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Do Actions Speak Louder than Motives? Evaluating the Effectiveness of Image-Fundraising

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DO ACTIONS SPEAK LOUDER THAN MOTIVES? EVALUATING THE EFFECTIVENESS OF IMAGE-FUNDRAISING

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ABSTRACT. Charitable giving can boost an individual's image, and organizations can capitalize on this by engaging in "image-fundraising." Public announcements of donations give individuals the opportunity to demonstrate their generosity and are found to increase giving. This paper evaluates whether generosity inferred from charitable giving is discounted when donations are made in response to image-fundraising. I show in an experimental study that others reward larger donations, and that image-fundraising increases giving. However, others account for the conditions under which donations are made and reduce rewards for giving in an image-fundraising environment. While image-fundraising benefits charitable organizations, individuals are not recompensed for donating more in this setting.

Keywords: charitable giving, social image motives, prosocial behavior, experiments

JEL Classification: C91, D64, L31

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1. Introduction

Consider an individual who works with a local community organization. The group announces a fundraising drive and recognizes donors by mailing an "honor-roll" letter that acknowledges how much each member gave. The individual expects many members of his community to receive the organization's letter. While he had already intended to donate, he may give more than he originally planned in an attempt to appear generous to his neighbors.

Though this type of "image-fundraising" (IMG) environment may lead to larger donations that benefit fundraisers, donors may not appear any more generous. In the prior example, those who receive the honor-roll letter may discount donations that are motivated by social image concerns. As a result, they may not perceive larger donations in this context to be a signal of greater generosity. Image-fundraising could ultimately impose a cost on some donors by pressuring them to give more, without improving their social image nor the rewards that come with such improvement.

While past research has shown that image-fundraising can increase giving and thus be useful for organizations, there is less evidence about how it affects donors themselves (e.g., Andreoni and Petrie, 2004; Rege and Telle, 2004; Ariely et al., 2009). In this study, I evaluate the effectiveness of image-fundraising by considering its influence on donations and on the social returns donors receive from giving. To do this, I consider how the solicitation impacts the behavior of both donors and observers of charitable giving. On the one hand, this type of fundraising appeal could benefit donors as it makes it possible for them to signal their generosity (Elfenbein et al., 2012; Fehrler and Przepiorka, 2016). On the other hand, it may be costly for donors if they are forced to give more than they would otherwise prefer, without getting any rewards for doing so. Prior work has suggested that some fundraising methods can be welfare-reducing for donors due to social pressure or producing feelings of shame (DellaVigna et al., 2012; Andreoni et al., 2017; Butera et al., 2021). This paper complements the literature by considering whether donor social benefits decline because observers discount contributions made in response to IMG.

To test this question, I run an experiment where donors may give to charity, and where their donations are seen by observers who they subsequently interact with. I conduct a between-subject design where donations are solicited under two treatments. In an image-fundraising treatment, "Donors" are ranked by their donations and ranking information is disclosed to all Donors. It is contrasted with a baseline treatment, where donations are not compared across Donors. In both settings, half of the participants are defined as "Observers," and do not donate. However, Observers are aware of how donations are solicited, with potential image concerns being greater when giving in response to image-fundraising than baseline. Each Observer is then matched with a Donor, learns of the matched Donor's gift, and plays as the dictator and trustor in a dictator and trust game, respectively. Dictator and trustor transfers capture the social benefits that Donors may subsequently receive from others for giving.

The results show that image-fundraising increases giving – total donations are 20% greater in the IMG treatment than in the baseline treatment. The results also indicate that Observers reward Donors who contribute larger amounts by transferring more to them in the dictator and trust games. However, Observers discount donations solicited using image-fundraising. For a fixed donation, Observers transfer roughly 20% less to Donors in the IMG treatment than to Donors in the baseline treatment. Ultimately, while Donors give more under image-fundraising compared to baseline, they are not rewarded for their increased donations. Observer transfers in the dictator and trust games are no greater in the former treatment than in the latter. Altogether, the findings highlight how image-fundraising is an effective tool for increasing donations, but

also illustrate how it may not yield benefits for donors. The findings further demonstrate why charities utilize this type of solicitation, but also why donors may prefer to give in response to non-IMG. Given the popularity of these methods, the results have important implications for charities who want to utilize productive solicitations to contend for private contributions.

The rest of the paper proceeds as follows. Section 2 places this paper within the existing literature. Section 3 describes an example decision-making framework that yields predictions for how image-fundraising affects both donors and observers of charitable giving. Section 4 outlines the experimental design. Section 5 reviews the experimental findings, and Section 6 concludes.

2. Literature Review

This paper adds to several different strands of recent literature on charitable giving. First, this study builds on work evaluating social image motives in charitable giving (Glazer and Konrad, 1996; Harbaugh, 1998; Andreoni and Petrie, 2004; Rege and Telle, 2004; Benabou and Tirole, 2006; Andreoni and Bernheim, 2009; Ariely et al., 2009; Samek and Sheremeta, 2014; Vesterlund, 2016).[1] For instance, laboratory studies have tested how reputational concerns and extrinsic motivations interact to affect giving (Ariely et al., 2009), how visibility into donations and income independently and interactively affect decisions (Bracha and Vesterlund, 2017), how competition for social standing affects gifts (Duffy and Kornienko, 2010), how people are averse to "standing out" (Jones and Linardi, 2014), and how donors are sensitive to framing (Krupka and Weber, 2013).[2] Field experiments have complemented laboratory findings to show that individuals avoid charitable giving altogether when given the opportunity. Avoidance can be due to the physical presence of solicitors and to the fundraising appeal (DellaVigna et al., 2012; Andreoni et al., 2017).[3] Avoidance may also result independent of social factors, and instead be a method of maintaining self-image (Adena and Huck, 2020).

Second, this paper relates to literature on the effectiveness of donations as signals of generosity. Social image concerns should only motivate individuals to give more if donations serve as a valid proxy for their generosity. In this work, individuals receive information about others' charitable histories and decide whether or not to reward them (Engelmann and Fischbacher, 2009; Elfenbein et al., 2012; Fehrler and Przepiorka, 2013, 2016). Rewards vary by context but include monetary transfers, the purchase of goods, and partner selection in a cooperative task. Economists have also evaluated donations as incentives to motivate workers (Imas, 2014; Charness et al., 2016; Cassar and Meier, 2017). Donations signal a firm's commitment to corporate social responsibility — in turn, workers may exert more effort if they are convinced of the firm's status and value similar objectives. This research finds that the effectiveness of prosocial incentives depends on whether the incentive scheme is viewed as an authentic representation of a firm's values. The presence and size of complementary material incentives also matter.

[1]Social image has also been identified as a motive for economic choices beyond public goods provision. See for example, Bursztyn and Jensen (2017).

[2]In Ariely et al. (2009), the authors note how social image motives affect participant effort, which subsequently affects the size of donations. Krupka and Weber (2013) find that all selfish allocations in a dictator game (e.g., 10/0, 9/1, 8/2, 7/3, 6/4) are seen as more socially inappropriate in a "taking" treatment than in a standard "giving" treatment.

[3]DellaVigna et al. (2012) examine the effectiveness of a door-to-door fundraising campaign, while Andreoni et al. (2017) explore how giving to the Salvation Army at a grocery store depends on how many entrances are staffed with bell ringers and the particular fundraising "ask."

Third, this study contributes to research modeling perceptions of other-regarding behaviors.[4] Many papers test how much individuals consider the intentions behind actions relative to the actions themselves. Theoretical models in this literature range from outcome-based to intentions-based (Rabin, 1993; Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Dufwenberg and Kirchsteiger, 2004; Falk and Fischbacher, 2006). In laboratory experiments, researchers measure intentions by introducing moves of nature (Charness and Levine, 2007; Stanca, 2010), or by altering a player's strategy space (Fehr et al., 1998; Falk and Fischbacher, 2006; Falk et al., 2008). Beyond intentions, recent papers consider the role of strategic motives in judgments of other-regarding choices. These papers test the role of motives by altering expectations of a second experimental stage or repetition of a game (Stanca et al., 2009; Strassmair, 2009; Johnsen and Kvaloy, 2016; Zhurakhovska, 2017), while others vary future punishment and reward instruments (Orhun, 2018). Most of this research evaluates how material motives affect reciprocal exchanges.[5] This study is concerned with whether perceptions of donor motives, particularly social image concerns, prove consequential for charitable fundraising efforts.

3. A Simple Decision-Making Framework

I present a simple example to highlight the mechanisms behind image-fundraising. Consider two parties: Donor and Observer. The following equations represent the utility functions for each party. As an example, I assume the utility functions are log-linear.

$$\textbf{Donor:}\ \psi_D = \ln(w_D - d + \gamma s(d) + mt_R) + \alpha_D \ln(d) \tag{1}$$

$$\textbf{Observer:}\ \psi_R = \ln(w_R - t_R) + \alpha_R[\ln(d) + \ln(w_D - d + \gamma s(d) + pmt_R)] \tag{2}$$

A Donor may donate $d \in \mathbb{R}_0^+$, from endowment w_D. How much he gives is influenced by his altruistic type, α_D. The Donor can be one of two types, either a low altruistic type, α_D^L, or a high altruistic type, α_D^H. The Donor can also give to signal his generosity when image-fundraising is used, $\gamma = 1$. In particular, he earns status utility $s(d)$ when he donates in response to image-fundraising and can disseminate information about his charitable gifts to a larger audience. I assume status utility can be written in consumption units and is non-negative. Non-negativity implies that the opportunity to promote positive charitable contributions solicited using IMG may satisfy image-concerned Donors. Note, however, that status utility does not capture the social returns that the Donor may receive from others. That is, any impact image-fundraising has on the social returns that the Donor receives from giving is independently captured by the Observer transfer, t_R, which is discussed below.

