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# Voluntary 'Donations' versus Reward-Oriented 'Contributions': Two Experiments on Framing in Funding Mechanisms

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Discussion Paper No. 326

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**Voluntary ‘donations’ versus reward-oriented ‘contributions’:  
Two experiments on framing in funding mechanisms**

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Abstract

In an artefactual field experiment, we implemented a crowdfunding campaign for an institute’s summer party and compared donation and contribution framings. We found that the use of the word ‘donation’ generated higher revenue than the use of ‘contribution’. While the individuals receiving the donation framing gave substantially larger amounts, those receiving the contribution framing responded more strongly to reward thresholds and suggestions. An additional survey experiment on MTurk indicated that the term ‘donation’ triggers more positive emotional responses and that emotions are highly correlated with giving. It appears that making a donation is perceived as a more voluntary act and is thus more successful at generating warm glow than making a contribution. We surmise that this extends to other funding mechanisms.

JEL classifications: C93, D64, D12

Keywords: Crowdfunding, field experiment, framing

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## 1 Introduction

Charitable giving, public good provision, and crowdfunding all have one thing in common: agents give money to finance a nonprivate good. The main difference between the three lies in the nature of the good for which money is being collected. While the beneficiaries of charitable giving are typically *other* people and the beneficiaries of public goods are by definition everyone, the beneficiaries of many crowdfunding campaigns often include the contributors. Neither charitable giving nor public good provision mechanisms typically involve rewards for donors; by contrast, crowdfunding campaigns often involve nested reward schemes for different contributions.<sup>1</sup>

Regardless of the nature of the beneficiaries of a funding mechanism, the question arises as to how to describe to potential contributors the act of giving money. In public good games, it is common to refer to the money that is given as a ‘contribution’, while in charitable giving settings, money given is mostly called a ‘donation’. In this paper we explore whether this choice of wording matters for behaviour. While we do this in the context of a crowdfunding campaign,<sup>2</sup> we believe that our results also have implications for other funding mechanisms.

Specifically, we implemented a crowdfunding campaign to finance one occurrence of an institute’s annual summer party. In previous years, a ‘donation box’ had been displayed in a prominent location during the party, which frequently led to shortfalls in financing. This time, a crowdfunding campaign was announced around 20 days in advance via personalized e-mails. The campaign offered a multitude of incentives to increase giving. Those incentives were available to all e-mail recipients alike and included rewards like vouchers for tournaments and games and matching for early gifts. Three e-mail reminders were sent. Our setting was a relatively small community

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<sup>1</sup> These differences are, of course, very much stylized. In reality, there are many hybrid forms to be found. For example, charitable giving that benefits others may benefit everyone if everyone cares about the benefit being generated for others. Also, sometimes charities do offer (small) rewards for donations (see, for example, Falk 2007) or some form of social recognition as a reward (see, for example, Glazer and Konrad 1996).

<sup>2</sup> Crowdfunding has become a popular tool to raise money for projects, attracting investments of US\$25 billion in 2015 alone (Massolution 2015). Successfully funded projects include movies, video games, software, and appliances but also charitable projects, scientific research for rare genetic diseases, and museum projects. One of the most successful projects so far has been the video game *Star Citizen*, which surpassed US\$288 million in contributions in 2019 (<https://www.forbes.com/sites/mattperetz/2019/05/01/exclusive-the-saga-of-star-citizen-a-video-game-that-raised-300-million-but-may-never-be-ready-to-play/#5819cd155ac9>, retrieved on 9 April 2020). But there are also many campaigns for small projects, notably for the arts and for local purposes. In Europe, the volume of donation-based crowdfunding grew from €22 to €53 million between 2015 and 2017 (Ziegler et al. 2019, p.33).

consisting of an institute's more than 500 affiliates and friends; expected attendance at the party was between 150 and 200 guests.<sup>3</sup>

We implemented a subtle treatment manipulation in the wording of our e-mails, that is, we referred to either donations or contributions. In order to learn more about the mechanism driving giving behaviour in both conditions, we also varied non-binding suggestions, which were either €10 or €20. This was the second dimension of our 2x2 design. Additionally, we studied the responsiveness to other incentives offered (without experimental variation) depending on the frame. Specifically, we analysed gift levels relative to the reward thresholds and self-selection with respect to the timing of gifts. Regarding timing, early gifts were matched with a fixed amount offered by an anonymous sponsor, but later gifts were not matched.<sup>4</sup>

While the term 'donation' has a clear meaning linked to charitable giving, 'contribution' has multiple meanings. Some of these meanings relate to charitable giving, but others are more related to duties. In Figure 4 in the Appendix we present word association maps that show different meanings and their connections. They suggest that the act of donating is more self-oriented, while contributing invokes a notion of joint participation. On Google Trends, search terms combined with the word 'donation' mostly relate to charitable giving (blood, organ, plasma, Goodwill, Salvation Army, Red Cross, clothing), while those combined with 'contribution' mostly relate to individual accounts, savings, or insurance and ask questions about their regulation (see the lists in Table 9 in the Appendix). The search term 'donation' is approximately 20% more common than 'contribution', and 'charitable donation' occurs 71% more often than 'charitable contribution' in Google searches.<sup>5</sup> While charities predominantly use the term 'donation', they do employ the term 'contribution' in some instances (see Table 10 in the Appendix).

Relatedly, in the literature on charitable giving, Andreoni (1995) documented that framing the same task as implying a positive externality rather than a negative externality generates more giving. This result has been replicated several times by, among others, Sonnemans, Schram, and Offerman

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<sup>3</sup> Smaller communities of this type are expected to have higher giving frequencies but remain understudied (Andreoni 1988; Kessler and Milkman 2018).

<sup>4</sup> Note that we used the term 'bonus' instead of 'match' in the announcement e-mails.

<sup>5</sup> Google Trends: worldwide searches for 2004–2017. The difference is 65% in the first case and only 36% in the second case when looking at the United States only.

(1998) and Park (2000). This line of research concludes that positive frames are more successful at stimulating warm glow than negative frames.<sup>6</sup>

In line with the above-mentioned research, we expected that the more unique meaning of the term ‘donation’ and its connotation with voluntary charitable giving would increase giving by intensifying warm glow when compared to the term ‘contribution’. Given the different connotations, we also expected that gifts in the contribution frame would be more responsive to suggestions and rewards than those in the donation frame.

In order to further investigate the reasons for our treatment effects, we conducted an additional survey experiment on Amazon Mechanical Turk (MTurk), where we measured emotional responses to the two frames. In line with our conjecture, we found more positive emotional responses to the donation frame and also show that emotional responses are correlated with behaviour in a public good game—highlighting that the main result from our field experiment extends beyond the crowdfunding setting.

