.7% to 51.5%) and a corresponding increase in the share of equal splits (from 8.6% to 27.2%).

¹³This finding is in line with Cherry, Frykblom, and Shogren (2002), who show that dictators generally are unwilling to share when bargaining over money that they have earned themselves. Our experimental data, however, suggests that this behavior does not reflect selfishness, but rather the absence of a moral argument for sharing and the presence of a moral entitlement argument for keeping all the money.

¹⁴The explanations are translated from Norwegian.

The equal splits are, typically, motivated by entitlement considerations, “We have done the same job and therefore each of us deserves half of the money” (participant 22). In contrast, the most striking feature when comparing T1* and T3* is the large increase in the share of participants giving away everything (from 0.3% to 26.7%), which is explained by reference to the other person being more needy, “I feel that the person in Tanzania has more need for the money than I have” (participant 295).¹⁵ In sum, the observed treatment differences and the explanations of the participants provide evidence of entitlements and needs considerations being crucial in motivating their behavior, even in situations where the recipient has no information at all about the context and the choice made by the dictator. Interestingly, in contrast to the baseline treatment, many participants also include selfish considerations in the explanation of their choice when there is a moral argument for sharing. This suggests that the dictators in these treatments engage in a trade-off between moral and selfish considerations when deciding how much to share with the recipients. The explanation of participant 106, who gave away 50 NOK in T2*, may serve as an illustration of this line of reasoning, “My choice was based on selfish reasoning, where I asked myself ‘What do I get out of this?’ Still the other person has done a job, and deserves some form of reward.”

By comparing the left and right columns in Table 2, we can study the causal impact of information on the share given. Interestingly, we observe that giving the recipient information about the context and the dictator’s decision does not increase the share given in the baseline treatment (T1 versus T1*), 11.6% versus 11.4%, and the explanation of participant 384 sheds light on why this is the case, “I see no reason for giving anything to the other person. I am the one who has signed up for the experiment and I am therefore of the opinion that I deserve all the money. This I consider fair and I have no problem being open about it.” Thus, as long as the participants consider it morally unproblematic not to give away money, the information provided to the recipient appears to be of minor importance.

¹⁵This finding is in line with Eckel and Grossman (1996); Jacobsson, Johannesson, and Borgquist (2007); Konow (2010); Cappelen, Moene, Sørensen, and Tungodden (forthcoming), who also provide evidence of needs motivating sharing behavior.

In the treatments where there is a moral argument for sharing, on the other hand, information appears powerful and increases the average share given: from 21.0% to 29.3% when comparing T2* and T2, and from 43.3% to 60.2% when comparing T3* and T3. This shows that information provided to an anonymous recipient matters for dictators, in line with the explanation of participant 236 who divided equally in T2, “This was the fair division for both participants, i.e., myself and the other part. The fact that she would know that the money comes from me strengthens my decision not to take all the money myself,” and by participant 190 in T3, who gave away 75%, “I felt that taking everything for myself would hurt the person receiving the letter, and it would have been unethical of me since he or she was in greater need for the money.” Thus, the role of information appears to interact with the presence of a moral argument for sharing; information only motivates behavior in the presence of a moral argument.

3 Intrinsic versus extrinsic motivation

Table 3 presents regressions where the dependent variable is the share given by the dictator. To focus on the relative importance of introducing a moral argument and information, respectively, we introduce two dummy variables, “Moral” and “Information,” where “Moral” takes the value one in the treatments where there is a moral argument for sharing (T2, T2*, T3, T3*) and “Information” takes the value one in the treatments where the recipient received complete information (T1, T2, T3).

[Table 3 about here.]

Columns 1-3 confirm the impression from the descriptive analysis. The introduction of a moral argument for sharing has in itself a large and significant effect on the share given, it increases from 11% in the baseline to 38% in the treatments where there is a moral argument for sharing ($p < 0.001$, “Moral” in column 1). The introduction of information also increases the share given, from 24% in the treatments where the recipient receives no information to 32% in the treatments where the recipient receives complete information ($p = 0.096$, “Information” in column 2). This effect, however, is completely driven by the treatments where there is a

moral argument for sharing. As can be seen from column 3, the effect of information in the baseline treatment is negligible ($p = 0.981$, “Information” in column 3), whereas it is substantial and statistically significant in the moral treatments ($p = 0.053$, “Information” + “Moral \times Information” in column 3). The estimated interaction effect “Moral \times Information” is almost identical to the effect of information in the treatments where there is a moral argument for sharing, but only close to statistically significant ($p = 0.12$, “Moral \times Information” in column 3). Overall, the regressions in columns 1-3 show that intrinsic moral motivation is crucial for explaining sharing behavior in the dictator game, but also that extrinsic social motivation creates a crowding-in effect when there is a moral argument for sharing and the recipient is given information about the context and the decision made by the dictator.