After the Donor gives, an Observer learns of his donation amount. The Observer, with altruistic type α_R, cares about the value of the donation for the charity recipient and about the Donor.[6] The Observer can choose to commend the Donor for his donation by transferring t_R to him from her endowment w_R. However, she only wants to celebrate a Donor whom she perceives as generous. The Observer's commendation depends

[4] In the terminology of this literature, this paper examines a form of indirect reciprocal exchange (Schram and Seinen, 2006).

[5] One exception is Simpson and Willer (2008), who use a within-subject design to examine the role of reputational incentives in reciprocal exchanges. The researchers ask participants to respond to two fictitious partners who (they are told) made dictator transfers in either a private or public setting. Other research by Berman et al. (2015) notes how perceptions of an individual who advertises his other-regarding behaviors depend on prior knowledge about the "braggart's" prosocial activities.

[6] The subscript "R" is used for Observers instead of "O" to avoid confusion with Donor "D" subscripts.

on her posterior about the Donor's type, $\mu(\theta|d)$, where $\theta = L, H$, and where her belief is formed based on the donation. The Observer's posterior that the Donor is a high-type is defined by the parameter, $p = \mu(H|d)$. The Observer transfer is augmented by an efficiency multiplier represented by the parameter, $m > 1$. The multiplier proxies for efficiency gains from the Donor's gift, which for example, could include tax deductions for the Donor.

To consider the impact of image-fundraising, I focus on Donor and Observer behavior in the Perfect Bayesian Equilibrium (PBE) of this framework that satisfies the intuitive criterion (Cho and Kreps, 1987). This refinement results in an equilibrium that separates donations made by high-type Donors and low-type Donors given Observer beliefs, and Observer beliefs are updated after seeing equilibrium donations using Bayes' rule. Further, high-type Donors choose a donation that satisfies their first-order condition. COROLLARY 1 and COROLLARY 2 provide a compact explanation of the comparative statics of this example with respect to image-fundraising. A complete characterization of this equilibrium is included in Appendix Section C.

COROLLARY 1: Image-fundraising increases the total amount donated relative to no image-fundraising.

With image-fundraising ($\gamma = 1$), Donor giving is observable to a broader set of people, i.e., Donor neighbors and communities. High-type Donors increase the size of their donations in order to promote their giving. Meanwhile, low-type Donors do not change their (lack of) giving in response to the fundraising method. Low-type Donors give nothing as they do not have other-regarding preferences. In aggregate, an increase in high-type Donor contributions will boost the total amount donated in response to IMG relative to no IMG.

COROLLARY 2: For fixed donation d, image-fundraising decreases Observer transfers to Donors relative to no image-fundraising.

Irrespective of whether image-fundraising is used, Observers send positive transfers to high-type Donors and nothing to low-type Donors in equilibrium. However, when making transfers to high-type Donors when image-fundraising is used, Observers are aware that image-concerned Donors could be giving in part to promote their generosity. Taking this factor into account, Observers reduce the social benefits they confer to high-type Donors. This reduction can be interpreted as Observers' hesitation to attribute donations solely to Donor generosity when image motives are present.

As a consequence, COROLLARY 1 and COROLLARY 2 suggest that Donors may not be rewarded for giving more in response to image-fundraising. Instead, some Donors may be left worse off if they make larger contributions but Observers discount donations made in response to IMG. I test the comparative statics characterized in COROLLARY 1 and COROLLARY 2 in the laboratory experiment described in Section 4.

4. Experimental Design

To consider both Donor and Observer behavior when evaluating the effectiveness of image-fundraising, I run a between-subject laboratory experiment with two conditions, an Image-Fundraising (IMG) treatment and a Baseline treatment.[7] Participants are randomly assigned to either the role of Donor or Observer. In

[7]I leverage design elements from Fehrler and Przepiorka (2016), where the researchers evaluate whether the act of donating enhances a person's reputation and affects partner selection in cooperative tasks. I

the experiment, Donors are labeled "Blue Players" while Observers are labeled "Green Players." Participants stay in these roles throughout the experiment. The experiment consists of two rounds, and instructions are provided sequentially before each decision. The experimental design, roles, decisions, and decision order are summarized in Table 1. Experiment instructions are provided in Appendix Section A.

TABLE 1. Experimental Design

Round	Order	Decisions	
	Within Round	Donor	Observer
Charitable Giving	Decision 1	D1 (Altruistic Type)	—
	Decision 2	D2 (Donation)	—
Social Exchange	Decision 1	—	Dictator
	Decision 2	Trustee	Trustor

To begin, all participants are seated at individual computer stations. At the top of each station is a card holder with an assigned participant number. Participants receive initial instructions that describe the two possible roles they may be assigned to, and how participant numbers may be used during the experiment.

4.1. **Charitable Giving Round.** At the beginning of this round, participants receive their role assignment. Participants assigned as Donors are asked to make two donation decisions, in $2 increments. Each decision is made from an initial $10 endowment, with one of the two decisions implemented at random to count toward payment. Implemented donations are made to the UPMC Children's Hospital of Pittsburgh.[8] Donations are matched one-for-one by University of Pittsburgh research foundation funds.

The first decision is denoted as D1. For D1, Donors are asked how much they are willing to donate to the Children's Hospital when their decision is private (i.e., not disclosed to any other participant). D1 proxies for the underlying altruistic type of Donors. After choosing D1, Donors are asked to make a second donation from their initial $10 endowment. The second decision is denoted as D2. Unlike D1, D2 is public (i.e., disclosed to other participants), but varies in the degree of public disclosure across treatments. Subsequent discussion in this paper refers to D1 as participant altruistic types, and D2 as participant donations.

In both treatments, Donors are told that one matched Observer in the session will see their donation (D2), and that they will interact with the matched Observer in the next round. However, Donors are told that the matched Observer will not be able to identify them in any way. In the IMG treatment, Donors are told their donations will also be ranked against all other Donors in the session, with rankings determined by donation amounts (Duffy and Kornienko, 2010). They are told that rankings will be shown to all Donors alongside their donation amounts. Rankings will also appear alongside their participant number, which other Donors can use to identify them. The ranking information appears on Donor computer screens at the end of the

complement their research by examining whether the solicitation method alters the signal that donations send about a person's generosity.

[8]Participants are told that donations will be used to purchase art materials for the Creative and Expressive Arts Therapy Program at the Children's Hospital. This program helps children cope with symptoms of their illness, stress, and traumatic experiences. Donors can also request a donation receipt by submitting a form to the Children's Hospital at the end of the experiment. By submitting the donation form, Donors are informed that they will relinquish their anonymity, as names will be linked to their donations.

Charitable Giving Round and before the start of the Social Exchange Round. The ranking of donations in the IMG treatment represents an image-fundraising appeal intended to elicit social image concerns.

Importantly, only Donors in the IMG treatment receive ranking information. Observers in the IMG treatment only learn about their matched Donor's donation amount, and cannot compare information about their matched Donor to other Donors. The intent of the treatment manipulation is to alter how Observers perceive identical charitable donations, but some that are made in response to image-fundraising and others in response to a baseline solicitation. By only disclosing the matched Donor's donation amount, my primary objective is to keep all other characteristics of the donations identical across treatments, and therefore isolate the impact of image-fundraising. Then, for the Social Exchange Round decisions described in greater detail below, Observers focus on two pieces of information – how much their matched Donor gave, and the fundraising conditions under which their matched Donor gave. In particular, Observers in the IMG treatment know about the image-fundraising behind their matched Donor's donation. Observers in this treatment wait while donations are ranked, are notified when rankings are in progress, and the experiment does not continue until all Donors have had time to review the rankings. In contrast, Observers in the Baseline treatment are aware of how their matched Donor's donation is solicited, which does not involve image-fundraising. If instead I use an experiment design where Observers also learn the full distribution of donations in a session, Observers could determine their matched Donor's rank before making their decisions. As a result, other characteristics of the donations may not be identical across treatments. This would impede my ability to cleanly identify the image-fundraising treatment effect.

The inclusion of both D1 and D2 is important for two reasons. First, because D1 proxies for the underlying altruistic type of Donors, I can test whether participants are effectively randomized across treatments. Assuming effective randomization, there will be no differences in the average Donor altruistic type across treatments. Second, I can measure the fundraising impact of the different solicitations by comparing the difference between the two decision values across treatments. That is, the treatment effect of interest identifies whether donations are larger for Donors in the IMG treatment relative to Donors in the Baseline treatment, after controlling for individual altruistic types.

4.2. **Social Exchange Round.** In the Social Exchange Round, each Observer is randomly matched with one Donor, and sees their matched Donor's donation. As mentioned above, Observers in both treatments cannot identify their matched Donor in any way. However, Observers in the IMG treatment know their matched Donor gave after receiving an image-fundraising appeal. Each pairing then plays two games, a dictator game and a trust game, with one of the two games implemented at random to count toward payment. All transfers in the games are made in $2 increments. Observers play as the dictator and trustor, and make each transfer from an initial $10 endowment. Observer dictator and trustor transfers are multiplied by three. Donors play as the trustee and can choose to send money back to the Observer. The maximum amount Donors can transfer back is the tripled amount they receive from Observers. Donor trustee transfers are collected using the strategy method, where Donors make choices for every potential Observer trustor transfer.

The dictator and trust games represent different social interactions Donors and Observers can have with one another. The dictator game describes a limited interaction where Observer transfers are the last decision, while the trust game describes an expanded exchange where Donors can transfer money back to Observers. Observers cannot materially benefit from the dictator game exchange. In contrast, Observers can materially benefit from the trust game. However, this benefit is conditional on their trust of Donors, and if Donors are indeed trustworthy. Finally, the trust game provides a measure of Donor "trustworthiness," the return

transfer to Observers.