Our paper contributes to three strands of literature: the large literature on framing effects (including the papers cited above), the literature on emotions and economic decision-making, and the nascent literature on crowdfunding that emerged in the 2010s. Mollick (2014) provides an early descriptive study of almost 50,000 crowdfunding projects, and Agrawal et al. (2014) provides an early overview of the basic economic principles governing the crowdfunding market. Strausz (2017) contributes a formal economic model of crowdfunding highlighting the tension between its screening function in the presence of demand uncertainty and moral hazard. Belleflamme, Omrani, and Peitz (2015) studied the economics of crowdfunding platforms and illustrate how externalities between crowdfunding projects lead to the natural emergence of platforms.

While most existing empirical studies of crowdfunding make use of observational data (for example, Meer 2014, Argo et al. 2020), there are also a small number of experiments on crowdfunding. Cason and Zubrickas (2017, 2019) and Cason, Tabarrok, and Zubrickas (2019) conducted laboratory experiments in which they explored different incentive schemes such as

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<sup>6</sup> Chlaß, Gangadharan, and Jones (2021) studied two frames in which they described the amount withheld by an intermediary in a charitable giving process either as corrupt behaviour (cheating) or as the intermediary charging a fee to cover administrative costs. They found no difference in the response of donors to those different frames.

bonuses for early contributions. Similarly, in a web-based experiment, Ansink et al. (2017) tested the effects of seed money and the impact of the attraction effect. In a field experiment, Burch et al. (2015) studied the effects of privacy. Castillo, Petrie, and Wardell (2017) show how including a feature to ask friends on Facebook for additional donations increased giving on a crowdfunding platform. Our study is the first to document a substantial framing effect in crowdfunding campaigns.

In addition to the literature on framing, the literature on nudging often investigates the effects of small changes in the design of choice architecture or in the precise choice of wording. A recent meta study of the effects of nudging in the context of tax collection can be found in Antinyan and Asatryan (2020). They show that emphasizing deterrence is more effective than emphasizing tax morale. In contrast to standard nudging interventions, we should also note that our variation is extremely minimal, akin to a one-word nudge. In addition, the terms that we used—‘donation’ and ‘contribution’—have a similar meaning, do not change the information structure, and do not affect the choice architecture.

As the effect that we document appears to be mediated through associated emotions, our paper also makes a contribution to the literature on emotions and economic decision-making. The role of emotions for contribution games was documented earlier by Drouvelis and Grosskopf (2016), who show that anger reduces contributions in a public good game with punishments. While they manipulated emotions before the actual decision through video clips screened to subjects,<sup>7</sup> the emotional response in our subjects was triggered simply by different wordings in the instructions and measured in our online survey experiment. Emotions have also been shown to be relevant in other contribution contexts, such as tax compliance (Enachescu et al. 2019) and pro-environmental donations (Ibanez, Moureau, and Roussel 2017), with positive emotions being associated with better compliance.<sup>8</sup>

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<sup>7</sup> An early experiment that manipulated emotions through video clips can be found in Kirchsteiger, Rigotti, and Rustichini (2006), who studied gift exchange. The same technique was employed in Ifcher and Zarghamee (2011), who show that mood affects time preferences. Capra (2004) instead used a memory elicitation task to manipulate mood in order to study the role of mood in dictator, ultimatum, and trust games.

<sup>8</sup> The question arises as to whether such positive effects of positive emotions are in some contradiction to Antinyan and Asatryan's (2020) finding that nudges emphasizing deterrence are more effective than nudges appealing to morale. In light of our paper, morale might be a two-edged sword emotionally, with contributions appealing to the dark side of musts and donations to the more positive identity aspect of morale.

In light of these studies, it is perhaps not very surprising that emotions also matter for contributions in a crowdfunding campaign. What appears non-trivial is that different emotions can be triggered through the slightest change in wording.

The remainder of the paper proceeds as follows. In Section 2 we present the basic idea and our hypotheses. In Section 3 we describe the design and implementation of the crowdfunding campaign, followed by the results from the field experiment in Section 4. Section 5 presents the additional experiment on MTurk measuring emotional responses, and Section 6 concludes.

## **2 The basic idea and hypotheses**

We designed a crowdfunding campaign with three basic characteristics. Individuals (i) were asked to make a contribution to a nonprivate good, (ii) received an implicit suggestion for an amount that they might have deemed appropriate, and (iii) were offered staggered rewards for contributions that met certain thresholds. We believe that this captures some of the most common features of crowdfunding campaigns. Our main treatment variation was the wording we used for the contribution as such. In one treatment, the contribution was referred to as a contribution; in the other, a donation.

Based on the aforementioned word associations maps and most common Google search phrases, we suspected that the term ‘donation’ is associated with the positive sentiments of voluntary action and charity, while the term ‘contribution’ is more associated with the negative sentiments of duty and taxation. From this, we derived the following three hypotheses for the crowdfunding campaign:

**Hypothesis 1** *The donation frame will lead to higher gift levels than the contribution frame.*

The logic behind this hypothesis is simple. If the term ‘donation’ were to trigger a more positive emotional response, we should, in line with previous findings, expect more generosity.

**Hypothesis 2** *The donation frame will lead to a higher share of individuals choosing gift levels over and above the different reward thresholds.*

The logic for the second hypothesis is derived from the idea that the term ‘donation’ is associated with an element of charity and that charity as such cannot be signalled to others or to oneself when the amount given appears to be driven by a reward.



**Hypothesis 3** *Individuals in the contribution frame will be more responsive to suggestions: the distance between chosen gifts and suggested amounts will be smaller in the contribution than in the donation frame.*

The logic for the third hypothesis stems from the observation that the term ‘contribution’ is associated with a notion of duty and that duties can be fulfilled by following (implicit) suggestions.

### **3 Design and implementation of the crowdfunding campaign**

Each year one of the departments of the research institute is responsible for the organization of a summer party. The fields represented at the institute include sociology, political science, law, and economics. In 2016, the department of economics was responsible for the organization and financing of the summer party.<sup>9</sup> As usual, almost 550 employees, guests, and affiliated researchers were invited. Around half were employed as researchers (including PhD candidates and student research assistants), one quarter worked in administration, and the final quarter was made up of guests, affiliated researchers, alumni, and friends. The party usually involves free drinks and a barbecue or alternatives financed through monetary contributions, a salad and cake buffet organized through in-kind contributions, live music, and an entertainment program with games and humorous speeches.

Instead of employing a donation box, which in previous years had led to shortfalls in financing, this time the invitation e-mail announced a crowdfunding campaign to take place before the summer party. More specifically, there were four different versions of e-mails sent out 20 days before the party. A 2x2 design involved one treatment pair with a variation in wording and one pair with two different suggestions regarding the gift amounts. The e-mail recipients were asked to either contribute or donate money and/or make a pledge to a potluck buffet of salads and cakes (a buffet pledge).<sup>10</sup> In addition, suggestions were introduced in the first e-mail with the following sentence: ‘If the average monetary donation (contribution) is €20 <€10>, we need 100 <200> participants in the campaign to cover the expected costs.’ The same sentence was repeated in the final reminder e-mail. This formulation mirrors the variations in Adena, Huck, and Rasul (2014).

