Reputation and Influence in Charitable Giving: An Experiment

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Abstract

Previous experimental and observational work suggests that people act more generously when they are observed and observe others in social settings. But the explanation for this is unclear. An individual may want to send a signal of her generosity in order to improve her own reputation. Alternately (or additionally) she may value the public good or charity itself and, believing that contribution levels are strategic complements, give more in order to influence others to give more. We perform the first series of laboratory experiments that can separately estimate the impact of these two social effects, and test whether realized influence is consistent with the desire to influence, and whether either of these are consistent with anticipated influence. We find that "leaders" are influential only when their identities are revealed along with their donations, and female leaders are more influential then males. Identified leader's predictions suggest that are aware of their influence. They respond to this by giving more than either the control group or the unidentified leaders.

Keywords: Charitable giving, experimental design, reputation, influence, peer effects, altruism, gender

1   Introduction

Cooter and Broughman (2005) note that while many organizations publicly acknowledge their donors (e.g., in bronze plaques and opera programs), there is no systematic public record

of an individual's overall philanthropy. To remedy this, they suggest that the IRS should start a voluntary "donation registry." Citing laboratory evidence, they claim that "many Americans would be more generous if other people observed their level of giving." While no such registry has yet been implemented, a host of nonprofit institutions and applications on the internet publicize donations and aim to take advantage of social connections to promote giving.[1] More generally, an Independent Sector report (Kirsch et al., 2000) noted that 77 percent of donors contributed as a result of a request from someone they knew well. As Carman (2003) noted, "fundraisers often design their campaigns to leverage the power of social influences," including via university alumni networks, "walk-a-thons," and displaying "thermometers that measure dollars raised towards their goal or the proportion of people who have made contributions." While it is often supposed that making donations public will lead to an increase in giving, there is still a lack of evidence on whether, how, when, and why this occurs. Much experimental (lab and field) and observational work has shown that people sometimes act more generously when they are observed (and observe others) in social settings. For example, Soetevent (2005) ran a field experiment in churches in the Netherlands, and found that reducing anonymity (moving from closed bags to open baskets) increases donations for certain church offerings. However, there are several possible explanations for the increased giving.

An individual may give more in order to send a signal of her generosity (or wealth) and improve her own reputation (Harbaugh, 1998b; Glazer and Konrad, 1996). We call this the Reputation-Seeking or *Repseek* effect. Alternately (or additionally) she may value the charity itself, and, believing that contribution levels are strategic complements, give more when observed in order to influence others to give more and and thus magnify her gift; we refer to this as the *Influencer* effect.[2] In turn, we call the actual influence on the follower's gift *F-Influence*.

Our experimental design is the first that can separately measure *Repseek* and *Influencer*

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[1] E.g., JustGiving (UK-based; Firstgiving in the US), DonorsChoose, Kiva, Change.org, Wikipedia, SixDegrees, and Facebook's "Causes" employ various versions of this strategy. JustGiving, which reported 10 million users in February 2010, enables users to start fundraising pages for a particular cause, publicize their own donations, and recruit other donors, whose donations are sequentially posted on the page with their names or anonymously. A target and a measure of the total amount raised can also be posted. The US site touts that as of 2009 "supporters have raised over $115 million on Firstgiving for causes they care about" <http://www.firstgiving.com/Statements/about_us/team.asp>.

[2] We remain open to alternate explanations with a more psychological flavor. People may prefer giving in group settings or a group setting may cue an altruistic mode of thinking. Furthermore, at least in Soetevent's church setting, the effect may also include increased giving by "followers" who have observed previous gifts. If the followers are consistently favorably surprised by the gifts and gifts are strategic complements this may increase giving in net. However, having consistently incorrect priors (over others' gifts) is not an equilibrium phenomenon, and this explanation would not explain the increases in giving by first-movers when they are observed by others, as in Carman (2003).

effects. As we observe both leaders[3] (first-movers) and followers (second-movers) in a variety of anonymity/reporting conditions, we can measure the *actual* influence (*F-Influence*) of prior observed gifts and examine whether the apparent desire to influence is consistent with the achieved influence. We differentiate each of these effects by the gender of the leader and the follower, and by whether the reporting is anonymous or identified. Through eliciting incentivized predictions of what other subjects will donate, we are also able to impute the leader's *beliefs* of their own influence.

Our experiment was run on 170 student subjects at the laboratory at the University of Jena, Germany. The subjects first participate in a "meet and greet" stage in which they exchange names and their subject of study with another subject. After this, they read about the charity *Brot fur die Welt* (in English "Bread for the World"), an international development organization, and read the rules of the experiment, including a description and an example of their specific treatment. Next, the subjects, under several treatments, decide how much of their endowment to give to the charity. Subjects may keep what they do not donate.

The treatments differ in the information transmitted and obtained. Depending on treatment, the subject is either told that her donation will *not* be reported to any subject, told that it will be *reported anonymously* to a random subject, or told that it will be *reported, along with her identity*, to a specific subject. Similarly, subjects may receive *no information* about others' choices, information about *some* (anonymous) subject's gift, or information about an *identified* subject's gift.[4] When the donation is not going to be reported, there should be neither an *Influencer* nor a *Repseek* motivation. When it is reported anonymously, there may be an *Influencer* effect (a desire to influence giving either within or after the experiment) but no *Repseek* effect. When it is reported along with the identity, there is the potential for both an *Influencer* and a *Repseek* effect.

In section 2 we review both the theoretical and empirical/experimental literature. We consider the theoretical case for each of the social effects we are interested in. We survey relevant laboratory and field experiments in voluntary contribution mechanisms (henceforth VCM) and charitable-giving settings. In section 3 we describe our experimental design and implementation. Section 4 presents and interprets our results and tests against alternative explanations. We conclude in section 5 with summary and interpretation of our results, relating our findings to previous work, and highlighting the practical implications of our results.

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[3]The terms "leaders" and "followers" are for the purpose of this discussion only – we do not use these terms in the experiment itself.

[4]As a final dimension of variation this reporting may occur in the *middle* of the experiment, when it has a chance to influence another subject's laboratory giving behavior, or it may occur at the very *end* of the experiment.

2 Literature Review and Background

Previous researchers have modeled the *Repseek* motive, emphasizing that philanthropy can improve the donor's reputation as altruistic (Harbaugh, 1998a) or wealthy (Glazer and Konrad, 1996). These authors model reputation as a direct input into an individual's utility function. Alternately, reputation may be cultivated and used for personal gain. For example, in a prisoner's dilemma in a population with some conditional cooperators (e.g., reciprocal types as in Sugden, 1984, or agents with fairness norms as in Rabin, 1993) and asymmetric information over a player's type, a reputation for altruism may improve a player's expected profit.[5]

For the leader to have an *Influencer* motive she must believe that the magnitude of her (reported) gift has a positive effect on the a amount follower (who observes this gift) will donate. There are several possible explanations for this. First, if there is asymmetric information over the charity's value, a leader's gift may be a signal of the quality of the charity. This is modeled by Vesterlund (2003), and Potters et al. (2005) offer some experimental evidence for this in a standard laboratory VCM setting (rather than with an actual charity).

Second, there may be asymmetric information over the distribution of altruism in the population. For the reasons discussed above, an individual may seek to be known as altruistic relative to her reference group. Suppose each person knows her own altruism, but does not know the altruism of the others in her relevant reference group. She only has a consistent Bayesian prior belief of the family of distributions from which other players' altruism is drawn. Observing another player's gift gives her an informative signal of the altruism of others, and a larger gift will lead her to update her beliefs in a positive direction, and thus she may give more if she hopes to signal her own *relative* altruism.[6]

There are also a host of explanations based on psychological mechanisms that could explain the (potential) positive influence of a leader's gift. Conformity may be a primal desire in itself (Bernheim, 1994). Alternately, giving "less then the last guy" may lead to embarrassment, another primal. A reciprocity motivation (Sugden, 1984) can also explain this.