After the Social Exchange Round, Observers complete an incentivized belief elicitation regarding their matched Donor's trustworthiness. Observers are asked how much they believe their matched Donor transfers as the trustee for every possible trustor transfer.[9] This elicitation captures possible differences in Observer beliefs about Donor trustworthiness due to their partner's donation and the fundraising method. Next, all participants complete an incentivized multiple price list risk preference elicitation (Holt and Laury, 2002). Prizes correspond to comparable stakes present in the trust game.[10] Finally, participants complete a survey that collects demographics studied in past work.[11] Characteristics include participant age, gender, year in school, prosocial tendencies, and political leanings.[12] Once participants complete the demographic survey, they learn which decisions were randomly chosen to count toward payment, and their final earnings.

To summarize, participant earnings are calculated from the following components. First, one of the two Charitable Giving Round decisions (D1 or D2) is chosen at random.[13] Next, one of the two games (dictator or trust) played in the Social Exchange Round is chosen at random. Finally, two participants in each session are randomly chosen to be paid for their risk preference elicitation responses, and Observers are paid depending on the accuracy of their belief elicitation responses. Payment from all rounds are combined with a $6 show-up fee for final earnings.

5. Experimental Results

The experiment was programmed in both z-Tree and oTree, and run with the Pittsburgh Experimental Economics Laboratory (PEEL) participant pool at the University of Pittsburgh (Fischbacher, 2007; Chen et al., 2016).[14] Two hundred thirty-eight participants completed the study over twelve sessions. Six sessions were run in-person, and six were run online in a virtual laboratory setting due to the COVID-19 pandemic.[15] Results reported in this section include controls for online sessions. Eleven sessions were run with twenty

[9]To incentivize this decision, one randomly chosen trustor transfer is selected for each Observer, and the Observer receives an additional $5 if their beliefs are ±$2 from the Donor's associated trustee transfer.

[10]Two randomly chosen participants in each session have one randomly drawn row implemented from their multiple price list choices.

[11]Eckel and Wilson (2004) find no relationship between risk attitudes and trust behaviors. Cassar and Meier (2017) find that non-prosocially-motivated individuals decrease effort in response to an instrumental non-monetary incentive in a principal-agent setting. Butler et al. (2017) find that participants with left-leaning political views are more likely to be influenced by social approval when deciding to "blow the whistle" on fraudulent behavior. These characteristics could be associated with Donor and Observer choices, and are included as control variables in subsequent analyses. As shown in Section 5, the results are not sensitive to the inclusion of these controls.

[12]Participant prosocial tendencies are defined across two variables, labeled as "Volunteer" and "ExistingCharity." Participants' political leanings are defined by an "Ideology" variable. Each of these variables is defined across five categorical intervals. For the Volunteer variable, participants are asked, "On average, how often do you volunteer for a good cause?" Answers are scaled 0-4 corresponding to categorical answers of "Never," "Once a year," "Once a month," "Every week," and "Several times a week." For the ExistingCharity variable, participants are asked, "On average, how much do you donate to charitable organizations per year?" Answers are scaled 0-4 corresponding to categorical answers of "$0-$20," "$20-$50," "$50-$100," "$100-$500," and "Over $500." The Ideology variable is scaled 0-4 from "Very Liberal" to "Very Conservative."

[13]Consequently, only one of the two donation decisions is made to the Children's Hospital for each Donor.

[14]The oTree implementation of the risk preference elicitation uses code from Holzmeister (2017).

[15]Online sessions were also run with the PEEL participant pool. Experiment procedures in the virtual laboratory mirrored those used in the in-person laboratory, following Danz et al. (2021). However, online

participants, and one session was run with eighteen participants. Subjects earned an average of $19.38. The experiment raised $1,192 for the UPMC Children's Hospital of Pittsburgh.

I first discuss the effect of image-fundraising on donations. Next, I report Observer responses to Donors, evaluating the impact of image-fundraising on dictator and trustor transfers. I then review Donor trustworthiness and Observer beliefs about trustworthiness. Finally, I consider the net effect of image-fundraising in terms of donations and the social returns to Donors.

5.1. **Donor Contributions.** Table 2 shows the average values for Donor choices across treatments.[16] As evidence of random assignment, neither the average altruistic type (D1) nor the distribution of altruistic types significantly differ across treatments.[17] Table 2 also provides initial evidence that image-fundraising leads Donors to give more. Average donations (D2) are $1.27 larger than the average altruistic type in the IMG treatment, while average donations in the Baseline treatment are only $0.10 larger (difference of $1.17; t=3.65, $p< 0.01$). These results suggest that the rankings used in the IMG treatment are effective in priming Donors' social image concerns.

TABLE 2. Donor Characteristics

	(1)	(2)	(3)	(4)
	Full Sample	Baseline	IMG	p-value
Altruistic Type (D1)	4.62	4.58	4.67	0.87
	(2.93)	(2.93)	(2.96)	
Donation (D2)	5.31	4.68	5.93	0.03
	(3.18)	(3.01)	(3.25)	
D2-D1	0.69	0.10	1.27	<0.01
	(1.38)	(1.51)	(1.95)	
Observations	119	59	60	

Notes: Reported numbers are means for the specified sample in each column. Standard deviations are reported in parentheses. The p-values are reported from two-sided t-tests comparing means of Donors in the Baseline and IMG treatments. Observations correspond to Donors only.

How do changes at the individual level affect aggregate fundraising efforts? Figure 1 visualizes the effect of image-fundraising on the total amount donated. Figure 1 shows the cumulative distribution functions for participant altruistic types and donations, by treatment. The comparison of interest is the difference-in-difference across treatments. In the IMG treatment, the distribution of donations shifts rightward relative to the distribution of Donor altruistic types, suggesting that total giving increases in response to image-fundraising. A paired-sample sign test reveals a statistically significant difference between the two distributions in the IMG treatment ($p< 0.01$). In contrast, a similar shift does not occur between the distribution of altruistic types and donations in the Baseline treatment, suggesting that total giving does not change

sessions were hosted over Zoom. Subjects joined a Zoom meeting and participants were randomly assigned participant numbers that were shown in the corner of each person's video feed.

[16]Decision values refer to the out-of-pocket, unmatched amounts.

[17]The median altruistic type is $4 for both Baseline and IMG treatments (Mann-Whitney rank-sum, z=0.15, p=0.88). Participant demographic characteristics (i.e., age, year in school, gender, prosocial tendencies, political leanings) also do not significantly differ across treatments. Summary statistics regarding participant demographics are reported in Appendix Table B.1, by experimental role.

in response to the Baseline solicitation. A paired-sample sign test evaluating differences between the two distributions in the Baseline treatment reveals no statistically significant difference (p= 0.66).[18]

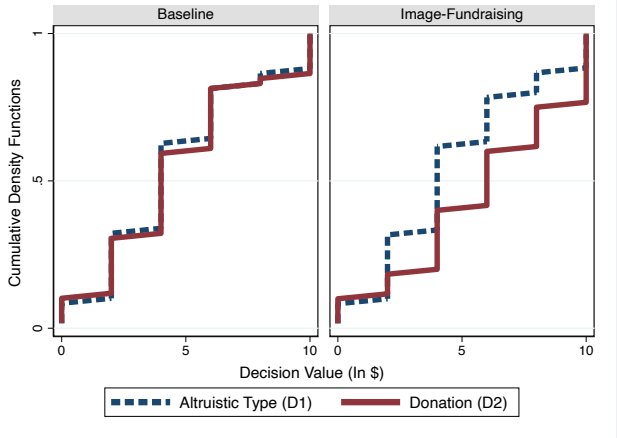

FIGURE 1. CDFs for Donations and Altruistic Types, by Treatment

The above analysis is summarized in Table 3, in a series of regressions evaluating the effect of image-fundraising and participant altruistic types on donation amounts. The results are consistent across all specifications. As an example, the results in column 2 indicate that after controlling for altruistic types, image-fundraising increases donations by nearly \$1.13 (t= 3.57, p< 0.01). This accounts for more than a 24% increase over the average Baseline donation.[19] The findings also illustrate that Donors who are more privately altruistic give more, independent of the fundraising mechanism. A \$1 increase in a Donor's altruistic type is associated with an \$0.89 increase in the donation amount (t= 18.44, p< 0.01). The estimates in column 3 from a Tobit regression accounting for censored observations are similar – IMG increases donations, and participant altruistic types are positively associated with donation amounts.[20] Overall, the results imply that image-fundraising has the effect of increasing total giving from Donors and benefits fundraisers, consistent with COROLLARY 1 from Section 3.

RESULT 1: Image-fundraising increases total giving compared to no image-fundraising.

[18]Results are reported from a two-sided test of the null hypothesis of finding positive and negative differences with equal probability between matched donations and altruistic types.
[19]A Probit regression also demonstrates that Donors in the IMG treatment are significantly more likely than Donors in the Baseline treatment to donate an amount that is larger than their altruistic type. Results from the Probit regression are included in Appendix Section B, Table B.2.
[20]Twenty four participants gave the maximum amount (\$10) while twelve gave no money.