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<sup>9</sup> The department of economics accounted for less than 10% of the staff in the experiment.

<sup>10</sup> A buffet pledge meant that the individual committed to bringing food (usually cake or salad) to the party.

The total amount collected to date was posted and updated once a day on the institute's intranet as well as communicated via reminder e-mails over the course of the campaign.

We also implemented some additional incentives that were equal for all versions of e-mails and aimed at making participation in the campaign more attractive. First, we offered various nested rewards by levels of gifts, with thresholds at €5, €10, €20, €30, and €100. The rewards included vouchers for participation in tournaments and games, and a rare book for the highest gifts. A buffet pledge was valued at €10, the average price that the organizers would have had to pay to a professional caterer for a cake or salad, and added to the monetary gift when determining the reward. Second, we offered a fixed match of €5 by an anonymous sponsor for early gifts; this was not counted towards the reward. In addition, it was announced that any surplus money would be donated to a refugee project (see Appendix D for details of the mailing). In addition to the first e-mail, three reminders were sent. The e-mails were sent in English,<sup>11</sup> since a large proportion of the institute's staff is international and has little or no command of the local language.

In the donation treatment, the word 'donation' appeared 19 times in the first e-mail, once in the first (short) reminder, twice in the second reminder, and four times in the third reminder, whereas the word 'contribution' was never used. Each time the e-mail was sent, all previous e-mail communications were appended such that with the third reminder the total word count of 'donation' was 26. The contribution treatment involved the same number of instances of the word 'contribution' and no use of the word 'donation.'

We implemented block (strata) randomization based on the available individual characteristics, which in turn were based on membership in email lists such as 'female', 'postdocs,' 'PhD students,' and those for different departments or different administrative divisions, amongst others.<sup>12</sup> More specifically, we sorted the data according to the following dummy variables and in the following order: professor, female, data management unit, press and communication unit, doctoral students, postdocs, units IV, I, II, III, V, administration, secretaries, IT unit, student research assistants, and library. Next, in each consecutive group of four individuals (our blocks), we assigned one of the

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<sup>11</sup> Only the first e-mail included a translation into the local language.

<sup>12</sup> Some of the characteristics were corrected by hand, for example, to exclude a person who oversaw messages in a particular list without being a member of that group.

four experimental treatments at random.<sup>13</sup> We applied the block randomization in order to increase balance and subsequently precision. All variables used for the randomization and mean comparisons between different treatments can be seen in Table 7 in the Appendix. The given sample size of 545 individuals allows us to detect a standardized effect size (Cohen's  $d$ ) of 0.24 with alpha equal to 0.05 and power equal to 0.8 in a simple randomized experiment. By applying block randomization, we additionally increased power and therefore efficiency by reducing the residual variance.<sup>14</sup>

By choosing personalized e-mails, we aimed to reduce spillovers between treatments. We cannot rule out that recipients discussed the party with one another. But since the differences between e-mails were rather subtle, they likely went unnoticed, and no one mentioned to us that they had become aware of the variation. If there was some awareness about treatment differences, for which we do not have any evidence, our results would constitute the lower bound of the true treatment effects.<sup>15</sup>

Before proceeding to our results in the next section, we want to briefly reflect on how our setup compares to other funding mechanisms. In Table 1 we compare typical crowdfunding, typical public good games, and typical fundraising environments to our own experiment. While our setup does tick all the boxes for crowdfunding, it is closely related to both fundraising and public good games such that we would expect our results to also speak to other realms.

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<sup>13</sup> Note that given a large number of characteristics and a limited sample size, our approach does not ensure that individuals within a block are equal according to all characteristics, but it does ensure that they only differ on a few dimensions. The order was chosen by giving priority to the characteristics deemed more important to achieve balance on those dimensions. Some categories have no overlap such that their order does not matter, for example, the data management unit and the group of doctoral students are entirely distinct.

<sup>14</sup> The extent to which we increased power by blocking was difficult to determine *ex ante*. It depends on how well the giving behaviour is explained by the individual characteristics on which we blocked.

<sup>15</sup> Of course, some indirect spillovers could have been at play in the form of social influence (if one person were to have announced to colleagues that they had given a particular amount, the colleagues might have followed suit). Although we cannot completely exclude this, we can show that there was no clustering over time by the group to which individuals belonged (see Figure 3 in the Appendix).

Table 1 Differences between crowdfunding, public goods, fundraising, and this experiment

	Public goods	Fundraising	Crowdfunding	This experiment
Beneficiaries	Everyone	Other people (everyone for certain charitable goals)	Contributors (other people in donation-based form)	Contributors (everyone at the institute)
Goods or services in return for payment	No	Typically no, but can include a lottery or small gifts	Typically yes, rewards possible	Yes, rewards included
Threshold	Typically no, but can be spelled out	Typically no, but can be spelled out	Typically yes, usually provided but not always binding (for example, JustGiving, betterplace.org)	Yes, implicitly spelled out; not binding but effectively affecting the amount of good provided
Visibility of amounts collected so far	Typically no, but can be spelled out	Typically no, but can be spelled out	Yes, usually provided	Yes, provided in reminder e-mails and updated once a day on the intranet

#### 4 Results

The campaign achieved a total of 130 gifts<sup>16</sup> (monetary, buffet, or both), which is close to the expected participation at the party of around 150 to 200, including family members. Relative to the number of e-mails sent, the response rate was 24%. The average monetary gift was €12 and the median €10. Figure 2 in the Appendix presents the number of gifts by day and suggests the importance of reminders, since most gifts came in shortly after the reminders had been sent out. Most gifts were exactly equal to the amounts specified in the reward scheme (€5, €10, €20, €30, €100), but there were also a few other amounts. There were eight donations larger than €20, including two €100 donations. Overall, the campaign was successful in collecting enough money to cover the costs of the event and even surpassed the announced monetary threshold of €2,000 when everything is included: the final sum of €2,241 comprises €1,506 in monetary gifts, 34 buffet pledges valued at €340, and an additional €395 from the matching scheme. After all costs had been covered, the surplus of €275 was donated to a refugee program in line with the announcement in the e-mails.

<sup>16</sup> Gifts from people involved in the design of the experiment were excluded from the analysis.