The leader's belief that she has an influence does not *in itself* imply that she will contribute

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[5]If my opponent has preferences that imply reciprocity and she believes that I am so altruistic that Cooperate is my dominant strategy, she will certainly choose to cooperate as well. Whether reputation yields a direct or an instrumental benefit, as long as giving boosts my reputation I will choose to give more when my contribution is observed than when it is anonymous; this is the *Repseek effect*. For example, if two players are playing a game that is a prisoner's dilemma in its material payoffs, and one player is altruistic and the other is a conditional cooperator and this is common knowledge, the cooperative outcome may be the only Nash equilibrium. See Ostrom (2000) for a related discussion of the survival of cooperative types in an evolutionary framework.

[6]Harbaugh (1998a) makes a similar point, noting that prestige benefits may be "relative to gifts by others", in particular a "reference group" of ones peers. He writes: "people should presumably increase their donations after being told that a member of their group has given a large amount." Romano and Yildirim (2001) offer a related model of "snob appeal."

more when she is observed. As a simple example, suppose that the leader gets utility only from private consumption and from her net impact on the charity's total receipts. Suppose she also believes that for every dollar she is observed to give her peers will give an additional dollar. In such a case, making her contribution observed is the same as offering a 50% price cut or a 100% match rate; these should have the same effect on her contribution.[7] In general, if a product's price decreases then expenditure on this product may increase or decrease, depending on the price-elasticity. Still, there may be some reason to anticipate a positive *Influencer* effect: if this observability is a rare opportunity, she is likely to take advantage of this *temporary* price cut by giving more than she otherwise would have (Randolph (1995) makes a similar argument in the context of tax incentives).

Several lab and field experiments have investigated social influences on cooperative behavior.[8] Charness and Gneezy (2008) compare giving in dictator games and ultimatum games and find that revealing the name of the proposer increased the amount transferred in the dictator game, but had no effect in the ultimatum game, where "strategic considerations crowd out impulses of generosity."

Social effects have been examined in many VCM experiments. Rege and Telle (2004) note that their subjects take less money out of the common pool when they are observed by other subjects. Levati et al. (2007) and Guth et al. (2007) make subjects' endowments heterogeneous, and have leaders report their gifts (but not their identities) to followers. They find that leaders' gifts are larger than followers' (particularly in later periods), and having a leader increases the average contribution. Our reanalysis of their data shows that the marginal influence of the leader on the other group members was close to 0.40 on average, i.e., when the leader gave $1 more, the followers gave 40 cents more (details available by request).

Potters et al. (2001) consider a VCM where the return to contributions is either complete or asymmetric information. All of their treatments involve a binary contribution decision, exogenously assigned leaders, and complete anonymity between subjects. They find that leaders give more and followers respond positively to these gifts when only the leader is informed, but not when returns are common knowledge. This is interpreted as evidence that leadership effects come exclusively from informative signaling, rather then from reciprocity motives.

Andreoni and Petrie (2004) (henceforth A&P) run a series of laboratory experiments, setting up five-subject groups who play eight rounds of a standard linear public good/VCM game. Subjects are rematched with new groups five times to play an additional eight rounds each time. The treatments include no-revelation, revealing identities alone (digital pho-

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[7]Unless she is also altruistic towards the *followers* (more so than towards the person providing the match), in which case the match may have more effect on her contribution than the observability.

[8]Table 11 in the appendix offers a summary.

tographs), revealing individual amounts contributed after each round, and revealing both identity and contribution. They find that revealing contributions *with* photographs positively and significantly affects the level of contribution.[9]

There are important differences between A&P's experiments and our own. A&P have a different focus – . They argue that "identification of other group members may serve to reduce social distance and encourage some level of social responsibility to the group." They do not consider reputation, and it is difficult to separately identify a *Repseek* and *Influencer* effect from their data. Since their subjects learn their payoffs after each round, they implicitly learn the group's net contribution after each period, and thus have a potential *Influencer* effect in all of their treatments.[10] It is unclear when identified subjects are contributing in order to boost their reputation outside the laboratory (the subjects are economics and business students at the same university), and when they are doing so in order to convince other people to cooperate with them in future rounds.

The most important difference between our experiment *all* of the other laboratory experiments mentioned is that our experiment involves giving to an external charity that is widely believed to be socially valuable, while they use a VCM environment in which all the contributions are returned to participants in the experiment. For each of the three effects, *Repseek*, *Influencer*, and *F-Influenced*, the fundamental issues are different for actual charitable giving.

In VCM settings it is unclear whether people have the "Nash construct" and whether there is common knowledge of rationality or of selfishness (Sugden, 1983). Even in a one-shot game, some people may essentially assume (or act as if it is the case) that if they give more that means others are doing so as well and hence they may simply be acting out of an ultimate desire to maximize their own payoffs.[11]

Desire for reputation in the charity setting is also distinct. People may desire a reputation for being cooperative in a game or for being generous to someone directly, but they may not care as much (or may care *more*) about a reputation for being generous to third party charities. Intuition, as well as most simple economic models would imply that, in the VCM environment, if subjects thought they had an influence, they would want to use it to increase their own monetary payoffs (see, e.g., Chaudhuri et al. (2006) for experimental evidence of this). But with charitable giving, this is a distinct and nontrivial question that depends on preferences. Economic models of giving differ over whether an individual gets utility from

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[9]They also find that the photograph treatment alone reduces the number of "laggards" (those who gave less then five of 20 tokens in the first period of four or more of the five eight-round treatments). This could be interpreted as a *Repseek* effect; albeit reputation only in a probabilistic sense (no one knows exactly how much you gave, but they will base their guess on the average gift).

[10]This is confirmed by their finding that revealing individual contributions without identities has virtually no effect. This should not be surprising: there is hardly any informational gain from those reports.

[11]See the discussion of "commitment theories" in Croson (2007).

others contributions, whether or not the individual *caused* others to make these contributions. According to a strict warm glow model (Andreoni, 1990) other's donation are inconsequential to an individual's utility. On the other hand, the warm glow could be interpreted to depend on an individual's net impact on total donations. If charity is a pure public good ("pure altruism"), an individual would gain as much utility from inducing others to donate as from giving herself. The predictions of a Kantian (mentioned in Sugden, 1983) or reciprocity model (Sugden, 1984) are not obvious.

People may be influenced by previous contributions in the VCM setting but not the charity setting, or vice-versa. As discussed above, if there is an influence in the charity setting it might be because previous gifts signal the charity's value, or signal the average level of altruism. It is important to understand whether these factors matter for a typical charity rather than for a lab-specific public good.

Several field experiments involving actual charitable giving are relevant (in addition to the aforementioned Soetevent). At least three such experiments present potential contributors with carefully selected information on previous contributions and observe how donations respond. Frey and Meier (2004) showed that students were more likely to contribute (a specified discrete amount) to at least one social fund supporting other students when they were told that 64% of their peers donated (in a recent semester) in comparison to when they were told that 46% of their peers donated (on average over the past ten years). The authors claim this is evidence of conditional cooperation, as in Fischbacher et al. (2001); we interpret it as suggestive of *F-Influence.*[12] Shang and Croson (2005) have callers to a radio fund informed that "we had another member, they contributed $75 [$180 or $300]" and find that the $300 treatment lead to significantly larger average donations, an apparent *F-Influenced* effect. Finally, Alpizar et al. (2008) run a field experiment at a national park in Costa Rica. They find an *F-influence* effect using a similar information-selection treatment as the other two papers. In addition, they also find evidence for a reputation-seeking motive: contributions made in front of the solicitor are significantly higher than contributions made in private, but donors did not have a possibility to influence others due to their behavior.