TABLE 3. Effect of Image-Fundraising on Donations

	(1) OLS	(2) OLS	(3) Tobit
	Dependent Variable: Donations (D2)		
IMG	1.18***	1.13***	1.34***
	(0.32)	(0.32)	(0.42)
Altruistic Type (D1)	0.89***	0.89***	1.24***
	(0.05)	(0.06)	(0.09)
Constant	0.60**	5.50*	5.89*
	(0.30)	(2.79)	(3.54)
Controls	No	Yes	Yes
R^2	0.71	0.73	—
N	119	119	119

Notes: Robust standard errors are reported in parentheses. The dependent variable in all models are participant donations (D2). Regressions in columns 1 and 2 are ordinary least squares, where column 2 adds controls for demographic characteristics. Tobit regression results in column 3 account for censored donations. The control variables are gender, age, year in school, self-reported volunteering frequency, self-reported average charitable donations per year, political ideology, an estimate of risk preferences, and an indicator for online sessions. Observations correspond to Donors only. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2. **Observer Responses.** Dictator and trustor decisions measure whether Observers discount donations made in response to image-fundraising. In addition to the fundraising method, I evaluate the impact of partner donation amounts on Observer choices.[21] Table 4 summarizes estimates of the effect of image-fundraising and partner donations on Observer transfers.

Columns 1-3 of Table 4 report results regarding the effect of image-fundraising and donation amounts on Observer transfers, pooled across dictator and trust games. The specifications also include an indicator for whether the transfer is a dictator or trustor transfer. The estimates show that conditional on the donation amount, Observers transfer less to Donors in the IMG treatment relative to Donors in the Baseline treatment. As an example, the results in column 2 suggest that for a fixed donation amount, image-fundraising reduces Observer transfers by an average of \$0.77 ($t= -1.98$, $p= 0.05$).

When exploring dictator transfers in particular, similar patterns emerge. Columns 4-6 report results regarding the effect of image-fundraising and donation amounts on Observer dictator transfers. The results show that conditional on the donation amount, Observers transfer less to Donors in the IMG treatment relative to their counterparts in the Baseline treatment. As an example, the results in column 5 suggest that for a fixed donation amount, image-fundraising reduces Observer dictator transfers by an average of \$0.67. This effect is equivalent to a 20% decrease over the average Observer dictator transfer in the Baseline treatment. However, the coefficient estimates for the treatment effect are not statistically significant (col. 4 – $t= -1.24$, $p= 0.22$; col. 5 – $t= -1.40$, $p= 0.17$; col. 6 – $t= -1.60$, $p= 0.11$).

[21]Moving forward, the reported Observer dictator and trustor transfers refer to the non-tripled amounts.

TABLE 4. Effect of Image-Fundraising on Observer Responses

	(1) OLS	(2) OLS	(3) Tobit	(4) OLS	(5) OLS	(6) Tobit	(7) OLS	(8) OLS	(9) Tobit
	Dependent Variable: Pooled Transfers			*Dependent Variable: Dictator*			*Dependent Variable: Trustor*		
IMG	-0.67*	-0.77**	-1.24**	-0.60	-0.67	-1.05	-0.74	-0.87	-1.45*
	(0.38)	(0.39)	(0.58)	(0.48)	(0.48)	(0.66)	(0.60)	(0.60)	(0.87)
Donation (D2)	0.41***	0.39***	0.56***	0.40***	0.38***	0.53***	0.41***	0.40***	0.60***
	(0.06)	(0.07)	(0.10)	(0.07)	(0.08)	(0.11)	(0.10)	(0.11)	(0.16)
Constant	1.45***	-5.38	-6.89	1.43***	-5.42	-9.28	3.12***	-3.68	-3.68
	(0.38)	(6.08)	(8.71)	(0.43)	(9.06)	(12.16)	(0.55)	(7.98)	(10.74)
Controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
R^2	0.23	0.25		0.20	0.28		0.15	0.19	
N	238	238	238	119	119	119	119	119	119

Notes: Robust standard errors are reported in parentheses. Regressions in columns 1-3 report results with dictator and trustor transfers pooled as the dependent variable. Regressions in columns 4-6 use dictator transfers as the dependent variable. Regressions in columns 7-9 use trustor transfers as the dependent variable. Regressions in columns 1-2, columns 4-5, and columns 7-8 are ordinary least squares specifications. Columns 2, 5, and 8 add demographic controls, relative to columns 1, 4, and 7. Tobit model results that account for censored Observer dictator and trustor transfers are reported in columns 3, 6, and 9. The control variables are: gender, age, year in school, self-reported volunteering frequency, self-reported average charitable donations per year, political ideology, an estimate of risk preferences, and an indicator for online sessions. Observations correspond to Observers only. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Finally, in parallel with the dictator game, columns 7-9 illustrate that for a fixed donation amount, Observers transfer less to Donors in the trust game due to image-fundraising. As an example, the results in column 8 suggest that this solicitation method reduces Observer trustor transfers by an average of \$0.87. This effect is equivalent to a 17% decrease over the average Observer trustor transfer in the Baseline treatment. Yet, the only statistically significant IMG coefficient estimate is in the Tobit specification that accounts for censored observations (col. 9 – $t= -1.66$, $p= 0.10$). Meanwhile, the OLS estimates, while qualitatively consistent with the pooled estimates and dictator game findings, are not statistically significant (col. (7) – $t= -1.22$, $p= 0.23$; col. (8) – $t= -1.44$, $p= 0.15$). In aggregate, the results in Table 4 support the implications of COROLLARY 2 from Section 3 – Observers appear to discount donations made in response to image-fundraising.[22]

RESULT 2: For a fixed donation, image-fundraising decreases Observer transfers to Donors relative to

[22]In Section B of the Appendix I conduct a non-parametric test where I match Observer observations across treatments by their partner Donor's donation, and estimate differences in dictator and trustor transfers. The non-parametric analysis is intended to proxy for a within-subject setting where one Observer encounters two Donors, one whose donation is solicited using image-fundraising and another whose donation is not. Given the set of possible matches, the exercise is iterated 1,000 times to create a distribution of average transfer differences across treatments. The results of this non-parametric exercise suggest IMG decreases both dictator and trustor transfers, and provides further evidence to support RESULT 2. Details of this analysis are included in Section B of the Appendix.

no image-fundraising.

Although Observers appear to discount donations made in response to image-fundraising, Observers respond positively to partner donation amounts when deciding how much to transfer to Donors. The results reported in columns 1-3 show that Observers transfer an average of $\$0.39 - \$0.56$ more to their partner Donors for every \$1 increase in the donation amount. When looking at specific types of transfers, the positive rewards are reflected in both dictator and trust games. As a dictator, the results suggest that Observers transfer $\$0.38 - \$0.53$ more for every \$1 increase in their partner's donation amount. Likewise in the trust game, observing a larger donation significantly increases trustor transfers. Observers transfer $\$0.40 - \$0.60$ more as a trustor for every \$1 increase in their partner's donation amount. The estimates are all statistically significant and are not sensitive to the model specification.

The numerical results from Table 4 are illustrated in Figure 2. Figure 2 shows average dictator and trustor transfers at each partner donation amount. The number of observations are reported in parentheses underneath each donation amount. The figure illustrates the treatment estimates on dictator and trustor responses reported in Table 4 after conditioning on the amount donated. Observer transfers in the Baseline treatment (left bar in each cluster) are weakly greater than Observer transfers in the IMG treatment (right bar in each cluster) at nearly every donation amount above \$0, for both dictator and trust games.[23] Further, both dictator and trustor transfers increase as partner donation amounts increase, mirroring Table 4 results.

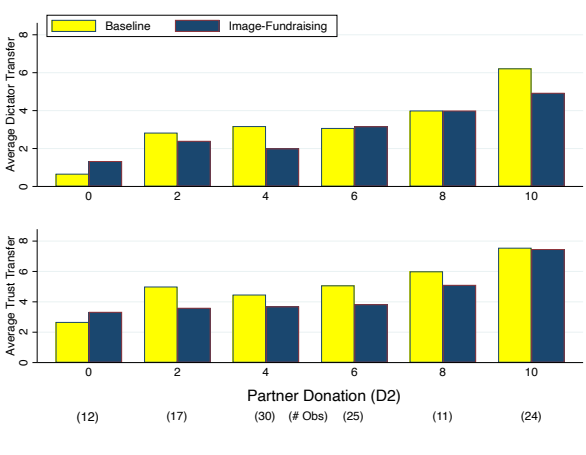

FIGURE 2. Average Observer Transfers, by Treatment & Partner Donation

The results above provide insights into how Observers assess the signaling value of donations. The findings highlight how Observers reward Donors for giving more to charity. At the same time, when assessing Donor generosity, Observers appear to consider the fundraising appeal that prompts Donors to give. Specifically, Observers discount contributions motivated by social image concerns. Taken together, the results suggest that larger donations do not necessarily signal greater generosity if Observers also consider the fundraising context in which donations are made.

[23]One exception is for \$6 dictator transfers, where Observers in the IMG treatment send an average of \$0.09 more than Observers in the Baseline treatment (\$3.17 vs. \$3.08).