Table 2 summarizes the outcomes by treatments alongside simple comparisons by the mean of a t-test or a test of proportions. The use of the word ‘donation’ rather than ‘contribution’ resulted in a slightly higher response rate (non-significant), much higher average positive monetary gifts (borderline significant at  $p < 0.1$ ), and a much higher overall monetary return (significant at  $p < 0.05$ ). The effects are very similar once the buffet pledges are included. In Table 3, Column I we test Hypothesis 1 in an OLS regression. We regressed unconditional amounts given on the donation treatment dummy, controlling for block fixed effects and basic characteristics.<sup>17</sup> Panel A accounts for monetary gifts only, while Panel B includes buffet pledges monetized at a value of €10 each. In line with Hypothesis 1, we find higher revenue in the donation frame. The difference is significant at  $p < 0.5$ , and the increase in giving is as large as 80% from the average in the contribution frame.

Table 2 Results of different wording

Treatment	Contribution		Donation		T-test p-value	Test of proportions p-value
Panel A: only monetary gifts						
Number of subjects	273		272			
Number of monetary gifts	56		64			
Share of monetary gift	0.205	(0.024)	0.235	(0.026)		0.3955
Monetary return per mail in €	1.963	(0.279)	3.327	(0.634)	0.049	
Average positive monetary gift in €	9.571	(0.744)	14.141	(2.218)	0.067	
Minimum in €	5		5			
Median in €	10		10			
Maximum in €	30		100			
Share of gifts €5–6 conditional on giving	0.429	(0.066)	0.406	(0.061)		0.805
Share of gifts €10 conditional on giving	0.411	(0.066)	0.297	(0.057)		0.192
Share of gifts €15 and more conditional on giving	0.161	(0.049)	0.297	(0.057)		0.079
Panel B: including buffet pledges monetized at €10						
Number of buffet gifts	16		18			
Share of buffet gifts	0.059	(0.014)	0.066	(0.015)		0.7357
Total number of gift givers	61		69			
Overall response rate	0.223	(0.025)	0.254	(0.026)		0.3958
Return in € per mail including buffet pledges monetized at €10	2.549	(0.345)	3.989	(0.659)	0.053	
Average positive gift in € including buffet pledges monetized at 10€	11.410	(0.858)	15.725	(2.026)	0.063	

<sup>17</sup> Due to a lack of time data for non-donors, we cannot control for the amount of money donated thus far relative to the threshold in these regressions, as is often done to study the completion effect. In regressions on the intensive margin, we find no completion effect. The timing of the gifts is driven rather by the first e-mail and the reminders.

Note: Standard errors in parentheses; two-sided tests.

Table 3 Treatment effect on revenue and accounting for potential outliers

Winsorizing level:	No winsorizing	€90	€80	€70	€60	€50	€40	€30	drop €100	drop €50+
	I	II	III	IV	V	VI	VII	VIII	IX	X
Panel A: only monetary gifts										
‘Donation’	1.553** (0.636)	1.478** (0.602)	1.402** (0.570)	1.326** (0.541)	1.251** (0.515)	1.175** (0.492)	1.064** (0.463)	0.952** (0.440)	0.879* (0.448)	0.705* (0.419)
Observations	544	544	544	544	544	544	544	544	542	541
R <sup>2</sup>	0.409	0.408	0.406	0.403	0.399	0.394	0.390	0.384	0.363	0.370
Panel B: including buffet pledges monetized at €10										
‘Donation’	1.625** (0.690)	1.550** (0.659)	1.474** (0.630)	1.399** (0.604)	1.323** (0.580)	1.247** (0.560)	1.136** (0.536)	1.062** (0.507)	0.951* (0.523)	0.788 (0.503)
Observations	544	544	544	544	544	544	544	544	542	541
R <sup>2</sup>	0.398	0.396	0.393	0.390	0.386	0.382	0.377	0.374	0.359	0.357

Note: OLS regressions. The outcome variables are unconditional gifts excluding (Panel A) or including (Panel B) buffet pledges monetized at €10. Robust standard errors in parentheses. Controls include block fixed effects and dummies for female, data management unit, press and communication unit, doctoral students, postdocs, units I, II, III, IV, administration, IT unit, student research assistants, and library. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table 4 Distribution of gift values

Gift value in €	0	<u>5</u>	6	<u>10</u>	15	<u>20</u>	25	<u>30</u>	35	40	50	<u>100</u>	Total
Panel A: only monetary gifts													
‘Contribution’	217	23	1	23	1	7	0	1	0	0	0	0	273
‘Donation’	208	26	0	19	5	7	1	2	1	0	1	2	272
Total	425	49	1	42	6	14	1	3	1	0	1	2	545
Panel B: including buffet pledges monetized at €10													
‘Contribution’	212	19	1	22	5	13	0	0	0	1	0	0	273
‘Donation’	203	19	0	18	12	13	1	2	1	0	1	2	272
Total	415	38	1	40	17	26	1	2	1	1	1	2	545

Note: Gift thresholds that resulted in a reward are underlined.

One might be concerned that the effect was driven by outliers, since the maximum monetary donation in the donation frame was €100 compared with €30 in the contribution frame (€40 when we include buffet pledges monetized at €10). For this reason, in Table 3, Columns II-VII we repeated the specification from Column I and apply, step-by-step, declining caps on donation amounts. While the raw maximum donations are equal to €100 (Column I), each next column winsorizes donations at the specified lower value up to €30. We see that while the estimate of the treatment effect declines (as the average donation and standard deviation do) over decreasing caps,

the coefficients remain significant at  $p < 0.05$ . In the last two columns, we repeated the above specification without a cap but removed the large gifts. In Column IX we removed the two gifts of €100 (both in the donation frame), and in Column X we removed gifts of €50 or more (three in the donation frame). The treatment effect is still positive and significant at  $p < 0.1$  except for the last cell. Overall, we conclude that the treatment effect was not driven by outliers. In Figure A5 we include a further robustness check based on the coefficients from Table 3, Column I: a randomization inference test that has become common recently (Heß 2017; Young 2018; Cohen and Dupas 2010). Fisherian randomization inference provides the means to assess whether an observed realization could be observed by chance even if the treatment were to have had no effect. This test permutes the treatment and control status in the sample and reestimates the coefficients using this placebo assignment multiple times (we set this to 5,000). The results show that it is unlikely that the results that we observe arose by chance.

Table 4 shows the numbers of gifts of different monetary values (Panel A) and gifts including buffet pledges monetized at €10 (Panel B) in the two frames. First, there are more gifts in higher categories in the donation frame. There are seven gifts valued at €25 or more in the donation frame compared to only one in the contribution frame, and 19 (32 in Panel B) gifts valued at €15 or more in the donation frame compared to nine (19 in Panel B) in the contribution frame. The share of gifts valued at €15 or more is significantly higher in the donation frame (see bottom rows of Panel A in Table 2).