These information-selection treatments are not explicitly deceptive – the mentioned donations had indeed been made *at some point.* The also pertain directly to a potential fundraising tool. However, these findings do not correspond directly to the *F-Influence* effect we are seeking to identify.[13] It is unclear what information a participant should draw from these

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[12]While conditional cooperativeness could be a force behind F-influence, other models yield this as well.

[13]Another distinction between our work and both Frey and Meier (2004)and Shang and Croson (2005) focus on contributions to smaller-scale causes which offer either concrete benefits to the donor (public radio) or to close peers (fellow students), whereas our experimental contributions go towards a large-scale humanitarian cause.

announcements, as they were deliberately selected from a large pool of previous donations – some participant might have realized this. Furthermore, these papers can not isolate the influence of an *individual's* gift on her peers, and can not differentiate this effect by the characteristics of the leader and follower.

Carman (2003) examines the workplace giving campaign from a large national bank. She finds some evidence of a leader effect – *captains* and *pace-setters* give more (even after controlling for their observable characteristics) – but she cannot disentangle *Repseek* and *Influencer* effects. She also finds evidence for "the existence of social influences," but her estimates need to rely on a plausible but nontrivial set of assumptions over the error structure and instrumental variable validity but in order to overcome the usual obstacles to identifying social influences in a natural setting (see, e.g., Manski, 1993). She also notes that she cannot separate "endogenous" from "contextual" effects, and hence cannot determine whether contribution behavior responds to the "giving behavior of one's peers" or to the peers' inherent characteristics. While our estimates may also be also vulnerable to this problem, we are able to test for at least some potential contextual effects.[14]

In summary, although several papers identify various social influences on pro-social behavior, none separately identify *Repseek, Influencer, and F-influenced* effects in the context of charitable giving, nor can they link these effects and measure their consistency with each other.

3 Experimental Design

3.1 Implementation

Our experiments were conducted at the University of Jena on 80 male and 112 female subjects. Each subjects received €8, reflecting the local hourly wage level for students, who constituted most of our subjects. The experiment lasted for about one hour.

In considering reputation motives, we cannot rule out the possibility that subjects may care about their reputation *vis-a-vis* the experimenters, and this may interact with the *Repseek* effect and *Influencer* effect in unknown ways. Thus, we used very strong measures to guarantee subject-experimenter anonymity, and we made this anonymity common knowledge. The Jena University Experimental Lab was partitioned into an outer and inner part; it was made clear to all subjects that the inner part could not be seen from the outer part. The server PC

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[14]We also speculate that contextual effects (in particular, the extent to which an individual's personality motivates others to give) are likely to be less important in our experiment than in the context of a giving campaign, as our subjects meet only briefly and the meeting occurs before they know that the experiment involves charitable giving.

and the experimenter remained in the outer part. Subjects drew a random number in private (not revealed to the experimenter) to determine their computer terminal. After the door separating the inner and the outer lab was closed they were instructed to go to the terminals. The session in the inner part of the lab was administered by a subject volunteer, who otherwise did not take part in the experiment. This subject was instructed to supervise the meet and greet stage (outlined below), to communicate with the experimenters in case subjects had questions during the experiment, and to distribute the sealed envelopes with payments at the end of the experiment.[15]

3.2 Sequence and reporting structure

Subjects were randomly assigned to two groups labeled *Phase 1* and *Phase 2*: *Phase 1* subjects made their donation decisions before the *Phase 2* subjects. Phase 1 subjects were given treatments that varied in the reporting structure (no reporting, anonymous reporting, or identified reporting) and in *when* this donation was to be reported (before or after phase 2 choices). The reporting structure is summarized in figure 1. Phase 2 treatments differed in the information a subject *received* about another subject's behavior. Phase 2 subjects received either anonymous reports about phase 1 subjects' donations, reports from phase 1 subjects they could identify, or no reports. Each subject participated in *either* Phase 1 *or* Phase 2.

3.3 Meet and greet stage

To create some social connection between potential partners and make them identifiable to each other, we conducted a *meet and greet* (M&G) stage prior to the treatments. In this stage, subjects meet and exchange their names and fields of study (or professions). To control for the possibility that this social interaction has a direct effect on giving behavior, all subjects participated in this stage, whether or not they were in treatments with identified reporting. Subjects in the anonymous reporting or no-reporting treatments were told (shortly before making their donation choice) that the person they met would not see their donation, nor would they see this person's contribution. Where the subject's treatment involved revealing his or her identity and donation to another subject, or receiving such a report, these subjects were assigned to be "partners" in the meet and greet stage, and were informed of this. Subjects who received a report at the end of the experiment were not informed that this would occur in advance.

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[15]We used a subject volunteer both to allow subject-experiment anonymity and to ensure that our promise to donate these funds to BFDW was credible. The subject volunteer was randomly assigned. As the computer screens were separated by privacy barriers and the payment envelopes were sealed, the volunteer did not learn individual subjects' contributions, and this was made clear to all subjects.

At the point of the initial M&G stage subjects did not know what would follow - the detailed instructions came subsequently.[16]

Figure 1: Summary of Experimental Design
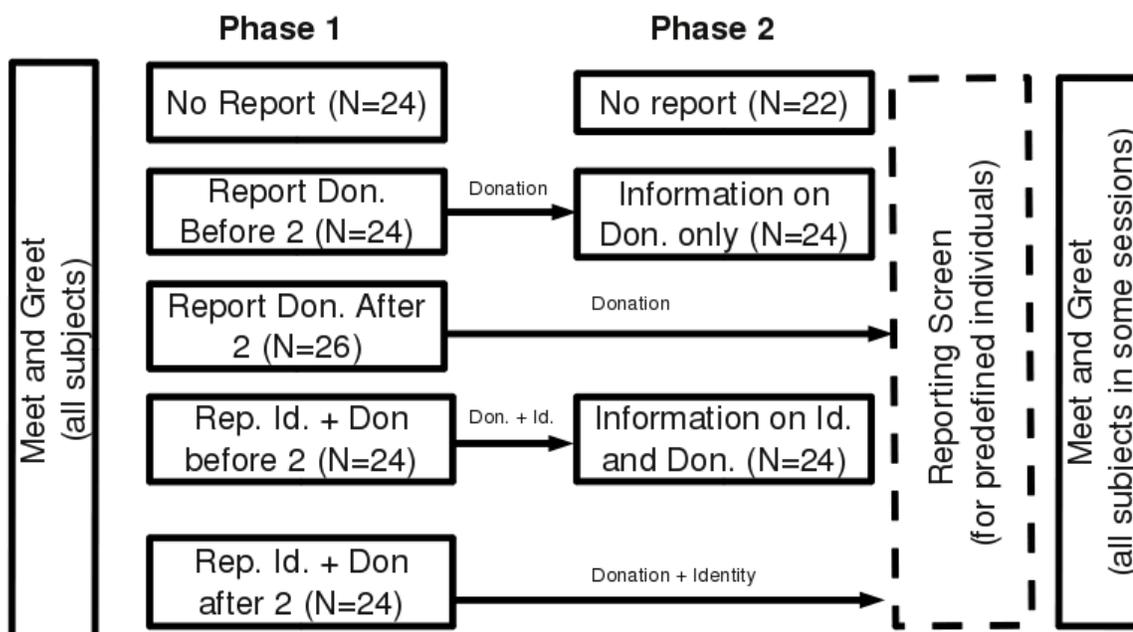
3.4 Treatments

In the *baseline* "No Report" treatment (BL) subjects' donations remained anonymous - neither the gift nor the identity were revealed to any other subject within or outside the experiment.