5.3. **Donor Trustworthiness.** Beyond Observer dictator and trustor transfers, I also collect Observer beliefs about Donor trustworthiness to further evaluate how Observer may perceive Donors differently across the two treatments. The first three columns of Table 5 report results examining the effect of image-fundraising, trustor transfers, and partner donations on Observer beliefs about Donor trustworthiness.[24]

TABLE 5. Beliefs about Trustworthiness and Trustworthiness, by Treatment

	(1) OLS	(2) OLS	(3) Tobit	(4) OLS	(5) OLS	(6) Tobit
	Dependent Variable: Beliefs			*Dependent Variable: Trustworthiness*		
IMG	-0.62***	-0.74***	-0.78***	0.73**	0.90***	1.06***
	(0.232)	(0.232)	(0.245)	(0.327)	(0.340)	(0.405)
Donation (D2)	0.29***	0.30***	0.31***	0.16***	0.13**	0.14**
	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.06)
Trustor	0.39***	0.39***	0.40***	0.37***	0.37***	0.40***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
Constant	-1.47***	0.93	0.93	-1.59***	2.81	4.10
	(0.24)	(2.06)	(2.20)	(0.39)	(2.45)	(2.97)
Controls	No	Yes	Yes	No	Yes	Yes
R^2	0.63	0.64		0.41	0.45	
N	595	595	595	595	595	595

Notes: Robust standard errors are reported in parentheses. Regressions in columns 1-3 use Observer beliefs about Donor trustworthiness as the dependent variable. Regressions in columns 4-6 use Donor trustworthiness as the dependent variable. Regressions in columns 1-2 and columns 4-5 are ordinary least squares. Columns 2 and 5 add demographic controls, relative to columns 1 and 4. Tobit specifications in columns 3 and 6 account for censored Observer trustworthiness beliefs and censored Donor trustworthiness transfers, respectively. The control variables are: gender, age, year in school, self-reported volunteering frequency, self-reported average charitable donations per year, political ideology, an estimate of risk preferences, and an indicator for online sessions. Results in columns 1-3 correspond to Observers only, while results in columns 4-6 are for Donors only. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Consistent with results regarding Observer transfers in the dictator and trust games, the beliefs analysis shows that Observers perceive Donors in the IMG treatment to be less trustworthy than Donors in the Baseline treatment. After controlling for the donation amount and the trustor transfer, Observers believe that Donors who give in response to image-fundraising will send less back to them in the trust game, compared to Donors in the Baseline treatment. The estimates are statistically significant regardless of the model specification. In particular, for a fixed donation amount and trustor transfer, the results highlight that Observers expect Donors in the IMG treatment to send back $\$0.62 - \$0.78$ less as the trustee than their Donor counterparts in the Baseline treatment. These findings lend further support for the argument that Observers discount donations made in response to image-fundraising.

In addition to differences in Observer beliefs about Donor trustworthiness across treatments, I can examine whether Donor trustworthiness actually differs across treatments. Columns 4-6 of Table 5 report the results

[24]Because beliefs about Donor trustworthiness are collected using the strategy method, the estimates are pooled across hypothetical trustor transfer amounts.

from this analysis. Interestingly, the results regarding Observer beliefs contrast the estimates regarding Donor trustworthiness. For a fixed donation and trustor transfer, Donors in the IMG treatment appear more trustworthy that Donors in the Baseline treatment. In particular, Donors in the IMG treatment send back between $\$0.73 - \$1.06$ more as the trustee than their Donor counterparts in the Baseline treatment. The estimates are all statistically significant, and are not sensitive to the model specification (col. 4 – $t= 2.22$, $p= 0.03$; col. 5 – $t= 2.66$, $p< 0.01$; col. 6 – $t= 2.61$, $p< 0.01$).

Finally, beyond treatment differences, the results from the beliefs analysis also indicate that Observers view Donors who give more as more trustworthy. Conditional on the trustor transfer amount, Observers believe that Donors will send back $\$0.29 - \$0.31$ more for every additional dollar that they observe their matched Donor contributing. In complement, Donors who give more are more trustworthy. For a fixed trustor transfer, every additional dollar that individuals donate in the Charitable Giving Round is associated with $\$0.13 - \$0.16$ greater trustworthiness. These results further validate why capitalizing on donor social image concerns can be effective in charitable fundraising. In particular, the association between donations and trustworthiness shows that charitable giving is correlated with other-regarding behaviors more broadly, and that others interpret the size of donations as an effective signal of individual generosity (Elfenbein et al., 2012; Fehrler and Przepiorka, 2013, 2016).

5.4. **Evaluating the Net Effect of Image-Fundraising.** If image-fundraising increases donations but also affects Observer responses to Donors, what is the net effect of employing these solicitation methods? To answer this question I first consider the impact on average donations. I also evaluate the social returns that Donors receive from Observers by comparing the unconditional average dictator and trust transfer across treatments. The purpose of the discussion that follows is to describe the qualitative effects of using image-fundraising, as the magnitude of each effect is sensitive to the matching mechanism used in this experiment. This exercise reviews where this type of solicitation generates value for fundraisers and donors, but is not intended to describe the precise returns it will generate for each of these parties. The findings are summarized in Table 6 below.

TABLE 6. Net Effect of Image-Fundraising

	For Fundraisers		For Donors			
	Donation (D2)	Change	Dictator Transfer	Change	Trustor Transfer	Change
Baseline	\$4.68	**+26.71%**	\$3.32	**−2.79%**	\$5.05	**−4.36%**
IMG	\$5.93		\$3.23		\$4.83	

Notes: Values represent averages for donations (D2), dictator, and trustor transfers.

For fundraisers, donations increase by over 26% in the IMG treatment relative to the Baseline treatment.[25] While Observers respond positively to Donors who give more, Observers also discount donations solicited using image-fundraising. The former rewarding response is more than offset by the latter reaction. Donors in the IMG treatment receive about 3% less in dictator transfers relative to Donors in the Baseline treatment. Similarly, Donors in the IMG treatment receive about 4% less in trustor transfers relative to Donors in the

[25]The percentage differs from the 24% estimated in Section 5.1, as it is derived from comparing *average* donations across treatments. The percentage reported in Section 5.1 is calculated using the coefficient from regressing donations on IMG, as a percentage of the mean Baseline donation.

Baseline treatment. Altogether, the results suggest that on average, Donors are not rewarded for their larger contributions made following image-fundraising.

6. Conclusion

Donor-honor-roll letters and other forms of image-fundraising methods are popular with charitable organizations. Organizations can use these solicitations to capitalize on donors' social image concerns, who increase their donations in an effort to appear generous. However, if others expect individuals to be motivated by image, they may not perceive larger donations solicited using image-fundraising as signals of greater generosity. Donors could feel pressure to give more, but may not be rewarded for their greater giving.

Using a laboratory experiment, I test the efficacy of image-fundraising by considering its effects on both donations and the subsequent social rewards that donors receive from giving. The results suggest that image-fundraising increases total donations, supporting prior research showing the effectiveness of this form of solicitation (e.g., Andreoni and Petrie, 2004; Rege and Telle, 2004; Ariely et al., 2009). However, the social benefits that individuals would have otherwise received for greater giving are not realized in an image-fundraising environment. That is, the social rewards for the larger donations that image-fundraising generates are offset by the marking down of donations produced using this type of appeal. Ultimately, some individuals may be left worse off for donating more than they otherwise would, while receiving no improved social returns. The results highlight the ramifications of employing image-fundraising methods, not just for charities but also for individual donors.

Though the study calls attention to the potential unfavorable consequences of employing image-fundraising for donors, this type of solicitation remains ubiquitous in practice. One possibility is that organizations, especially those of high quality, may have inadvertantly synchronized their use of image-fundraising given its profitability for charities. Without alternatives, individuals may be pressured to donate more knowing their giving will be made public. However, as the market for private contributions grows increasingly crowded, this work also presents the prospect that image-fundraising may not be a sustainable strategy for some organizations. An open question that remains is what types of institutions may need to alter their fundraising strategies to remain competitive if individuals can seek out, and give to, other charities.

More broadly, the results contribute to the recent body of work that examines the use of public recognition as a policy tool (e.g., Butera et al., 2021). This paper adopts a similar analytical approach, as it explores the impact of public recognition on outcomes beyond the targeted behavior. In particular, this study adds quantitative estimates of the social costs and benefits associated with these policy instruments. Given the frequent adoption of image-fundraising by charitable organizations, the results are derived from a useful context for analyzing the effects of public recognition methods. To that end, this paper highlights how further exploration of public recognition schemes may be fruitful, in order to deepen our understanding of how stable or varied the effects of these policies are across economic settings.

References

Adena, Maja, and Steffen Huck. 2020. "Online Fundraising, Self-Image, and the Long-Term Impact of Ask Avoidance." *Management Science* 66 (2): 722–743.

Andreoni, James, and B. Douglas Bernheim. 2009. "Social Image and the 50-50 Norm: A Theoretical and Experimental Analysis of Audience Effects." *Econometrica* 77 (5): 1607–36.

Andreoni, James, and Ragan Petrie. 2004. "Public Goods Experiments Without Confidentiality: A Glimpse into Fund-Raising." *Journal of Public Economics* 88 (7-8): 1605–23.

Andreoni, James, Justin M. Rao, and Hannah Trachtman. 2017. "Avoiding the Ask: A Field Experiment on Altruism, Empathy, and Charitable Giving." *Journal of Political Economy* 125 (3): 625–53.

Ariely, Dan, Anat Bracha, and Stephan Meier. 2009. "Doing Good or Doing Well? Image Motivation and Monetary Incentives in Behaving Prosocially." *American Economic Review* 99 (1): 544–55.

Benabou, Roland, and Jean Tirole. 2006. "Incentives and Prosocial Behavior." *American Economic Review* 96 (5): 652–78.

Berman, Jonathan Z., Emma E. Levine, Alixandra Barasch, and Deborah A. Small. 2015. "The Braggart's Dilemma: On the Social Rewards and Penalties of Advertising Prosocial Behavior." *Journal of Marketing Research* 52 90–104.

Bolton, Gary, and Axel Ockenfels. 2000. "ERC: A Theory of Equity, Reciprocity, and Competition." *American Economic Review* 90 (1): 166–93.

Bracha, Anat, and Lise Vesterlund. 2017. "Mixed Signals: Charity Reporting When Donations Signal Generosity and Income." *Games and Economic Behavior* 75 (1): 67–80.

Bursztyn, Leonardo, and Robert Jensen. 2017. "Social Image and Economic Behavior in the Field: Identifying, Understanding, and Shaping Social Pressure." *Annual Review of Economics* 9 131–53.

Butera, Luigi, Robert Metcalfe, William Morrison, and Dmitry Taubinsky. 2021. "Measuring the Welfare Effects of Shame and Pride." Working Paper.

Butler, Jeffrey, Danila Serra, and Giancarlo Spagnolo. 2017. "Motivating Whistleblowers." Working Paper.