Second, there are more gifts in the donation frame that do not correspond to a threshold value for a reward. More specifically, in Table 4, Panel B there are 15 such gifts in the donation frame and only seven in the contribution frame. Glazer and Konrad (1996) present evidence on bunching donations at the bottom of different published categories. For example, they report that 68% of gifts made in the range of US\$1,000–4,999 at Carnegie Mellon University were exactly \$1,000. While 68% might appear large, 32% chose to give more than required in order to be listed as donors in that particular category. In a similar vein, Birke (2020) documents in an MTurk experiment that a substantial fraction of subjects performed more voluntary tasks for a charity than necessary for a performance bonus. Moreover, more subjects performed two or more tasks above the bonus level if their behaviour was being observed by others. Birke explains that subjects signal their prosociality by separating from bonus-motivated types. As the amount above the reward level was

not observed by others in our case, we think that the choice of higher levels is linked to self-signalling and that the difference between the donation and contribution frame is due to the voluntary component of a donation frame, which is weakened in the contribution frame. If a contribution is perceived as an obligation, then there is no point in signalling prosociality. Altogether, we confirm Hypothesis 2.

Next, we look at the distance between the value of gifts and the suggested amounts in more detail.<sup>18</sup> Table 5 shows that the distance to the suggested amount is almost 40% larger in the donation frame. There is also more variance in gift amounts in general in the donation than in the contribution frame (Columns III and VI, significant difference according to the variance-comparison test). These results are in line with Hypothesis 3.

Table 5 Distance to suggested amounts and variance

Only monetary gifts				Including buffet pledges monetized at €10		
Treatment	Number of subjects	Distance to the suggested amount	Standard deviations from the mean	Number of subjects	Distance to the suggested amount	Standard deviations from the mean
	I	II	III	IV	V	VI
‘Contribution’	56	7.393 (0.683)	9.571 (0.744)	61	6.787 (0.737)	11.410 (0.858)
‘Donation’	64	10.234 (1.858)	14.140 (2.218)	69	9.493 (1.734)	15.725 (2.026)
One-sided t-test p-value		0.086			0.086	
Variance-comparison test p-value			0.000			0.000

<sup>18</sup> The direct effects of suggestions are summarized in Appendix B. We find evidence in favour of higher non-binding suggestions similar to those observed in Adena, Huck, and Rasul (2014). A higher suggestion of €20, relative to the suggestion of €10, changed the distribution of gifts (generating more €10 gifts and fewer €5 gifts, and changing both the median and the mode) and increased the overall return, although not significantly. These results differ from experiments on gift grids in Adena and Huck (2020) and Reiley and Samek (2018), who found detrimental effects of higher grids. A potential explanation for these differences may be that suggestions are softer than grids and that higher gifts also go hand-in-hand with greater rewards in a typical crowdfunding campaign. Figure 6 in the Appendix shows the exact distribution relative to the suggested amounts.



Variance-comparison  
robust test p-value

0.004

0.037

Finally, we comment on behaviour concerning the match (see also Table 8 in the Appendix). A match of €5 by an anonymous donor was offered for all gifts made before a prespecified deadline. Although the match increased the gift received, it was not counted against the reward that donors received from contributing a certain amount. Therefore, individuals who wanted to increase the total amount collected should have chosen to give early, while those who were only interested in rewards might have given equally later. We also expected out-of-pocket gifts with a match to be lower, following the literature about the crowding-out effect of third-party transfers on charitable giving (see, for example, Adena and Huck 2017; Huck and Rasul 2011; Huck, Rasul, and Shephard 2015). While the number of late gifts without the match was equal in both frames, there were 43 early gifts in the donation frame compared to 36 in the contribution frame.<sup>19</sup> The level of monetary gifts was in both frames lower with the match. Overall, it appears that the match was more successful at stimulating additional gifts in the donation frame.

## 5 An additional experiment on MTurk measuring emotional responses

In order to parse out the mechanism behind the differences in behaviour in our two different frames, we conducted an additional survey experiment with 985 participants on the MTurk platform.<sup>20</sup> Subjects were placed in an artefactual situation in which they were asked, depending on the treatment, to ‘donate’ or to ‘contribute’ to a public good. We subsequently measured their feelings using the Geneva Emotional Wheel (GEW).<sup>21</sup> The GEW measures 20 different emotions that are organized on a circle. The two main dimensions of the circle reflect the extent to which emotions are aligned with feelings of being in control (the vertical axis) and the positivity or negativity of emotions (the horizontal axis).

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<sup>19</sup> We do not count one gift in the donation frame, since although the person asked on the last match day for money transfer details, the transfer itself occurred only later.

<sup>20</sup> We selected subjects located in the United States for participation.

<sup>21</sup> Version 3.0, <http://www.affective-sciences.org/en/gew/>, viewed on 16.02.2020 (for details, see Scherer 2005; Scherer et al. 2013; Sacharin, Schlegel, and Scherer 2012).

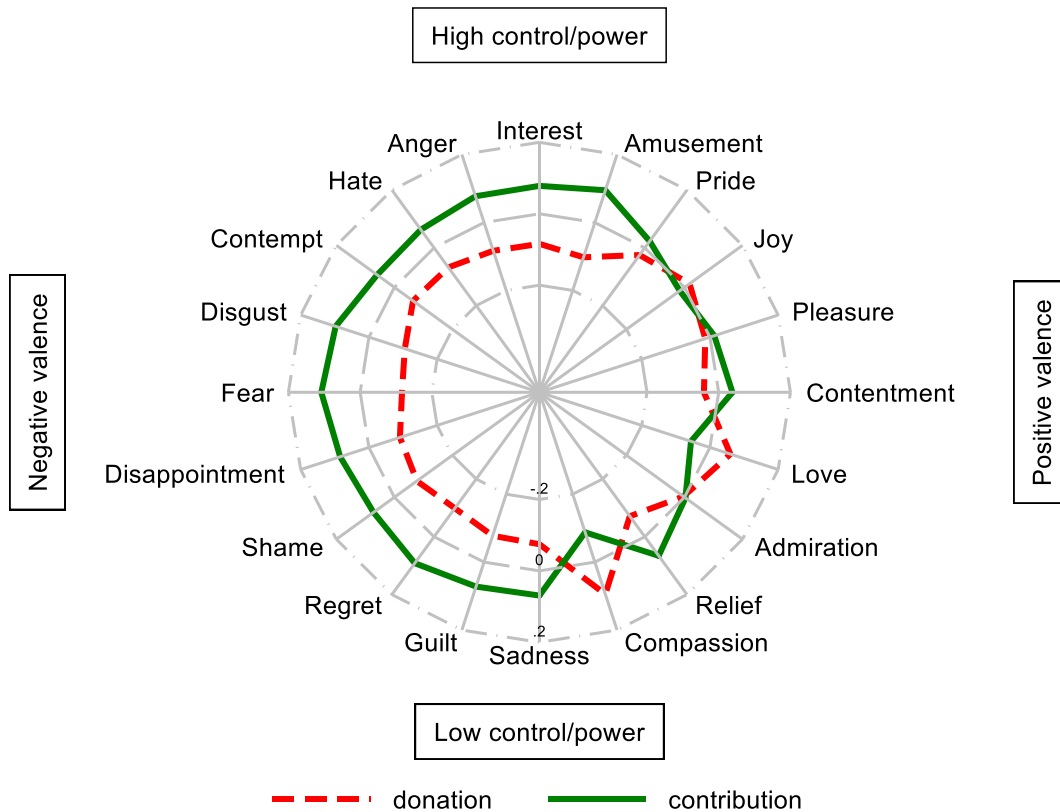
We implemented one-shot public good games with staggered rewards at a number of thresholds as in our summer party crowdfunding campaign. Subjects played in groups of five, and each subject had an endowment of US\$2 from which they could choose how much to donate or contribute to a group account. Payments into the group reaching a threshold of \$5 were doubled and shared equally among all subjects; payments below that threshold were not doubled but still shared equally. Payments that exceeded certain thresholds were met with a symbolic reward and an individual rebate. Specifically, at \$0.20 subjects received a downloadable certificate called the ‘bronze contributor/donor recognition award’; at \$0.40 they received a ‘silver award’, at \$0.80 a ‘gold award’, and at \$1.60 a ‘platinum award’. Additionally, they were offered a rebate of \$0.05 for payments above \$0.40, \$0.10 for payments above \$0.80, and \$0.20 for payments above \$1.60. Notice that none of these rebates affects the equilibrium prediction of zero payments for selfish rational agents. Each subject received a baseline payment of \$0.50, independent of the game outcome. After their choice, subjects were asked to quantify how strongly they experienced the 20 different emotions that feed into the GEW (see Appendix E for detailed instructions).