In column 4, we introduce self-reported background variables, which only marginally affect the estimated treatment effects. Interestingly, we observe a positive association between the share given and both charitable giving outside the lab and political preferences. Participants who report donating 500 NOK or more to charity the previous year give, on average, 8 percentage points more to the other participant ($p = 0.137$, “Charity” in column 4) and participants reporting that they voted for the left-wing coalition government in the last election give away, on average, 10 percentage points more ($p = 0.078$, “Left-wing” in column 4).¹⁶ As shown in column 5, these associations become even stronger when we only consider the no information treatments ($p = 0.046$ and $p = 0.052$, “Charity” and “Left-wing” in column 5), the charitable and left-wing individuals then give away almost twice as much as the rest of the participants. This suggests that sharing behavior in the no information treatments reflects an intrinsic moral motivation that also motivates charitable giving outside the lab and voting behavior. In the complete information treatments there is no such association, as observed in column 6.

With respect to age and years of business training, we only find an association when complete information is given to the recipient. In these treatments, there is a significant negative association between the share given and years of business

¹⁶This finding is in line with Dawes, Johannesson, Lindqvist, Loewen, and Östling (2012), who also find that left-wing individuals are more generous in the dictator game.

training and a significant positive association between the share given and age ($p < 0.001$ and $p < 0.001$, “Business training” and “Age” in column 6). There is no such association in the no information treatments, which suggests that business training and age, in opposite directions, significantly affect the extrinsic social motive for sharing but have no impact on the intrinsic moral motivation. Finally, we observe that the estimated gender coefficient is small and insignificant in all specifications.

In sum, the regressions in columns 4-6 show that the sharing behavior in the experiment is associated with behavior outside the lab and personal characteristics, but also highlights that these associations are sensitive to the presence of extrinsic social motivation.

4 Opting in and out of information

When introducing the opportunity to switch to the other information condition, we observe that some dictators prefer the recipient to receive complete information, whereas others prefer that the recipient receives no information. As shown in Table 4, 43.1% of the participants in treatments T1-T3 decide to change to the no information condition, and 44.9% of the participants in treatments T1*-T3* decide to change to the complete information condition. In their justifications, the participants provide a wide range of reasons for their choices, including guilt and shame among those who decide to go from complete information to no information, and social esteem and pride among those who decide to go from no information to complete information. A share of the participants also voice the right to privacy as an argument for changing to the no information condition and the right to information (on behalf of the receiver) as an argument for changing to the complete information condition.

[Table 4 about here.]

Table 5 shows that the choice of information condition is systematically related to the share given in all treatments. The participants who decide to change to the no information condition give, on average, a much lower share than the rest, 21.9% versus 40.8% ($p = 0.004$, Mann-Whitney test of equality), whereas the participants

who decide to change to the complete information condition give, on average, a much higher share than the rest, 30.2% versus 19.8% ($p = 0.104$, Mann-Whitney test of equality). These patterns suggest that different types of extrinsic social motivation are important for understanding behavior in the dictator game. A reasonable interpretation of the observed patterns is that some of the participants who give away a small share decide not to inform the recipient in order to avoid feelings of guilt and shame and some of the participants who give away a large share decide to inform the recipient to invoke feelings of social esteem and pride.

[Table 5 about here.]

Overall, very few of the participants who decide to switch information condition revise their initial dictator decision, 13.6% in T1-T3 and 11.3% in T1*-T3*, and as a result the revision in average share given is also marginal, from 21.9% to 20.5% in T1*-T3* and from 30.2% to 30.8% in T1-T3.¹⁷ The fact that so few participants revise their dictator choices when given the opportunity to do so suggests that the initial decision has a powerful anchoring effect, which by most participants is justified by arguing that one should stand by one's decisions. This is also reflected in the responses of the participants who do not take the opportunity to change the information condition. To the hypothetical question of what they would have given away if they had faced the other information condition initially, these participants give answers that are very close to what they did in the dictator decision.

5 Conclusion

The present study shows that intrinsic moral motivation is fundamental in explaining dictator game behavior, and that extrinsic social motivation only plays a role when there is a moral argument for sharing. In these cases, we observe a crowding-in effect of the extrinsic social motive, where both feelings of guilt and shame and of social esteem and pride seem to motivate sharing.

¹⁷Only 2 out of the 75 dictators who give away a positive share in the treatments T1*-T3* decide to keep everything for themselves when given the option of switching to no information condition.