Cassar, Lea, and Stephan Meier. 2017. "Intentions for Doing Good Matter for Doing Well: The (Negative) Signaling Value of Prosocial Incentives." NBER Working Paper 24109.

Charness, Gary, Ramòn Cobo-Reyes, and Àngela Sànchez. 2016. "The Effect of Charitable Giving on Workers' Performance: Experimental Evidence." *Journal of Economic Behavior & Organization* 131 61–74.

Charness, Gary, and David L. Levine. 2007. "Intention and Stochastic Outcomes." *The Economic Journal* 117 1051–72.

Chen, Daniel L., Martin Schonger, and Chris Wickens. 2016. "An Open-source Platform for Laboratory, Online, and Field Experiments." *Journal of Behavioral and Experimental Finance* 9 88–97.

Cho, In-Koo, and David M. Kreps. 1987. "Signaling Games and Stable Equilibria." *Quarterly Journal of Economics* 102 (2): 179–221.

Danz, David, Neeraja Gupta, Marissa Lepper, Lise Vesterlund, and K. Pun Winichakul. 2021. "Running Behavioral Lab Experiments Online: A Procedural Primer." *mimeo.*

DellaVigna, Stefano, John List, and Ulrike Malmendier. 2012. "Testing for Altruism and Social Pressure in Charitable Giving." *Quarterly Journal of Economics* 127 1–56.

Duffy, John, and Tatiana Kornienko. 2010. "Does Competition Affect Giving?" *Journal of Economic Behavior & Organization* 74 82–103.

Dufwenberg, Martin, and Georg Kirchsteiger. 2004. "A Theory of Sequential Reciprocity." *Games and Economic Behavior* 47 268–98.

Eckel, Catherine, and Rick Wilson. 2004. "Is Trust a Risky Decision?" *Journal of Economic Behavior & Organization* 55 (4): 447–65.

Elfenbein, Daniel, Raymond Fisman, and Brian Mcmanus. 2012. "Charity as a Substitute for Reputation: Evidence from an Online Marketplace." *Review of Economic Studies* 79 (4): 1441–68.

Engelmann, Dirk, and Urs Fischbacher. 2009. "Indirect Reciprocity and Strategic Reputation Building in an Experimental Helping Game." *Games and Economic Behavior* 67 (2): 399–407.

Falk, Armin, Ernst Fehr, and Urs Fischbacher. 2008. "Testing Theories of Fairness – Intentions Matter." *Games and Economic Behavior* 62 287–303.

Falk, Armin, and Urs Fischbacher. 2006. "A Theory of Reciprocity." *Games and Economic Behavior* 54 293–315.

Fehr, Ernst, Erich Kirchler, Andreas Weichbold, and Simon Gachter. 1998. "When Social Norms Overpower Competition: Gift Exchange in Experimental Markets." *Journal of Labor Economics* 16 (2): 324–51.

Fehr, Ernst, and Klaus M. Schmidt. 1999. "A Theory of Fairness, Competition, and Cooperation." *Quarterly Journal of Economics* 114 (3): 817–868.

Fehrler, Sebastian, and Wojtek Przepiorka. 2013. "Charitable Giving as a Signal of Trustworthiness: Disentangling the Benefits of Altruistic Acts." *Evolution and Human Behavior* 34 139–145.

Fehrler, Sebastian, and Wojtek Przepiorka. 2016. "Choosing a Partner for Social Exchange: Charitable Giving as a Signal of Trustworthiness." *Journal of Economic Behavior & Organization* 129 157–71.

Fischbacher, Urs. 2007. "z-Tree: Zurich Toolbox for Ready-made Economic Experiments." *Experimental Economics* 10 (2): 171–178.

Glazer, Amihai, and Kai A. Konrad. 1996. "A Signaling Explanation for Charity." *American Economic Review* 86 (4): 1019–1028.

Harbaugh, William T. 1998. "What Do Donations Buy? A Model of Philanthropy Based On Prestige and Warm Glow." *Journal of Public Economics* 67 269–84.

Holt, Charles A., and Susan K. Laury. 2002. "Risk Aversion and Incentive Effects." *American Economic Review* 92 (5): 1644–55.

Holzmeister, Felix. 2017. "oTree: Ready-Made Apps for Risk Preference Elictation Methods." *Journal of Behavioral and Experimental Finance* 16 33–38.

Imas, Alex. 2014. "Workin' for the 'Warm Glow': On the Benefits and Limits of Prosocial Incentives." *Journal of Public Economics* 114 14–18.

Johnsen, Åshild A., and Ola Kvaloy. 2016. "Does Strategic Kindness Crowd Out Prosocial Behavior." *Journal of Economic Behavior & Organization* 132 1–11.

Jones, Daniel, and Sera Linardi. 2014. "Wallflowers: Experimental Evidence of an Aversion to Standing Out." *Management Science* 60 (7): 1757–71.

Krupka, Erin, and Roberto Weber. 2013. "Identifying Social Norms Using Coordination Games: Why Does Dictator Game Sharing Vary?" *Journal of the European Economic Association* 11 (3): 495–524.

Orhun, A. Yesim. 2018. "Perceived Motives and Reciprocity." *Games and Economic Behavior* 109 436–51.

Rabin, Matthew. 1993. "Incorporating Fairness into Game Theory and Economics." *American Economic Review* 83 (5): 1281–1302.

Rege, Mari, and Kjetil Telle. 2004. "The Impact of Social Approval and Framing on Cooperation in Public Goods Situations." *Journal of Public Economics* 88 1625–44.

Samek, Anya, and Roman M. Sheremeta. 2014. "Recognizing Contributors: An Experiment on Public Goods." *Experimental Economics* 17 673–90.

Schram, Arthur, and Ingrid Seinen. 2006. "Social Status and Group Norms: Indirect Reciprocity in a Repeated Helping Game." *European Economic Review* 50 (3): 581–602.

Simpson, Brent, and Robb Willer. 2008. "Altruism and Indirect Reciprocity: The Interaction of Person and Situation in Prosocial Behavior." *Social Psychology Quarterly* 71 (1): 37–52.

Stanca, Luca. 2010. "How to be Kind? Outcomes Versus Intentions as Determinants of Fairness." *Economic Letters* 106 19–21.

Stanca, Luca, Luigino Bruni, and Luca Corazzini. 2009. "Testing Theories of Reciprocity: Do Motivations Matter?" *Journal of Economic Behavior & Organization* 71 233–45.

Strassmair, Christina. 2009. "Can Intentions Spoil the Kindness of a Gift?", Munich Discussion Paper – University of Munich, Paper No. 2009-4.

Vesterlund, Lise. 2016. "Using Experimental Methods to Understand Why and How We Give to Charity." In *The Handbook of Experimental Economics*, edited by Kagel, John H., and Alvin E. Roth, Princeton University Press.

Zhurakhovska, Lilia. 2017. "Strategic Trustworthiness via Non-Strategic Third-Party Reward." Max Planck Institute.

Appendix A. Instructions

Note: Additional language in the experiment instructions for the Image-Fundraising treatment is *italicized and underlined*. The rest of the experiment instructions were identical across both Baseline and Image-Fundraising treatments.

Introduction

Thank you for participating in our study. This is a study about decision making. The other people in this room are also participating in the study. You must not talk to them or communicate with them in any way. If you have a question, please raise your hand and one of us will come to where you are sitting to answer your question in private. Please follow along as I read the instructions.

Roles and Earnings

In this study, you will be assigned to one of two roles: **Blue Player** or **Green Player**. You will receive your role assignment on your computer screen once I finish reading the instructions. You will maintain this role throughout the study. This study will consist of two rounds. Instructions will be provided before each round. All participants will receive a $6 show up fee. Your additional earnings will depend on the decisions you make in each of the two rounds. In addition to your show up fee you will receive an initial $10 which you may use to make decisions in this study.

At the top of your station you will see a card holder with a number. This number is your **Participant Number**. Your **Participant Number** will be used to pay you at the end of this study.

Some decisions will be revealed to others in today's study. Prior to making a decision, you will be informed whether and to whom your decision will be revealed. You will also be informed whether your **Participant Number** will be used to identify you and your decision.

Instructions: Round 1, Decision 1

Round 1 is a charitable giving round. If you are a Blue Player, you will make two donation decisions in this round. One of your donation decisions will be randomly chosen to be implemented and counted toward final payment. Note that each decision is equally likely to be selected for payment. Therefore you should treat each decision as if it is the one that will be implemented. If you are a Blue Player, you will for both donation decisions have the opportunity to make a matched donation to children at the Child Life Department at the Children's Hospital of Pittsburgh of UPMC.

The Child Life Department supports children hospitalized for long-term care. One way the Child Life Department supports children is through their Creative and Expressive Arts Therapy Program. The program uses music and art to help children process the feelings that accompany being in the hospital. According to the Child Life Department, "making art and music offers an outlet to communicate when there are no words. Our board-certified therapists utilize music and/or art interventions to meet the physical, mental, emotional, social, and medical needs of hospitalized patients."

To support this program, we will use donations made today to purchase art materials such as paint brushes, marker sets, and drawing pads for children at the Children's Hospital. Donations must be made in increments of $2. Every donation will be matched "one-for-one" by a research foundation, i.e., a $2 donation will be matched with an additional $2 to make a $4 donation to children at the Children's Hospital. We will display a receipt of the total donation made to the children at the Children's Hospital in the Economics Department outside of Posvar Room 4521. If you would like an individual receipt for your donation, we will provide instructions on how to do so at the end of the study.

If you are a Blue Player, for your first decision you will be asked how much of your initial $10 you wish to keep and how much you wish to donate to children at the Children's Hospital. Your donation amount will be kept private. It will not be shown to any other participant in the room.