Average payments into the group account were close to \$1.10 under both frames, with almost identically appearing distributions and no treatment effect, as documented in Table 6, Column I. There is however a difference in groups’ abilities to meet the \$5 threshold that triggered group payments to be doubled. Under the donation frame, 82.28% of groups reached that threshold, compared to 74.17% under the contribution frame, with higher resulting payouts for the donation frame. While those differences are not statistically significant at conventional levels, we did find a significant treatment effect when examining emotions, and once we explore how emotions map onto payments we will see why there were no effects on choices in the MTurk setting.

Our measurements of emotional responses are presented in condensed form in Figure 1 and in more detail in Table 11 in the Appendix. In Figure 1, which shows the GEW, all emotion variables are standardized with mean zero and standard deviation equal to one, chosen because of stark differences on the scale between different emotions. It is easy to see that the contribution frame is associated with more negative feelings than the donation frame: the two frames are roughly two standard deviations apart across the entire left side of the GEW. In terms of positive emotions, the two frames generated much more similar responses, though donations are associated with stronger feelings of ‘love’ and ‘compassion’.

These results appear to be in line with what word maps and Google Trends had suggested: as the term ‘contribution’ implies far less voluntary sentiment and is more reflective of an obligation, it also evokes more negative emotional responses.

Figure 1 ‘Donations’ versus ‘contributions’ on the GEW



Note: All emotion variables are standardized with mean zero and standard deviation equal to one. The dashed line presents the deviation of the mean in the donation treatment from the overall mean (in terms of standard deviations). The solid line presents the deviation of the mean in the contribution treatment from the overall mean.

In a second step, we completed two regression exercises. In Table 6, Column II we regress a simple index capturing negative emotions (the sum of negative emotional responses, standardized) on the treatment, while in Column III we regress payments into the group account (standardized) on the negative emotion index and a treatment dummy. An interesting pattern emerges. As is to be

expected from inspecting Figure 1, we found a strong treatment effect on the negative emotion index. We also found that negative emotions significantly reduced contributions, in line with the findings of Drouvelis and Grosskopf (2016), discussed above. However, this relationship is significantly attenuated under the contribution frame. It appears that the subjects in our MTurk treatment tried to keep their negative emotions in check more so when we shocked them upwards in our contribution frame. It is this attenuation that leads to the absence of a treatment effect on average payments into the group account in this particular setting.

Table 6 Results of the MTurk experiment

Outcome:	Gifts, standardized	Sum of negative emotions, standardized	Gifts, standardized
	I	II	III
‘Contribution’	0.008 (0.064)	0.207*** (0.063)	0.051 (0.063)
Sum of negative emotions, standardized			-0.294*** (0.049)
‘Contribution’ x sum of negative emotions, standardized			0.190*** (0.065)
Observations	985	985	985
$R^2$	0.000	0.011	0.036

Note: Robust errors; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Our results suggest that economic decision-makers are influenced by their emotions but are not slaves to them. Many individuals participate in MTurk first and foremost to earn money. Still, they are prone to emotional responses that depend on the framing of their choice environment. But it appears that they are able to exert some control over the transmission of emotions onto choice. We presume that the strength of such attenuation is moderated by financial need and largely absent in our field experiment.

## 4 Conclusions

In this paper, we presented results from a field experiment on crowdfunding. We varied the message within the crowdfunding campaign in order to explore the role of donation and contribution frames. We found that a donation frame attracted more and higher gifts than a contribution frame. We furthermore documented that the word ‘donation’ is connotated with voluntary action and charity and hence might be more effective in generating warm glow for a donor and stimulating a positive self-image. In contrast, a contribution appears to be perceived more as an obligation or duty. We found support for this interpretation in an additional experiment run on MTurk: the word ‘contribution’ generated relatively more negative emotions than the word ‘donation’ did.

We also documented some interaction patterns between the framing and other features of the crowdfunding campaign, notably the strong attraction of giving thresholds that are associated with rewards. As such, our paper adds to the nascent literature on crowdfunding by pointing to some relevant trade-offs. Suggestions and thresholds can exert a strong pull in a contribution frame, turning reward structures into a powerful instrument. On the other hand, a donation frame triggers less negative emotional valence and inspires more basic generosity. In practice, these forces will have to be carefully weighed against each other. Crowdfunding campaigns should be designed from a holistic perspective, and the optimal design may vary between different types of goods. In light of our two experiments, we posit that the benefits of emotional manipulation will be less pronounced for projects that relate to economic necessities than for those that relate to luxury goods or charitable projects. At the same time, projects for economic necessities may benefit more from attractive reward structures coupled with a contribution frame that maximizes the pull of reward thresholds.

From a policy perspective, our results echo Enachescu et al.'s (2019) call to consider emotional responses in institutional design, with tax collection as their leading example. Our results confirm their insight that positive emotions can increase generosity, but subtle differences emerge. After all, we observed stronger effects when the good to be financed was perceived already as a common enterprise (the institute’s summer party) and not just a work environment (MTurk). This points to important interaction effects and raises the question as to whether a state household could be framed as positively and participatorily as the party in our study. Probably not—but fungibility aside, states

do finance some goods that may be more immediately perceivable as participatory. Given the current Covid-19 pandemic, health care easily comes to mind. In order to sharpen this point, let us make a prediction for different approaches on financing health care during the pandemic. Let's imagine that we want to finance, say, a new wastewater project and a new hospital (or, perhaps, upgrades like new pipes for the former and more nurses for the latter). We simply implement the central variation of the present study, that is, we ask either for donations or contributions. The conjecture emerging from putting our findings into context would be that the donation frame would perform better than the contribution frame, particularly so for the hospital project.