Our findings can shed light on why people in some cases prefer to avoid a sharing situation. It is commonly argued that dictator behavior reflects reluctant sharing, since many dictators prefer to avoid the sharing situation if given the opportunity to do so (Dana et al., 2006, 2007; Broberg et al., 2007; Andreoni and Bernheim, 2009; Lazear et al., 2012). For example, Dana et al. (2006) present results from an experiment where the participants are first asked to share 10 USD in a dictator game. After making their decision the dictators are offered an exit option where they receive 9 USD and the recipient stays uninformed and receives nothing. If the decision in the dictator game solely reflects intrinsic moral motivation, no participant should choose the exit option, as it is dominated in monetary payoffs by the dictator game. However, they find that a substantial fraction of the participants exit. How can this be explained? Our study suggests that this may reflect feelings of guilt and shame, but also highlights that the decision to exit does not necessarily reflect a reluctance to share with the recipient. In Dana et al. (2006), the dictator is only given the choice between sharing (in line with the initial dictator choice, and in which case the recipient is informed) and not sharing, in which case the recipient is not informed about the situation. In such a setting, it is not possible to infer how much of the initial sharing was driven by extrinsic social motivation. In the present study, we separate these two dimensions, by allowing dictators who prefer not to inform the recipients to still share with them. Strikingly, we observe very little reluctant sharing, most dictators who prefer not to inform the recipient of their choice nevertheless give away a substantial share of the money.

The present experiment can also shed some light on pro-social behavior outside the lab. In a novel field experiment on charitable giving in the US, DellaVigna et al. (2012) show that social pressure is an important determinant of door-to-door household giving. Some of the patterns observed in this field experiment are in line with the observed behavior in the present study. First, they find that social pressure has greater effect for a local charity that is highly valued in the community than for an out-of-state charity, which corresponds to our finding that extrinsic social motivation plays a more important role when the dictator perceives that there is a moral argument for giving. Second, they observe that when a flyer with an opt-out opportunity is distributed in advance, households who give small donations

prefer not to open the door, which corresponds to our observation that dictators who give a small share prefer not to inform the recipient about their generosity. Third, they observe that the opt-out flyer increases the number of large donations, in line with what we should expect from the present experiment, where we observe that some dictators who give away a large share prefer to inform the recipient. This last point also suggests that the positive utility some people derive from being observed donating should be taken into account in welfare calculations of charitable door-to-door campaigns.

Finally, the present experiment highlights the fact that when studying whether lab behavior is associated with behavior outside the lab, it is important to have a clear understanding of the motivational forces at play in the experiment. In the treatments where the recipient is informed, there is no association between generous behavior in the lab and charitable giving outside the lab. This association only appears in the treatments that isolate the intrinsic moral motive for giving, in which we observe that dictators who give away more also report donating more to charitable organizations. Our design also reveals that intrinsically morally motivated individuals are not necessarily generous in the lab, they are only so if there is a moral argument for sharing, and even more if there is also an extrinsic social motive at play. Thus, the interaction between intrinsic moral motivation and extrinsic social motivation is essential for understanding moral behavior, both inside and outside of the lab.

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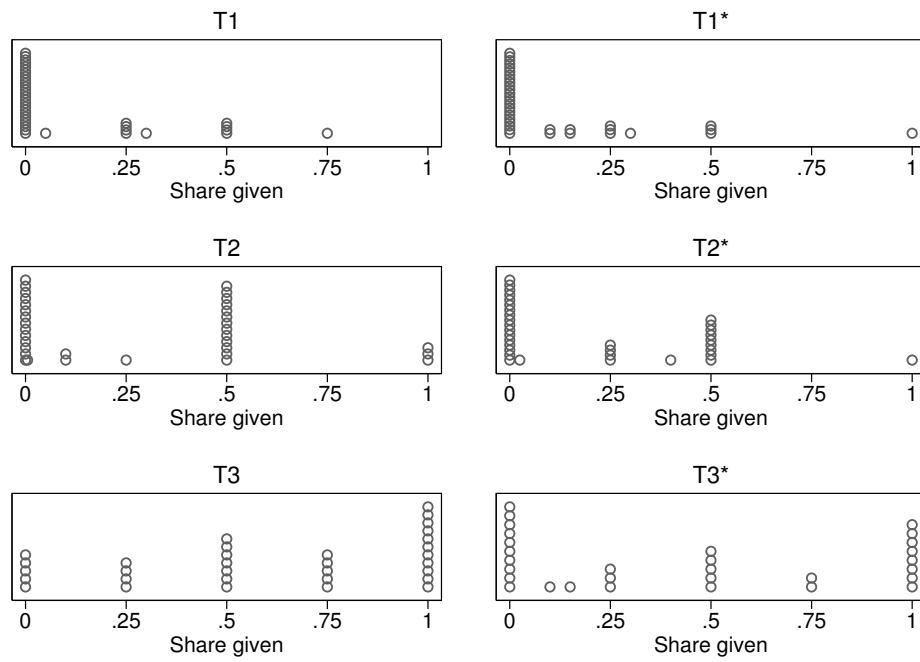
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Figure 1: Distribution of share given



Note: The panels show, by treatment, the distribution of the share given by the dictator to the recipient. The treatments are defined in Table 1.