In treatment "*Reporting Donation before phase 2*" (RDb2) the donation but not the identity of the subject was revealed *before* phase two to another subject, before this subject made

[16]This was implemented as follows: The volunteer monitored the M&G stage and was advised to inform us if something went wrong. Subjects reported to their desk where they found - on the first page of their instructions - their subject number on a sticker and an explanation of the meet and greet stage. The computer screen advised them then to stand up again and meet the assigned partner, whose number was displayed on the computer screen. They then stood up and met the other subject and exchanged names, ages and fields of study or job. The volunteer then - after five minutes - announced that it was time to return to the computers and the experiment continued at the terminals. In sessions 10-12, as a robustness check, subjects also met in a second meet and greet stage that was announced only to subjects whose decision and identity was reported to their partner, after all decisions had been made. In the analysis we pool these two conditions, as we do not find significant differences in behavior along our main treatments. (ranksum tests: p-values between 0.17 and 0.97)

a decision. In treatment "*Reporting Donation after phase 2*" (RDa2) the donation but not the identity was revealed *after* phase two. Treatments RDIb2 and RDIa2 were similar to RDb2 and RDa2, but here both the leader and follower knew each other's identities from the M&G stage.

In treatment "*Received Anonymous Information*" (RecAI) phase 2 subjects received information on the donation from a non-identified subject and in treatment "Received Identified Information" (RecIdI) they received information from an identified donor. In both "received information" treatments a subject's second phase donation was not reported to any other subject.

3.5 Eliciting beliefs

After phase 1 subjects made their donation choices we elicited these subject's to predict the average donation of subjects who had neither received nor given a report. Subjects in a reporting treatment were also asked to predict the gift their partner (the person to whom their donation was to be reported) made. The subjects were paid 1€ if their first guess was within a range of 1€ of the actual donation or their second guess was within 1€ of the average donation.[17] At the end of the experiment, all payments were distributed in numbered envelopes by the subject volunteer. Furthermore, subjects were given a report on an A4 page on how much they donated (this report did not contain any information that could link the donation to the subject) which subjects were to check and, if correct, put in a box at the entrance.[18] This box was then emptied by the volunteer and the sum of all donations was calculated. The volunteer then observed that the experimenters transferred the aggregate amount donated to the charity. This procedure was known to the subjects before they made their donations.

4 Results and interpretation

Table 1 gives an overview of the hypothesized effects of each treatment on the "motives" for giving - i.e., the ways in which a subject's own donation could increase her utility either directly or indirectly. An "X" is marked in the table where we hypothesize that an effect

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[17]We are aware that from a theoretical point of view this compensation may not elicit the mean of the distribution of a subject's beliefs, but will favor modal predictions. We choose this because it was easier to explain than a more complex rule such as quadratic scoring, and because a feasible quadratic compensation scheme tends to offer rather flat incentives at points close to the correct prediction.Sonnemans and Offerman (2001) offer evidence suggesting that even a flat fee leads to good judgments; hence we do not expect the choice of scoring rule to matter much.

[18]All reports were returned to the box.

Table 1: Composition of Potential Motives Present inPhase 1 Treatments

Treatment	Intrinsic	Influence inside	Influence Outside	Reputation
Baseline (BL)	X			
Report don. (not id) *before* St. 2 (RDb2)	X	X	X	
Report don. (not id) *after* St. 2 (RDa2)	X		X	
Report don. *and id before* St. 2 (RDIb2)	X	X	X	X
Report don. *and id after* St. 2 (RDIa2)	X		X	X

may be present for some or all subjects. However, we allow that the presence of each of these motivations may lead to nonlinear effects on donations, and there may be interactions in utility function itself (e.g., the marginal utility of reputation may decline as the "impact utility" one gains from influencing others to give more increases). In the baseline treatment nothing is reported to others; here giving can not be motivated by reputation concerns nor the desire to influence other subjects. We will label the remaining motivation to make an anonymous donation "intrinsic"; this could include most of the models presented in recent work, including warm glow (Andreoni, 1990), the desire for impact (Duncan, 2004), and/or the desire to supplement a public good. In treatments RDb2 and RDIb2, where the donation is "reported before," there also may be a motive to influence the subject to whom the donation is reported to give more within the lab. When identity is also revealed (RDIb2 and RDIa2) donating more may also boost a subject's reputation. While reporting after phase 2 eliminates the possibility of influencing another subject's laboratory behavior, these reports (as well as the other reports) may influence real world behavior after the end of the experiment, and reporters may anticipate this.

4.1   Phase 1 donations: Repseek and Influencer effects

We begin by analyzing donations in the first phase. Table 2 displays average donations by treatment, broken down by whether and when the donation was reported (before or after phase 2) and according to whether the identity was revealed when reporting.

When a subject's donation is reported *before* phase 2 contributions are significantly higher when the identity is also reported: the difference is €1.15 (t-test p-value: 0.025, rank-sum p-value: 0.025). However, there is no significant difference between the identity reporting treatments when the reporting occurs *afterward* (Difference: €0.35; t-test p-value: 0.489; rank-sum test p-value: 0.568). Pooling across treatments, the difference between *Report before* and *Report after* is -€0.10 and not significantly different from zero (t-test, p-value: 0.777; rank-sum test, p-value: 0.773); nor is the general difference between *Identity reported*

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Table 2: Summary Statistics: First Stage Contributions by Treatment (in Euros)

	No report	Report before	Report after	Total
Identity not reported				
Mean	1.69	1.64	2.49	1.95
Std.Dev.	1.92	1.39	1.97	1.8
Median	1.75	1.00	2.00	1.75
Share pos. contr. (%)	60.67	79.17	92.31	82.64
Mean if contr. pos.	2.52	2.08	2.70	2.48
N	24	24	26	74
Identity reported				
Mean		2.79	2.14	2.46
Std.Dev.		1.98	1.55	1.79
Median		3	1.5	2
Share pos. contr. (%)		95.83	95.83	95.83
Mean if contr. pos.		2.91	2.23	2.57
N		24	24	48
Total				
Mean	1.69	2.22	2.32	2.16
Std.Dev.	1.92	1.79	1.77	1.81
N	24	48	50	122

and *Identity not reported* (Difference: -0.38; t-test p-value: 0.289; rank-sum test p-value: 0.284).[19]

Table 3 estimates Poisson regressions (the Poisson pseudo-maximum likelihood – PPML – estimator) and OLS regressions of the first-phase donation decision, estimating a separate effect for each of the reporting and reporting-timing treatment dummies. In table 3, columns (1) and (2) show the interactions of the dummy variables, columns (3) and (4) add controls for gender and gender composition in the meet and greet stage. In column (5) and (6) we control for whether the subject had already donated to BfdW or a similar charity (outside the lab) in this year. Columns (7) and (8) finally add an additional independent variable and subjects' prediction for the average contribution. We include the latter term to control for

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[19]There is an apparent anomalous result: subjects whose anonymous donation will be reported to another subject at the end of the *experiment* donate more on average than those whose anonymous donation will be reported to another subject before (and hence have a chance to influence) this follower subject's decision (€2.49 versus €1.64). This accords with our result (Table 4) that *anonymous* leaders' gifts have a negative but insignificant relationship to followers' gifts. On the other hand, as we show in section 4.3, both anonymous and identified leader subjects implicitly predict a positive relationship between their donation and the follower's choice. But such theoretical speculation is probably not necessary: this result (the greater contribution of *RDa2* subject) is only marginally significant in simple tests, and the relevant coefficient is insignificant in controlled regressions (table 3) and disappears almost entirely when we control for a subject's prediction for other subject's average contribution (table 3, columns 7 and 8). As the latter control may be a proxy for a subject's own generosity, this suggests that that the apparent anomaly is an artifact of small-sample bias.

what subjects might see as the appropriate gift and further reduce the potential small-sample bias from random variation in the subjects assigned to each treatment.[20] The additional ef-