If you are a Green Player, you will not have the opportunity to make a matched donation to the children at the Children's Hospital.

Instructions: Round 1, Decision 2

If you are a **Blue Player**, for your second donation decision you will again be able to make a matched donation to children at the Children's Hospital. Donations must again be made in increments of $2, and will be matched one-for-one by a research foundation. For your second donation decision you must as a **Blue Player** decide how much of the initial $10 you wish to keep and how much you wish to donate to children at the Children's Hospital.

For this second donation decision, your donation amount will be shown to a randomly chosen **Green Player** with whom you will interact with in later rounds of the study. However, your **Participant Number** will not be used to identify you and your donation decision to the **Green Player**, and the **Green Player** will not know who you are. Note that your **Green Player** only sees your donation and does not see the donation of any other **Blue Player**. [*Your second donation decision will also be ranked relative to donations made by the other **Blue Players**. The **Blue Player** that donates the most will be ranked first, and the **Blue Player** that donates the least will be ranked last. Once all donation decisions have been submitted, rankings will appear on each **Blue Player's** computer screen. Your **Participant Number** will be used to identify you, your donation amount, and your ranking, but this information is only shown to the other **Blue Players**. That is the **Blue Players** will know who donated what.*]

As mentioned before, at the end of the study, only one of your donation decisions from this round will be randomly selected to be implemented and counted toward final payment. Again, if you are a **Green Player**, you will not have the opportunity to make a matched donation to the children at the Children's Hospital.

Instructions: Round 2, Decision 1

In Round 2, every **Blue Player** will be randomly matched with a **Green Player**. If you are assigned the role of a **Green Player**, on your screen you will see your matched **Blue Player's** second donation decision from Round 1[*, when it was ranked against other **Blue Players***].

In Round 2, if you are a **Green Player**, you will make two decisions. One of these decisions will be randomly chosen to be implemented and counted toward final payment. Again, please note that each decision is equally likely to be selected for payment. Therefore you should treat each decision as if it is the one that will be implemented. For your first decision you will have the opportunity to make a monetary transfer to your matched **Blue Player**. You will decide how much of the initial $10 you wish to keep and how much you wish to transfer. Any amount of money you transfer will be tripled by the researchers, such that any $2 you transfer will result in your matched **Blue Player** receiving $6. Transfers must be made in increments of $2. **Participant Numbers** will not be used to identify any participants nor their decisions during this round.

Instructions: Round 2, Decision 2

If you are a **Green Player** for your second decision, you will have another opportunity to make a monetary transfer to your matched **Blue Player**. You will decide how much of the initial $10 you wish to keep and how much you wish to transfer. Transfers will again be tripled. However for this decision, the **Blue Player** will be able to send money back to their matched **Green Player**.

Blue Players will be asked to decide how much to send back to their matched **Green Player** for each possible transfer they may receive from the matched **Green Player**. For example, **Blue Players** will decide how much they would send back if they receive $6 (3x a $2 transfer), $12 (3x a $4 transfer), and so on. Any amount sent back to a **Green Player** will not be tripled. **Blue Players** can send any part of the tripled monetary transfer back to their matched **Green Player**. The amount sent back to the matched **Green Player** must be in increments of $2. **Participant Numbers** will not be used to identify any participants nor their decisions during this round.

As mentioned before, at the end of the study one of the two decisions from this round will be randomly selected for payment.

Appendix B. Additional Experimental Results

Table B.1. Participant Demographics

	(1)	(2)	(3)	(4)
	Full Sample	Baseline	IMG	p-value
Panel B: Donors				
Age	19.41	19.46	19.37	0.69
	(1.22)	(1.13)	(1.30)	
Pct. Male	0.55	0.61	0.48	0.20
	(0.53)	(0.56)	(0.50)	
Year in School	1.32	1.37	1.27	0.58
	(1.04)	(1.02)	(1.07)	
Volunteering	1.84	1.80	1.88	0.58
	(0.85)	(0.83)	(0.88)	
Giving History	0.96	0.86	1.05	0.32
	(1.00)	(0.94)	(1.06)	
Political Ideology	1.39	1.36	1.42	0.74
	(0.98)	(1.01)	(0.96)	
Observations	119	59	60	
Panel B: Observers				
Age	19.28	19.34	19.22	0.59
	(1.23)	(1.12)	(1.34)	
Pct. Male	0.58	0.56	0.60	0.67
	(0.51)	(0.53)	(0.49)	
Year in School	1.13	1.22	1.03	0.30
	(0.99)	(1.00)	(0.97)	
Volunteering	1.75	1.80	1.70	0.55
	(0.87)	(0.92)	(0.81)	
Giving History	0.99	0.92	1.07	0.43
	(1.04)	(1.13)	(0.94)	
Political Ideology	1.47	1.37	1.57	0.27
	(0.95)	(1.00)	(0.89)	
Observations	119	59	60	

Notes: Reported numbers are means for the specified sample in each column. Standard deviations are reported in parentheses. The p-values are reported from two-sided t-tests comparing means of participants in the Baseline and IMG treatments, separately by role. The "Year in School" is measured on a 0-3 scale corresponding to categorical answers of "Freshman," "Sophomore," "Junior," and "Senior or Higher." Participants' political leanings are defined by the "Political Ideology" variable. The Political Ideology variable is scaled 0-4 from "Very Liberal" to "Very Conservative." For the "Volunteering" variable, participants are asked, "On average, how often do you volunteer for a good cause?" Answers are scaled 0-4 corresponding to categorical answers of "Never," "Once a year," "Once a month," "Every week," and "Several times a week." For the "Giving History" variable, participants are asked, "On average, how much do you donate to charitable organizations per year?" Answers are scaled 0-4 corresponding to categorical answers of "$0-$20," "$20-$50," "$50-$100," "$100-$500," and "Over $500."

TABLE B.2. Effect of Image-Fundraising on Increasing Donations

	(1) Probit	(2) Probit
	Dependent Variable: Indicator for D2 > D1	
IMG	0.79***	0.79***
	(0.25)	(0.25)
Controls	No	Yes
N	119	119

Notes: Standard errors in parentheses. Probit regressions with and without controls are reported in columns 1 and 2. The dependent variable is binary measure for whether Donor donations (D2) are larger than the value of their altruistic type (D1). Observations correspond to Donors only. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

TABLE B.3. Correlations between Trustworthiness and Altruistic Type

		Trustworthiness					Altruistic Type
		\$6	\$12	\$18	\$24	\$30	(D1)
Trustworthiness	\$6	1.00					
	\$12	0.89	1.00				
	\$18	0.81	0.94	1.00			
	\$24	0.77	0.91	0.97	1.00		
	\$30	0.76	0.89	0.95	0.97	1.00	
Altruistic Type	(D1)	0.55	0.62	0.67	0.65	0.62	1.00

Notes: Cells are labeled by the corresponding trustor transfer level for each Donor trustworthiness decision. Observations correspond to Donors only.

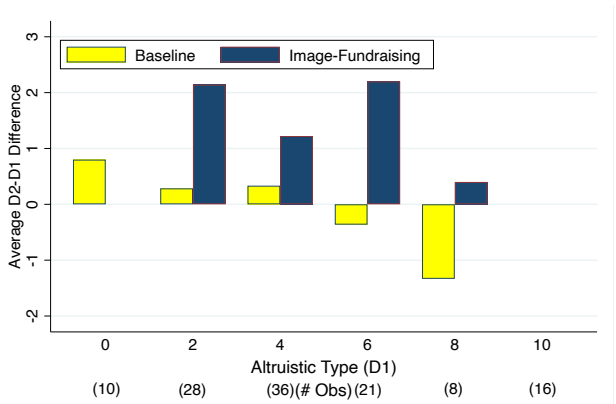

FIGURE B.1. D2-D1 Difference, by Treatment & Altruistic Type

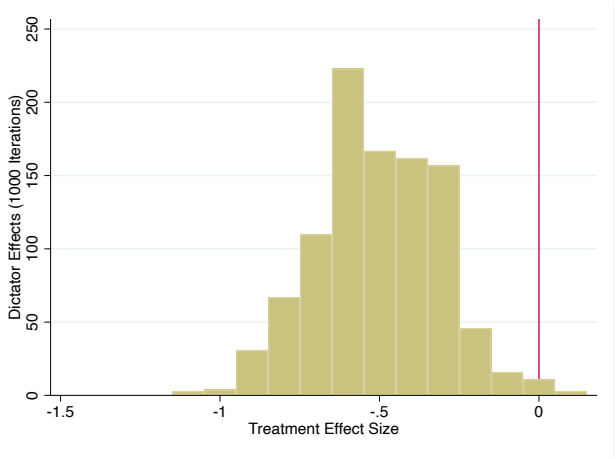

FIGURE B.2. Dictator Transfer Differences, Based on Matching Procedure on Partner's Donation across Treatments

As mentioned in Section 5, Figure B.2 describes results from a non-parametric test where Observer observations are matched by their partner Donor's donation (D2) across treatments. This simulation is intended to proxy for a within-subject scenario where a single Observer encounters two Donors — one whose donation is solicited using image-fundraising, and another whose donation is not. The paired observations compare the different Observer reactions to the two Donors. Given the possible combinations of observation pairings, the random matching procedure is iterated 1,000 times to construct a proxy large-sample distribution of dictator transfer differences.[26] The mean of the distribution shown in Figure B.2 is a negative effect of \$0.51, which can be interpreted as Observers transferring 51 cents less to Donors in the IMG treatment relative to Donors in the Baseline treatment. This is equivalent to over a 15% reduction in dictator transfers relative to the average Baseline dictator transfer. The 95th percentile of this distribution is a *negative* effect of \$0.21,

[26]I match pairs based on participants in the IMG treatment. This gives us a common support across the two treatments that yields 47 pairs for each match iteration.

equivalent to a 6% decrease in dictator transfers. The results from this non-parametric estimation provides additional support for RESULT 2 from Section 5.2, and suggests that image-fundraising significantly decreases Observer dictator transfers.