While our field experiment explores a crowdfunding setting, the fundamental explanation for our treatment effects—that different frames trigger different emotions—should apply also to other settings in which acts may be framed as either donations or contributions. Given the surprisingly large effect of our small variation and its sensitivity to the precise choice environment (with substantial attenuation in the semi-professional world of MTurkers), we imagine that there is still a wide range of opportunities to pursue in this area of research.

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**Online Appendix for**  
**Voluntary ‘donations’ versus reward-oriented ‘contributions:’**  
**Two experiments on framing in funding mechanisms**

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# Appendix A Additional tables and figures

Figure 2 Number of contributors by day

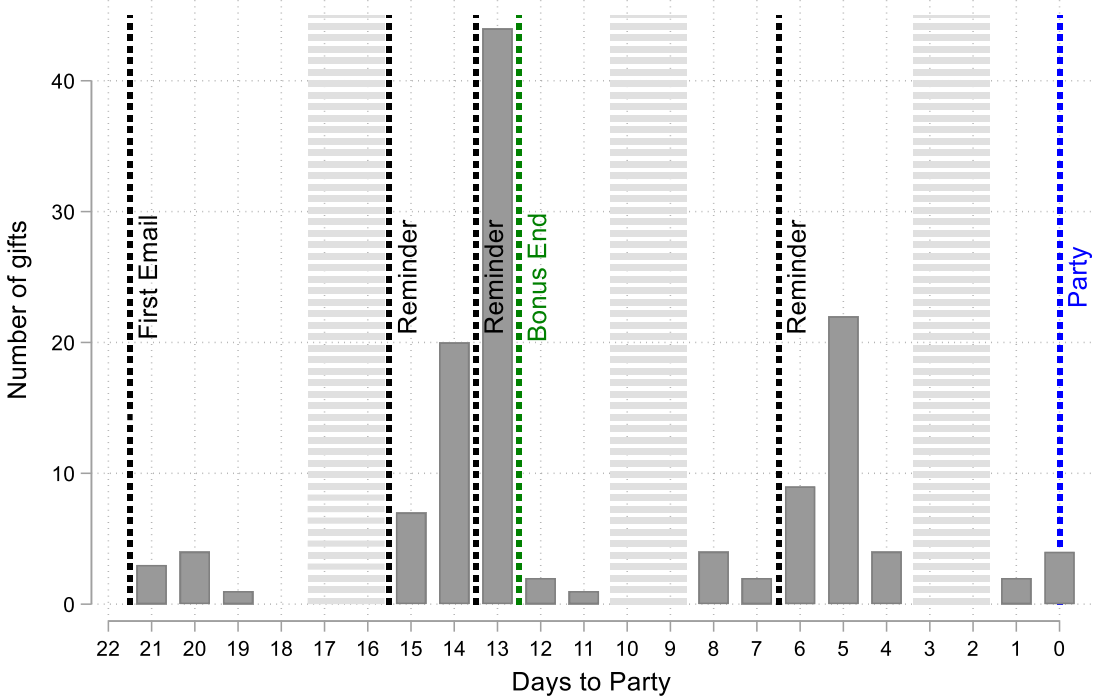
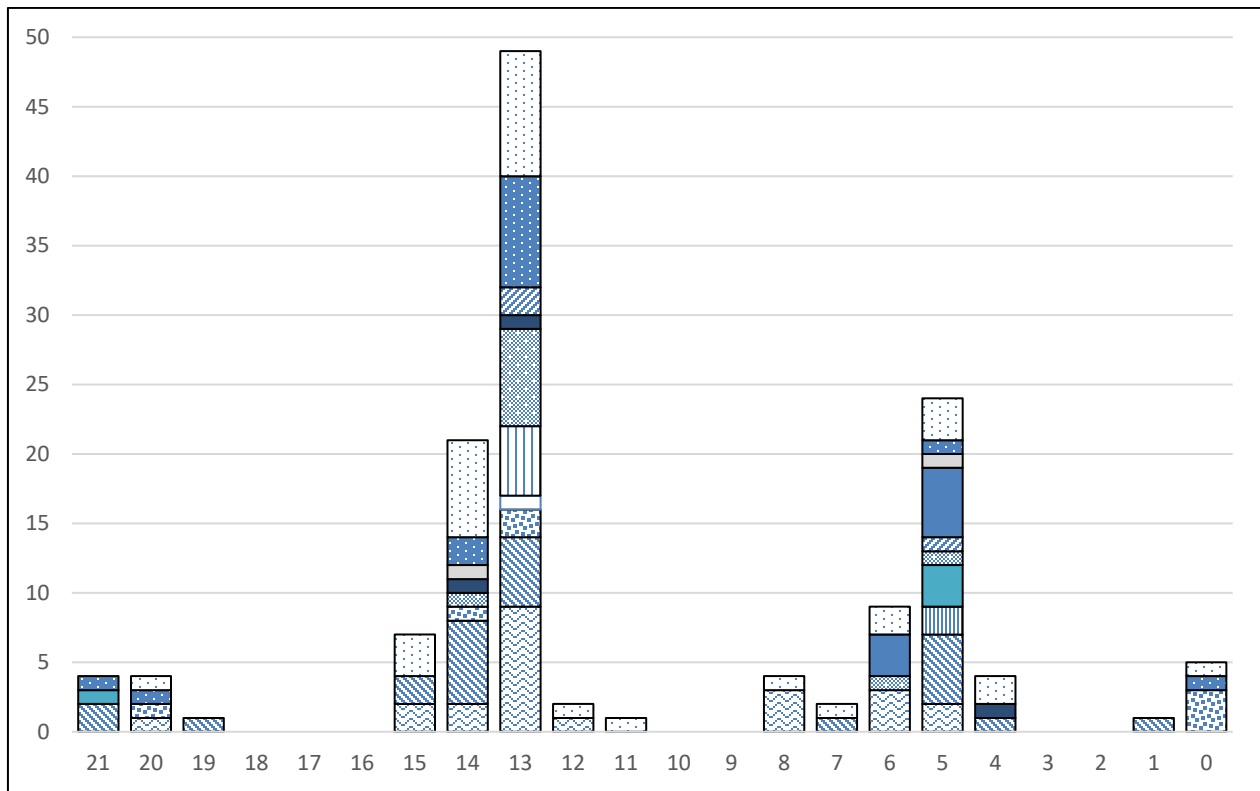


Figure 3 Number of gifts by group by day to party



The figure above shows the numbers of gifts according to the institutional groups to which the contributors belonged (in 10 cases there is doubling as, for example, secretaries belong both to the administration and to their respective departments). For data protection reasons, we do not label the groups. We also do not correct for the size of the groups. While some groups cluster more around certain days, this does not appear to be a general pattern and may have occurred at random.