Table 3: Regressions of Phase 1 Donations

	(1) Psn.	(2) OLS	Gender ctrls. (3) Psn.	(4) OLS	Other ctrls. (5) Psn.	(6) OLS	Belief ctrls. (7) Psn.	(8) OLS
Report before phase 2 (d)	-0.055	-0.044	0.0037	0.013	0.084	0.11	-0.38	-0.33
	(0.597)	(0.483)	(0.598)	(0.499)	(0.535)	(0.434)	(0.491)	(0.410)
Report after phase 2 (d)	0.85	0.80	0.74	0.70	0.89	0.85	0.25	0.28
	(0.618)	(0.549)	(0.624)	(0.568)	(0.594)	(0.538)	(0.432)	(0.402)
Report Id. before 2 (d)	1.33**	1.15**	1.29**	1.13**	0.85	0.79*	1.26*	1.01**
	(0.655)	(0.494)	(0.641)	(0.496)	(0.539)	(0.459)	(0.670)	(0.507)
Report Id. after 2 (d)	-0.31	-0.35	-0.32	-0.37	-0.43	-0.50	0.045	-0.0099
	(0.408)	(0.499)	(0.401)	(0.504)	(0.403)	(0.523)	(0.304)	(0.332)
Female (d)			-0.33	-0.34	0.26	0.29	0.38	0.41
			(0.520)	(0.562)	(0.290)	(0.310)	(0.257)	(0.291)
Partner female (d)			-0.60	-0.57				
			(0.522)	(0.515)				
Fem. × Par. fem. (d)			1.05	0.97				
			(0.804)	(0.724)				
Previously donated (d)					0.95**	0.97**		
					(0.383)	(0.389)		
Belief: av. contr.							0.49***	0.69***
							(0.089)	(0.154)
Combined Coefficients								
Report b4 + Id. Rep.	0.503*	1.104*	0.522**	1.143**	0.405	0.897*	0.344	0.679
	(0.268)	(0.562)	(0.267)	(0.570)	(0.259)	(0.536)	(0.221)	(0.479)
Report after + Id. Rep.	0.236	0.450	0.183	0.333	0.189	0.352	0.149	0.273
	(0.270)	(0.503)	(0.297)	(0.576)	(0.265)	(0.499)	(0.193)	(0.319)
Observations	122	122	122	122	122	122	122	122
R^2		0.061		0.081		0.126		0.391
Pseudo R^2	0.024		0.032		0.048		0.135	

Marginal effects; Robust standard errors in parantheses
(d) for discrete change of dummy variable from 0 to 1
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

fect of identification relative to anonymous "Report before phase 2" (the third row of table 3) is significant and positive in all but one specification; the other marginal effects are not significant. This is consistent with a greater desire to influence, and/or a greater anticipated influence, when a leader's identity is reported.

The coefficient on the binary variable "Previously donated" is positive and significantly different from zero. This accords with previous evidence (e.g., Landry et al., 2008) that people who have previously donated to a specific cause donate more when approached again.

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[20]While some might argue that this final control could be endogenous, reflecting a subject's ex-post justification of her own decision, we note that (i) subjects have a financial incentive to make accurate predictions and (ii) the inclusion of this control does not substantially affect our key results.

4.2 Phase 2 donations: F-Influenced

We next examine whether subjects actually *have* an influence on their partner's contribution (when their gift is reported). In table 4, columns (3) and (4), we observe a positive and significant relationship between the level of the reported gift and the donation of the subject to whom this was reported *if* the reporter's identity was observed. Columns (5) and (6) show that this effect is mainly driven by donations of subjects whose partners are female.

Table 4: Regressions of Phase 2 Donations

	Ctrbn. Partner		Id. interact		Gender ctrls.	
	(1)	(2)	(3)	(4)	(5)	(6)
	Psn.	OLS	Psn.	OLS	Psn.	OLS
Info. Id. (d)	0.77	0.76	-0.57	-0.75	-0.58	-0.96
	(0.475)	(0.488)	(0.887)	(1.066)	(0.769)	(0.886)
Partner Contribution	0.13	0.16	-0.48	-0.34	-0.49	-0.39
	(0.174)	(0.246)	(0.398)	(0.287)	(0.362)	(0.278)
Id. inf. × contr. P.			0.73*	0.74*	0.54	0.52
			(0.426)	(0.431)	(0.423)	(0.370)
Female (d)					-0.40	-0.42
					(0.475)	(0.547)
Partner female (d)					-0.30	-0.52
					(0.498)	(0.485)
Id. inf. × contr. P. × partner fem.					0.27*	0.55**
					(0.149)	(0.257)
Combined Coefficients						
Contr. partner + id. inf.× contr. partner			0.142*	0.404	0.033	0.129
			(0.085)	(0.322)	(0.089)	(0.227)
Contr. partner + id. inf.× c.p. × fem.					0.192***	0.676***
					(0.040)	(0.203)
Observations	48	48	48	48	48	48
R^2		0.078		0.170		0.271
Pseudo R^2	0.039		0.082		0.112	

Marginal effects; Robust standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p<0.10$, ** $p<0.05$, *** $p<0.01$

When the identities are not observed there appears to be a negative - although not significant - relationship between the gifts.[21],[22]

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[21] Subjects in the anonymous reporting condition may see their own gift as a substitute for the partner's gift and therefore donate less if their partner donated more; a "crowding-out" effect. The scale of this charity makes it doubtful seem that the partner's gift will significantly affect the marginal value of a contribution (as a public good). Still, subjects may gain warm glow from their partner's contribution, and this may have rapidly diminishing returns. Similarly, the subject may set a giving target for the whole experimental group and the reported gift may lead them to increase their expectations over others' total contributions and hence lower their own contribution. In the case where the partner's identity has been revealed, this crowding-out effect might be replaced by a feeling of reciprocity and/or solidarity towards the other subject and therefore the gifts may be complements

[22] Note that the Phase 1 subject never observes the Phase 2 subject's choice; there is no "back-reporting."

Carman (2003) notes that the possibility of a "contextual" influence from the "characteristics of one's peers" rather than through their giving behavior. Table 5 tests for such "contextual" effects of M&G partners. Such effects via characteristics that we (the researchers) do not observe; for example, having an M&G partner from with a sympathetic face might cue a higher level of contribution. If this (partner's) characteristic is also correlated to the (leader) partner's contribution, our estimate of the influence of a reported gift may be entangled with this contextual effect and hence biased upwards. Columns 1 and 2 measure contextual effects of M&G partners who do *not* send or receive a donation report to one another.[23] We find no evidence of a "spurious" contextual effect correlated to the M&G partner's contribution – the estimated parameters on "ContrMaGPartner" are close to zero with small estimated standard errors.[24] We find some evidence of a contextual effect through gender – having a same-sex M&G partner seems to increase donations, although this effect is only significant at the 10% level.)[25]

Table 5: Contextual Effects

| | (1) | (2) | (3) | (4) |
	M&G Contact (Poisson)	M&G Contact (OLS)	Id'd. report (Psn.)	Id'd. report (OLS)
ContrMaGPartner	0.014	0.029	0.11	0.33
	(0.036)	(0.077)	(0.070)	(0.302)
Female	-0.13	-0.25	0.11	0.090
	(0.228)	(0.436)	(0.653)	(1.550)
Partner female	-0.26	-0.47	0.47	1.13
	(0.261)	(0.457)	(0.411)	(1.082)
Fem. $\times$ Par. fem.	0.56+	1.08+	-1.15	-2.02
	(0.327)	(0.604)	(0.754)	(1.717)
Constant	0.68**	1.97**	0.34	1.15
	(0.171)	(0.352)	(0.471)	(1.083)
Observations	144	144	24	24
R^2		0.035		0.242
Pseudo R^2	0.016		0.111	

Robust standard errors in parentheses
+ p<0.10, * p<0.05, *** p<0.01

Subjects in the second phase did not know that there would be a second meet and greet stage (in sessions 10-12) after all subjects made their donations, so they were not likely to fear that they might be asked by their partner what they donated (although we can not rule out this expectation).