Beyond the dictator transfer, I leverage the same matching iteration to construct a distribution trustor transfer differences across treatments. The distribution is shown in Figure B.3 below. The mean of this distribution is a negative effect of \$0.64, which is equivalent to a 19% decrease relative to the average Baseline trustor transfer. The 95th percentile of this distribution is a *negative* effect of \$0.30, equivalent to a 6% decrease in trustor transfers. This matching exercise suggests image-fundraising significantly decreases Observer trustor transfers, complements the results regarding dictator transfers above, and lends further evidence that is consistent with RESULT 2 from Section 5.2 that Observers discount donations made in response to IMG.

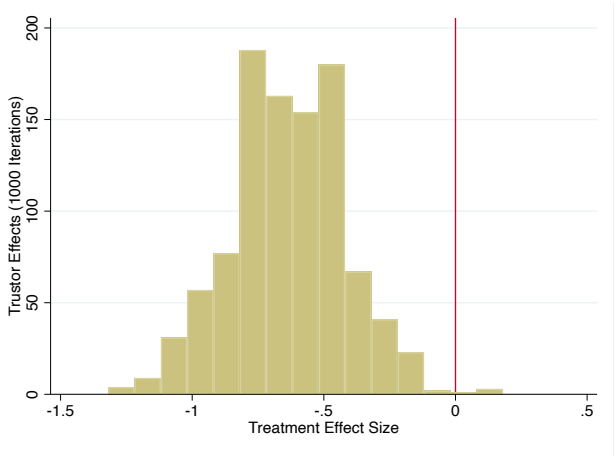

FIGURE B.3. Trustor Transfer Differences, based on Matching Procedure on Partner's Donation across Treatments

APPENDIX C. PBE SATISFYING INTUITIVE CRITERION

PROPOSITION 1: In the Perfect Bayesian Equilibrium that satisfies the intuitive criterion, donations are defined by:

$$d = \begin{cases} \dfrac{\alpha_D[(1+m)w + \gamma s(d)]}{1 - \gamma s'(d) + \alpha_D}, & \text{if } \theta = H \\ 0, & \text{if } \theta = L, \end{cases}$$

given Observer beliefs, and Observer posteriors are defined by:

$$p = \begin{cases} 1, & \text{if } d = d^{H*} \\ 0, & \text{if } d = d^{L*}, \end{cases}$$

where d^{H*} and d^{L*} are defined as the high- and low-type Donor equilibrium transfers, respectively. Observers transfer:

$$t_R = \begin{cases} (\frac{\alpha_R m - 1}{(1+\alpha_R)m})w + (\frac{1}{(1+\alpha_R)m})[d - \gamma s(d)], & \text{if } d = d^{H*} \\ 0, & \text{if } d = d^{L*}. \end{cases}$$

In the equilibrium described in PROPOSITION 1, high-type Donors donate as a signal to Observers to differentiate themselves from low-type Donors. For any separating equilibrium to exist, neither Donor type should have an incentive to deviate and mimic the other type's donation. First, high-type Donors have no incentive to mimic low-types by choosing $d^{L*} = 0$. High-types will never deviate to $d^{L*} = 0$ as $\lim_{d\to 0} \psi_D(\alpha_D^H) = -\infty$. Second, low-type Donors do not mimic high-types as long as:

$$\ln(w) \geq \ln\Big(\Big[\frac{\alpha_R(1+m)}{1+\alpha_R}\Big]w - \Big[\frac{\alpha_R}{1+\alpha_R}\Big][d-\gamma s(d)]\Big). \tag{3}$$

That is, equation (3) highlights the necessary condition where utility from not donating for low-types is greater than mimicking high-types by giving d^{H*}, and receiving positive Observer transfer $t_R$in equilibrium. Further, it must be true that:

$$\frac{\alpha_D[(1+m)w + \gamma s(d^{H*})]}{1-\gamma s'(d^{H*}) + \alpha_D} \geq (\tfrac{\alpha_R m - 1}{\alpha_R})w + \gamma s(\underline{d}).$$

The left-hand side represents the high-type Donor equilibrium donation, d^{H*}. The right-hand side of the above expression represents the donation, $\underline{d}$, derived from equation (3) when the inequality that ensures that low-type donors prefer not to donate is satisfied with equality. High-type Donor giving maximizes their utility, and is simultaneously too costly for low types to mimic. Observers recognize this separation and update their beliefs accordingly and accurately to reflect the two types of Donors they observe.

PROOF: First, I show that an arbitrary set of pooling equilibria do not satisfy the intuitive criterion. Consider a deviation d', away from a pooling donation $\tilde{d}$, where $d' > \tilde{d}$. Define d' such that for low-type Donors:

$$\ln\Big(\Big[\tfrac{(1+\alpha_R)p_0+\alpha_R p_0 m-1}{(1+\alpha_R)p_0}\Big]w + \Big[\tfrac{1-(1+\alpha_R)p_0}{(1+\alpha_R)p_0}\Big][\tilde{d}-\gamma s(\tilde{d})]\Big) = \ln\Big(\Big[\tfrac{\alpha_R(1+m)}{1+\alpha_R}\Big]w - \Big[\tfrac{\alpha_R}{1+\alpha_R}\Big][d'-\gamma s(d')]\Big), \tag{4}$$

whereby deviating I assume Donors receives the best possible benefit from Observers ($p = 1$). I know an upward deviation that yields the same utility for low-type Donors as the pooled donation exists. This is because increasing the likelihood that a Donor is a high type improves the Observer transfer, $\dfrac{\partial t_R^*}{\partial p} = \frac{w-d+\gamma s(d)}{(1+\alpha_R)mp^2} > 0$. Therefore, a donation d', must exist where the utility loss from the larger donation is offset by the increase in utility from a larger Observer transfer, and $\psi_D(\alpha_D^L)$ remains the same.

For high-type Donors, deviating to donation d' results in greater utility than what they obtain in the pooling equilibrium if I also assume they receive the best possible benefit from Observers ($p = 1$). This can be represented by:

$$\ln\Big(\Big[\tfrac{(1+\alpha_R)p_0+\alpha_R p_0 m-1}{(1+\alpha_R)p_0}\Big]w + \Big[\tfrac{1-(1+\alpha_R)p_0}{(1+\alpha_R)p_0}\Big][\tilde{d}-\gamma s(\tilde{d})]\Big) + \alpha_D^H \ln(\tilde{d}) < \ln\Big(\Big[\tfrac{\alpha_R(1+m)}{1+\alpha_R}\Big]w - \Big[\tfrac{\alpha_R}{1+\alpha_R}\Big][d'-\gamma s(d')]\Big) + \alpha_D^H \ln(d').$$

I know that high types obtain greater utility by donating d' because $\alpha_D^H \ln(d') > \alpha_D^H \ln(\tilde{d})$ for $d' > \tilde{d}$, while the other terms are equal in value, as defined in equation (4). Now consider a small deviation from d', denoted as $d'' < d'$. The donation d'' is equilibrium-dominated for low-type Donors, but not for high-type Donors. In particular:

$$\ln\Big(\Big[\tfrac{(1+\alpha_R)p_0+\alpha_R p_0 m-1}{(1+\alpha_R)p_0}\Big]w + \Big[\tfrac{1-(1+\alpha_R)p_0}{(1+\alpha_R)p_0}\Big][\tilde{d}-\gamma s(\tilde{d})]\Big) > \ln\Big(\Big[\tfrac{\alpha_R(1+m)}{1+\alpha_R}\Big]w - \Big[\tfrac{\alpha_R}{1+\alpha_R}\Big][d''-\gamma s(d'')]\Big),$$

but,

$$\ln\Big(\Big[\tfrac{(1+\alpha_R)p_0+\alpha_R p_0 m-1}{(1+\alpha_R)p_0}\Big]w + \Big[\tfrac{1-(1+\alpha_R)p_0}{(1+\alpha_R)p_0}\Big][\tilde{d}-\gamma s(\tilde{d})]\Big) + \alpha_D^H \ln(\tilde{d}) < \ln\Big(\Big[\tfrac{\alpha_R(1+m)}{1+\alpha_R}\Big]w - \Big[\tfrac{\alpha_R}{1+\alpha_R}\Big][d''-\gamma s(d'')]\Big) + \alpha_D^H \ln(d'').$$

Because d'' is equilibrium-dominated for low-types, Observers should only believe high-types would donate d'', and adjust their transfer t_R, accordingly. High-type Donors should deviate to d'', as they benefit relative

to the pooling equilibrium donation $\tilde{d}$, given Observers accurately updating beliefs. Because the pooling equilibrium was defined for arbitrary $\tilde{d}$, it follows that all pooling equilibrium fail to satisfy the intuitive criterion.

For separating equilibria other than that defined in PROPOSITION 1, consider a deviation $\check{d} \in [\underline{d}, w]$, but $\check{d} \neq d^{H*}$. Recall that the threshold value $\underline{d}$ defined above is generally applicable for *all* separating equilibrium, such that low-type Donors have no incentive to deviate from giving nothing. Therefore, low-type Donors have no incentive to deviate to donating $\check{d}$ from their equilibrium donation $d^{L*} = 0$, as $\check{d} \in [\underline{d}, w]$. Meanwhile, $\check{d}$ by definition does not satisfy the high-type Donor's first-order condition. Any deviation $\check{d} \neq d^{H*}$ makes high-type Donors worse off. This leaves the equilibrium defined in PROPOSITION 1 as the only PBE that satisfies the intuitive criterion.