Table 1: Treatments

Recipient	Information	
	no	complete
Student – not working	T1* (n=35)	T1 (n=36)
Student – working	T2* (n=33)	T2 (n=34)
Client – needy	T3* (n=30)	T3 (n=32)

Note: The table presents the six treatments in the study. **Recipient** refers to the characteristics of the recipient: “Student – not working” means that the recipient was another student who had not been working, “Student – working” means that the recipient was another student who had been working, and “Client – needy” means that the recipient was a micro-finance client from Tanzania. **Information** refers to the information condition, where “no” means that the recipient received no information about the context and decision made by the dictator and “complete” means that the recipient received complete information about the context and decision made by the dictator. The number of participants in each treatment is given by the number in parenthesis.

Table 2: Treatment differences: Share given

Recipient	Information	
	no	complete
Student – not working	0.116 (0.037)	0.114 (0.034)
Student – working	0.210 (0.046)	0.293 (0.055)
Client – needy	0.433 (0.076)	0.602 (0.065)
Total	0.245 (0.033)	0.326 (0.036)

Note: The table shows average share given by treatment. The treatments are defined in Table 1. Standard errors in parentheses.

Table 3: Regression analysis

	All treatments				T1*-T3*	T1-T3
	(1)	(2)	(3)	(4)	(5)	(6)
Moral	0.27*** (0.05)		0.20*** (0.07)	0.18*** (0.07)	0.18*** (0.07)	0.28*** (0.06)
Information		0.08* (0.05)	-0.00 (0.08)	0.02 (0.07)		
Moral×Information			0.13 (0.09)	0.11 (0.09)		
Charity				0.08* (0.05)	0.17** (0.07)	0.03 (0.07)
Left-wing				0.10* (0.05)	0.16** (0.08)	0.06 (0.07)
Female				0.03 (0.05)	-0.01 (0.07)	0.04 (0.07)
Age				0.04*** (0.01)	0.00 (0.02)	0.09*** (0.02)
Business training				-0.08*** (0.02)	-0.03 (0.03)	-0.13*** (0.03)
Constant	0.11*** (0.04)	0.24*** (0.03)	0.12** (0.05)	-0.69** (0.28)	0.03 (0.39)	-1.45*** (0.40)
Information + Moral×Information			0.13** (0.06)	0.14** (0.05)		
Observations	200	200	200	200	98	102
R ²	0.135	0.014	0.157	0.239	0.188	0.334

Note: The table reports regressions where the dependent variable is the share given by the dictator. Columns (1)-(4) include all observations, column (5) includes all observations from treatments T1*-T3*, and column (6) includes all observations from treatments T1-T3. The treatments are defined in Table 1. 'Moral' is a dummy taking the value one if the dictator is in the treatments T2, T2*, T3, T3*, 'Information' is a dummy taking the value one if the dictator is in the treatments T1-T3, 'Charity' is a dummy taking the value one if the dictator has given 500 NOK or more to charitable organizations in the previous year, 'Left-wing' is a dummy taking the value one if the dictator voted for a party in the left-wing coalition government in the previous election, 'Female' is a dummy taking the value one if the dictator is a female, 'Age' is the age of the dictator in years, 'Business training' is years of business training of the dictator, and 'Information + Moral×Information' is the linear combination of Information and Moral×Information. Standard errors in parentheses (* : $p < 0.10$, ** : $p < 0.05$, *** : $p < 0.01$).

Table 4: Opting in and out

Treatment	Choice of information	
	no	complete
T1	0.472 (0.084)	
T1*		0.400 (0.084)
T2	0.411 (0.086)	
T2*		0.575 (0.087)
T3	0.406 (0.088)	
T3*		0.367 (0.089)
Total	0.431 (0.049)	0.449 (0.051)

Note: The table reports, by treatment, the share of individuals that switched to the other information condition. The treatments are defined in Table 1. Standard errors in parentheses.

Table 5: Who opt in and out?

Treatment	Who opt in and out?		
	No switch	Choose no information	Choose complete information
T1	0.174 (0.058)	0.047 (0.024)	
T1*	0.088 (0.049)		0.157 (0.056)
T2	0.368 (0.060)	0.186 (0.099)	
T2*	0.161 (0.056)		0.246 (0.068)
T3	0.684 (0.074)	0.481 (0.115)	
T3*	0.347 (0.089)		0.582 (0.130)
Total	0.307 (0.032)	0.219 (0.053)	0.302 (0.053)

Note: The table reports the share given in the distributive choice, by treatment and by the choice of whether to switch to the other information condition. The treatments are defined in Table 1. Standard errors in parentheses.