[23]At least not until after the follower subject makes her own choice; we remove subjects in RDIb2 and RecIdI treatments only.

[24]Although we can not separate this contextual effect in the case where a leader's identified gift is reported, these results suggest that this should not be a concern.

[25]In columns 3 and 4 we examine the 24 subjects who received an identified report from their M&G partner – here we find no significant contextual effects (of gender), but the small subsample size and consequent large standard errors implies that this is not a very powerful test.

4.3 Predictions: perceived influence

If the increased giving by leaders is consciously driven by the desire to influence followers, this implies that the leaders *believe* they have an influence. For leaders who "report before," we would like to know what the leader believes is the follower's response function – the expected contribution as a function of the amount reported to the follower. Suppose that the leaders' gifts were determined exogenously, or that the factors that determine how much a leader gives are uncorrelated to her beliefs about the follower's response function. In such a case the leader's average expected response function could be consistently estimated as the empirical slope of the "report before" leaders' predictions in these leaders' own contributions. Given this exogeneity, for leaders who report at the end, the equivalent empirical slope should be zero, as their ex-post reports can have no influence on prior behavior.

Figure 2: Predictions by Own Contribution

Graphs by Reporting treatment
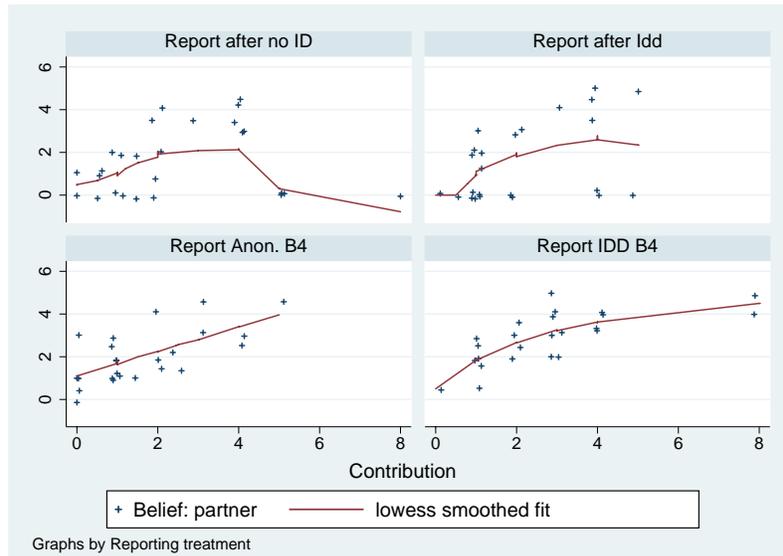
In the RDb2 and RDIb2 treatments, a leader's predictions for his partner's gift indeed does increase in the leader's own donation, as seen in the lower right and left scatterplots of figure 2.[26] This slope is positive and significant in regression analysis across a variety of specifications (see appendix C.1). However, the slope is also moderately positive in the upper left and right plots, for the RDa2 and RDIa2 treatments, where no influence is possible. This suggests a potential latent variable bias: the expected response functions are not orthogonal to own contributions. Those who contribute more may have a more rose-colored view of

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[26] The scatterplot points are given a small random "jitter". These are fit with lowess smoothed lines.

the world, trusting charitable organizations and believing others to be generous[27] (and with a reciprocity motive belief that other subjects will donate may itself increase donations).[28]

Still, there is an important difference between the *Report before* and *Report after* plots. While 22 of 50 subjects in the *Report after* treatments predict their partner will contribute zero, only 1 of 48 *Report before* subjects makes this prediction. This difference is strongly significant across a range of parametric and nonparametric tests (available by request). To the extent that leaders predict an influence, it seems to be at the extensive margin: some leaders believe that revealing their own contribution lead their partner to give a positive amount rather than give nothing.

These results can be made robust to certain framing effects. It is conceivable that the *Report before* treatments have an independent effect on a subject's beliefs over the contributions of others (but-for any influence of reported donations), an effect that is distinct from that of the *Report after* treatments, and an effect that may vary according to a subject's own generosity, potentially affecting the relative slopes in the above figure. To the extent that this framing effect is the same for beliefs over "average" donations, we can use the subject's predictions of this as a control.

Figure 3: Predictions by own contribution; relative to predicted average

Graphs by Reporting treatment

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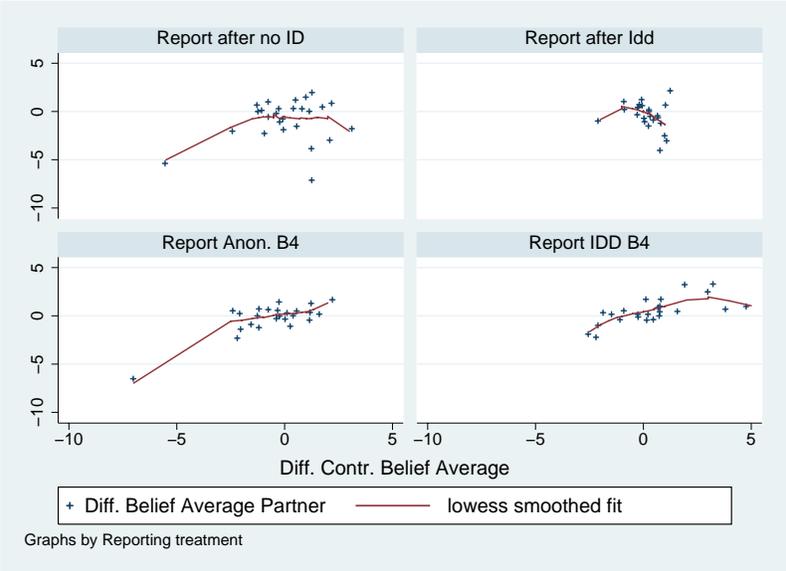
[27]This effect is known in the psychological literature as the "false consensus effect". Subjects use their own type (in this case preference for charity) to make inferences over the generosity of the population. Insofar as the charitable giving interaction resembles a VCM game, this would also reflect the common observation that "those who believe others will cooperate in social dilemmas are more likely to cooperate themselves" (Ostrom, 2000).

[28]This interpretation is further supported by the significant positive slope of predicted average contributions in own contributions (details by request).

Figure 3 is similar to figure 2, but here the variables on both axes are expressed relative to (i.e., differenced from) the leader's prediction of the average contribution. Here the slope is less pronounced; naturally, predictions for partners are strongly positively related to predictions for the average subject (who gets no report), and both are positively related to own contributions. Still, the slope appears somewhat positive in the "report before" treatments and close to flat in the "report after" treatments. The significance of these results are confirmed by regression analyses (in appendix C.1) that control for the "predicted average" variable. Again, the results are driven by the predicted zero contributions in the "report before" treatment.[29]

We do not claim to have eliminated all possible sources of bias. If there is indeed a *Repseek* and an *Influencer* effect then leaders' contributions themselves are likely to be higher (for a given level of underlying preferences and beliefs) under these reporting treatments, and hence a particular size gift will tend to come from a *less* generous person under these reporting treatments. To the extent that those who donate more tend to predict that their partner would give more (but for the influence of their own reporting) relative the mean, this would lead towards a bias *against* finding a predicted influence.

We see no evidence that predicted influence differs substantially between identified and unidentified reporting. Although, as demonstrated in section 4.2, the influence appears stronger when identities are reported, the leaders predictions do not reflect this.

5 Conclusion

This experiment is the first (to the best of our knowledge) to disentangle three components of the motivation for charitable giving in social settings. We find that (RDIb2) subjects – who are told that their donation and identity will be revealed to another subject *before* the follower subject's donation choice – give more than the subjects in the no reporting (BL) treatment, and also more than the (RDIa2) subjects whose donation and identity is be reported *after* the follower subject's choice. We interpret this as evidence that individuals' utility comes not only from their own contributions, but also from their *impact* on the total amount contributed. The RDIb2 leaders correctly perceive that their contribution will have a positive influence on the subject it is reported to, and thus donate more to take advantage of what is, in effect, a temporary price reduction.

Our evidence also points against a *Repseek* effect in this context: RDIa2 subjects do not

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[29]As shown in appendix C.1, this "zero-driven" difference in relative average slope leads to a significant interaction coefficient in "one-stage" regression specifications but not in the conditional-on-positive part of two-part specifications such as zero-inflated-Poisson.

donate more than BL subjects. Further, we do not find a significant effect for pairs with any particular gender composition. However, reputation seeking is likely to depend on the nature and closeness of individual relationships; hence, we cannot rule out the possibility that reputation-seeking drives charitable giving in certain real-world environments.

A follower's gift tends to tends to *increase* in a leader's gift only when the leader is identified. This suggests that influence is a complex psychological phenomenon, not the product of a consistent Bayesian updating (of beliefs over the average contribution nor over the worth of the charity); on average, such updating should be the same for identified and unidentified reports, as both are random draws from the population of subjects.

The influence is found particularly when the leader is female.[30] This relates to earlier findings that female solicitors are more successful then males in some contexts (Lindskold et al., 1977, Landry et al., 2006), and contrasts with evidence that men tend to be more influential in general social settings (Carli, 2001).

Leader subjects' predictions suggest that they believe they have an influence on their partner's donation; in particular, they seem to predict that they will have an influence on their partner's extensive margin decision (to donate versus not donate).

The experimental behavior in this domain seems to reveal preferences that direct questioning cannot. In survey questions (administered after donation decisions were made), virtually none of the subjects reported that their giving decisions were motivated by either reputation-seeking, a desire to influence others, or by the donations they observed.

Our paper makes an important contribution to the literature on the motivation for altruistic decision-making in a social context, as well as to the evidence on gender roles in the arena of other-regarding behavior. Our findings are also relevant to the study of group dynamics, leadership, and influence (see, e.g., Hoyt et al., 2006). Finally, our results have direct implications for practitioners. Fundraising campaigns that employ peer-driven strategies such as "leadership giving"[31]and "conspicuous compassion" (Bekkers and Wiepking, 2008) must do so carefully: in our experiment receiving a report of a "leader's" decision does not increase followers' contributions on average; only reports of larger gifts have a positive effect. Furthermore, "disembodied" anonymous reports may not be influential: follower's gifts only have a positive relationship to reports from *identified* leaders. However, reports need not come from close connections to be influential – even the brief acquaintance our subjects have with their "meet and greet" partner appears to matter. Finally, our results suggest that charities may prefer to focus on using *females* as leaders and pacesetters.

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[30]This suggests that charities may prefer to focus on using *females* as leaders and pacesetters.

[31]

Andreoni (2006) notes "The importance of the leadership phase of fund-raising is emphasized in almost all handbooks for fund-raisers."

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A   Screenshots[32]

Figure 4: No report

Donation Phase

Your endowment: €8.00

Your decision will remain completely anonymous.

Please enter the amount, that you would like to donate to *Brot für die Welt*:

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[32]Note to editor: For space considerations we recommend that this entire appendix (except perhaps part D) be put as an online supplement.

Figure 5: Report donation only before phase 2

Donation Phase

Your endowment: €8.00

Your decision, but not your identity, will be shown to another participant for information purposes, be for he or she makes a donation.

This participant will see your donation again, after all decisions in this experiment have been made.

Please enter the amount, that you would like to donate to *Brot für die Welt*:

Figure 6: Report Donation Only After Phase 2

Period

1 out of 1

Remaining Time [sec]: 46

Spenden Phase

Ihre Ausstattung   €8.00

Ihre Spendenentscheidung aber nicht Ihre Identität wird einem anderen Teilnehmer zur Information gezeigt
nachdem alle Entscheidungen in diesem Experiment getroffen wurden.

Bitte geben Sie jenen Betrag ein, den Sie an *Brot für die Welt* spenden wollen:

OK

Donation Phase

Your endowment: €8.00

Your decision, but not your identity, will be shown to another participant for information purposes, be for he or she makes a donation. The other person will see your donation again, after all decisions in this experiment have been made.

Please enter the amount, that you would like to donate to *Brot für die Welt*:

Donation Phase

Your endowment: €8.00

Your decision and your identity will be shown to participant 16 for information purposes, before he or she makes a decision.

Participant 16 was your partner in the "Meet and Greet" stage. You will meet this participant again at the end of the experiment.

This participant will see your donation again, after all decisions in this experiment have been made.

Please enter the amount, that you would like to donate to *Brot für die Welt*:

Figure 8: Report Donation and Identity After Phase 2

Donation Phase

Your endowment: €8.00

Your decision and your identity will be shown to participant 12 for information purposes after all decisions have been made.

Participant 12 was your partner in the "Meet and Greet" stage. You will meet this participant again at the end of the experiment.

Please enter the amount, that you would like to donate to *Brot für die Welt*:

Figure 9: Treatments Phase 2

Donation Phase

Your endowment: €8.00

Another participant in this experiment has donated to *Brot für die Welt:* € 0.00

Your decision will remain completely anonymous.

Please enter the amount, that you would like to donate to *Brot für die Welt*:

Donation Phase
Your endowment: €8.00
Participant 8 – your partner in the meet and greet stage – has donated to *Brot für die Welt:* €
0.00
Your decision will remain completely anonymous.
Please enter the amount, that you would like to donate to *Brot für die Welt*:

B   Protocols

B.1   Experimenter oral presentation: Wording and protocol

"Thank you for showing up for this experiment. We first will determine a volunteer who will
help us in administrating the experiment"

[Determination of Volunteer]

"The laboratory is - as you can see - divided into two parts. The inner part [SHOW THE
INNER PART, WHERE SUBJECTS ARE SEATED] can not be observed from outside. This
assures the anonymity of your decisions. The experiment starts with a *Meet and Greet Stage*,
in which you will introduce yourself to another participant. This event will take place in the
inner part of the lab and will take 5 minutes. To find your assigned partner easily you will
get a sticker with a number on it. Please place this sticker visibly on your cloths. Further
instructions will follow. Please do not forget to take off your sticker before leaving the lab.

Now please draw a sticker and go to the place indicated by the sticker number in the inner part of the lab.

If there a no further questions, please go into the inner part of the lab the last person please closes the door [EXPERIMENTERS ARE IN THE OUTER PART] Your payment will be distributed in envelopes by the volunteer at the end of the experiment."

B.2 Payment Procedure

After all decisions have been made a file with subject numbers and payoffs is generated. The experimenters put the amount in a labeled envelope and close it. The envelopes have all roughly the same weight. After that, the volunteer is called in to distribute the envelopes to the subjects. Subjects are then asked to sign that they have received the money and put the receipt in a closed box before leaving the lab. This box was then emptied by a research assistant who was not familiar with this particular experiment to do the accounting.

C Supplementary Statistics and Data

C.1 Perceived influence: regressions

We can implicitly measure the leaders' beliefs about their influence using their elicited beliefs about others' contributions. Define:

Blfpn, a subject's reported belief of the contribution of her partner,

Ctbn, a subject's own contribution,

Blfav a subject's reported belief of the average contribution of a "subject who does not get a report",

Rpb2, a dummy indicating whether the subject's contribution was reported to another subject before that subject's contribution decision,

Idd, a dummy indicating whether the subject's identity was reported with this contribution.

In columns 1 and 2 we estimate versions of the following equations with both Poisson and OLS regressions:

$$Blfpn = f(\beta_1 RPB4 + \beta_{BA} Blfav + \beta_C Ctbn + \gamma Rptb2 \times Ctbn) + \varepsilon \qquad (1)$$

Equation 1 models a homogeneous predicted influence, pooling identified and unidentified reports. In columns 3 and 4 we allow an interaction with the identified treatment, estimating:

Table 6: Perceived influence

Dependent var.:	(1) Poisson	(2) OLS	(3) Psn	(4) OLS	(5) Psn, donors	(6) Psn	(7) Probit	(8) Probit
				BLFPN			BPGEN	
BLFAV	0.15**	0.33*	0.15**	0.34*	0.14**	0.19**	-0.094	-0.097
	(0.054)	(0.14)	(0.049)	(0.14)	(0.048)	(0.050)	(0.089)	(0.090)
RPTB4	0.20	-0.043	-0.071	-0.28	-0.14	0.088	-0.058	-0.049
	(0.25)	(0.39)	(0.29)	(0.44)	(0.32)	(0.18)	(0.36)	(0.41)
CTBN	0.041	0.021	0.038	0.020	0.021			
	(0.093)	(0.19)	(0.091)	(0.19)	(0.093)			
RPTB4 × CTBN	0.097	0.40*	0.18+	0.44*	0.19+			
	(0.091)	(0.19)	(0.10)	(0.21)	(0.11)			
IDD × RPB4			0.48*	0.60	0.53*			-0.019
			(0.23)	(0.43)	(0.25)			(0.49)
IDD × RPB4 × CTBN			-0.12+	-0.11	-0.13+			
			(0.066)	(0.16)	(0.069)			
BGEN						-0.35	-0.085	-0.085
						(0.30)	(0.36)	(0.36)
RPTB4 × BGEN						0.81*	1.25*	0.99
						(0.32)	(0.55)	(0.70)
IDD × RPB4 × BGEN								0.46
								(0.83)
Summed (net) Coefficients								
IDD × RPB4			.41	.33	.38			-.07
			(.26)	(.46)	(.27)			(.46)
IDD × RPB4 × CTBN			.06	.33+	.06	.06		
			(.09)	(.20)	(.09)			
IDD × RPB4 × BGEN								1.44*
								(.68)
Observations	98	98	98	98	89	98	98	98
(Pseudo) R^2	0.105	0.363	0.111	0.371	0.095	0.102	0.099	0.102

Robust standard errors in parentheses
+ p¡0.10, * p¡0.05, ** p¡0.01
Subset: First-stage subjects who report their donations at some point.

$$BLFPN = f(\beta_{DC}Rptb2 + \beta_{DIC} \times Idd \times Rptb2 + \beta_{BA}Blfav$$
$$+\beta_{C}Ctbn + \gamma Rpb2 \times Ctbn + \delta Idd \times Rpb4 \times Ctbn) + \varepsilon \tag{2}$$

The "β" coefficients are intended to capture effects other than the leader's believed influence of her donation on the follower. The $Rpb2$,Idd, dummy variables and the interactions of these serve as controls for any independent framing effect of these treatments on beliefs, and also differences away what the leader perceives to be the secular effect of receiving an (identified) report on the follower's donation, irrespective of the amount reported. *Blfav* acts as a control for the leader's overall belief over what followers will donate; inclusion of this control serves to reduce the possibility of small-sample bias (as latent beliefs may not be evenly spread across the randomized treatments), and also controls for any potential effect of

the leader's treatment on her own overall belief of others' contributions. As mentioned in the main text, *Ctrbn* removes the potential bias from a correlation between (latent determinants of) one's own generosity, and one's beliefs over one's partner. This variable also captures a possible direct effect a leader's contribution may have on her predictions for her partner (relative to the prediction for the average gift), e.g., if the prediction is adjusted as an ex-post justification of her own choice.

Column 5 runs the same specification as column 3, but limits the estimator to those leaders who made a nonzero donation.

The predicted influence may be nonlinear; leaders may believe that reporting a gift that is above average (or higher than the gift the donation follower otherwise would have made) will have a strong positive effect on the follower's gift. To detect this, we define the dummy variables $BGEN = \mathbf{1}(CTBN > BLFAV)$ and $BPGEN = \mathbf{1}(BLFPN > BLFAV)$ and estimate the specifications below (leaving out the continuous "own contribution" variables to reduce multicollinearity). In column 5 we estimate

$$
\begin{aligned}
BLFPN = f(&\beta_1 RPB4 + \beta_3 IDD \times RPB4 + \beta_4 BLFAV + \beta_5 BGEN + \\
&\gamma RPB4 \times BGEN + \delta IDD \times RPB4 \times BGEN) + \varepsilon.
\end{aligned}
\tag{3}
$$

We also measure the predicted extensive margin influence in columns 7 and 8 using the specifications:

$$
BPGEN = f(\beta_2 RPB4 + \beta_4 BLFAV + \beta_5 BGEN + \gamma RPB4 \times BGEN) + \varepsilon
\tag{4}
$$

and

$$
\begin{aligned}
BPGEN = f(&\alpha + \beta_2 BLFAV + \beta_3 RPB4 + \beta_5 BGEN + \gamma RPB4 \times BGEN + \\
&\beta_3 IDD \times RPB4 + \delta IDD \times RPB4 \times BGEN) + \varepsilon
\end{aligned}
\tag{5}
$$

C.2   Data from the Questionnaire

Additionally to the experimental data, we have information from a short survey at the end of the experiment, where we asked about subjects motivation to donate. The options we presented to them were in line with the questions we want to answer with the experiment: Desire to influence, warm glow, being influenced and reputation. Contrary to our experimental results only 5% of the subjects said, that reputation did play a role in their giving behavior. They also did not acknowledge that they were influenced by their partners donation. This speaks for the necessity of complementing survey data with carefully collected experimental data, as policy relevant behavior that is either influenced by subconscious processes or is

socially not fully acceptable is hardly revealed by surveys only.

D   Literature summary

Figure 11: Relevant Literature Summary

Author (Year) Title	Setting	Charity/VCM	Reports and Anonymity	Focus/Findings (*significant*)
Andreoni & Petrie (2004)	Lab. 5-sbjt grps, 8 rounds, rematch 5×	Linear VCM	Group's net ctrbn. known after each period. Trtmts report all subjects' id's (photos), donations (individually), or both.	*[Repseek + Influencer], [F-influenced + Influencer].* Photos w/ reports lead to more giving. Leaders/laggards analysis suggests some F-influence
Rege & Telle (2004) & framing on cooperation in PG situations	Lab, students, selected to be strangers.	Linear Public Bad	Identity & ctrbn. rvld. to group.	*[Repseek + Influencer].*
Levati et al. (2007)	Lab	Linear PG/VCM (w/ some exclusion)	Leader ctrbn. revealed, ldr rotates; later elected.	*Influencer, F-influence.*
Potters et al. (2001)	Lab	Linear PG of uncertain (treated: leader's private info) value. Binary ctrbn decisions.	Leader acts, follower observes (or not), acts.	*Influencer; F-influenced* in special signaling case only.
Shang & Croson (2005)	Field: Public-radio giving campaign.	Charity/diffuse public good: Public radio, donors telephone in.	"We had another member, they contributed $75 [$180 or $300]."	*[F-influenced];* positive impact of reported previous gift
Carman (2003)	Field: Workplace (bank), teams (location & dept.), panel data.	Charity (United Way).	Pacesetters (high-level employees) give, then others	*[Repseek + Influencer], F-influenced.* Groups influence participation & contribution. Pacesetters give more.
Soetevent (2005)	Giving to church and special church appeals.	Can observe neighbour's gift, total previous gift.	*[Repseek + Influencer + F-influenced]:* Reducing anonymity (bags to baskets) increases donation for certain offerings.	