Figure 4 Associations with the words 'contribution' and 'donation' (source: <http://www.snappywords.com/>)

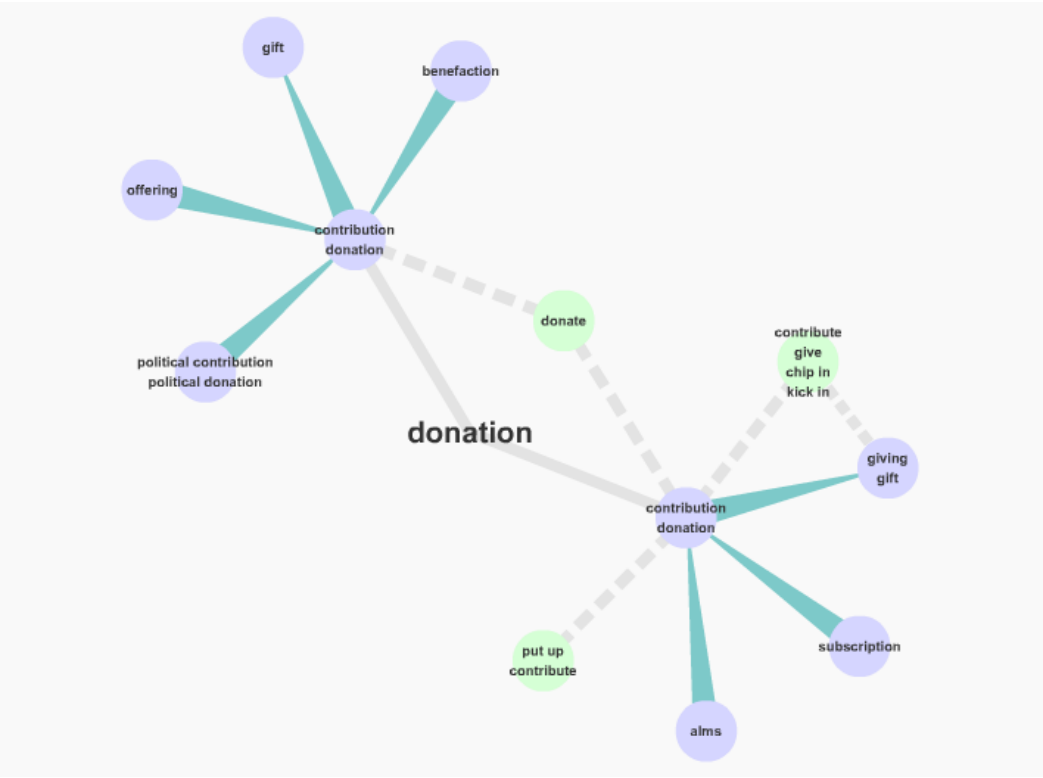
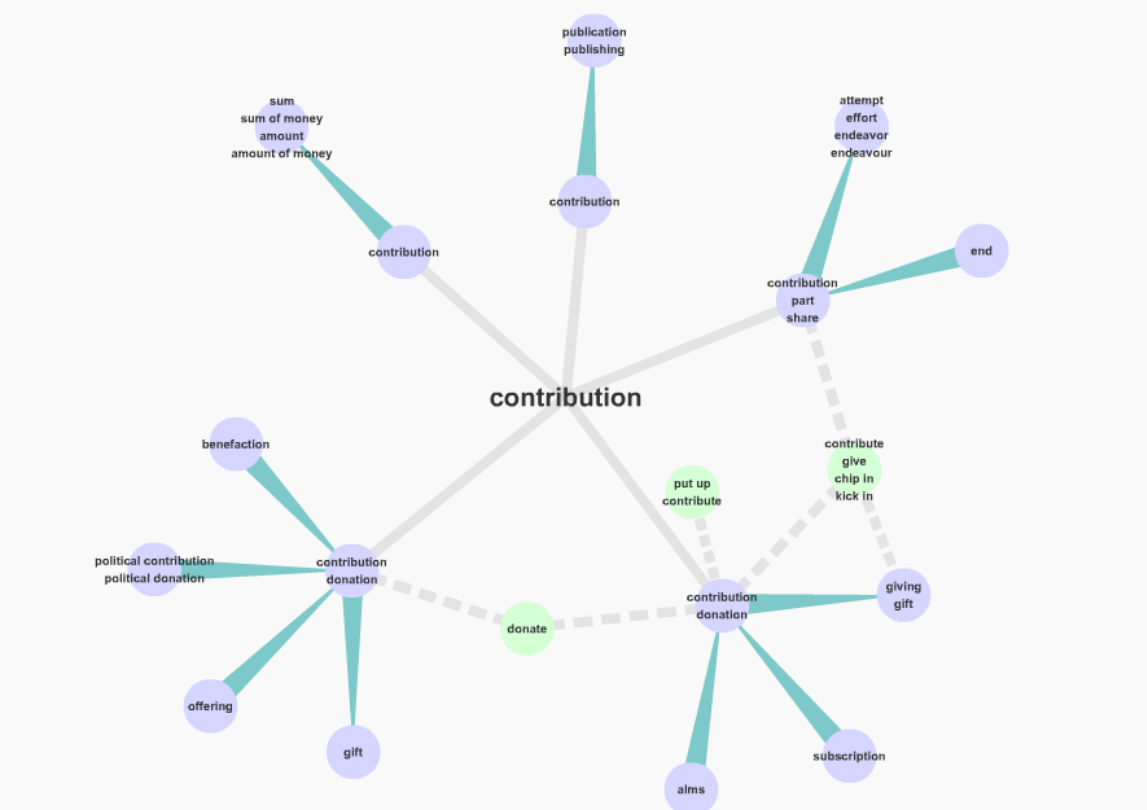
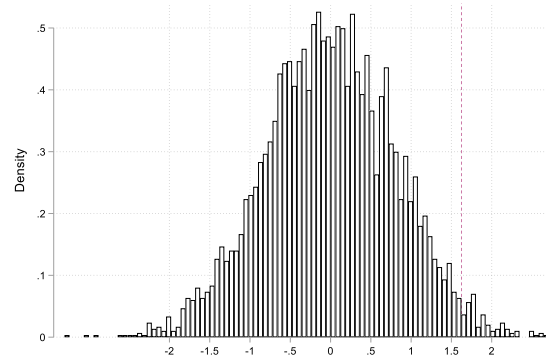
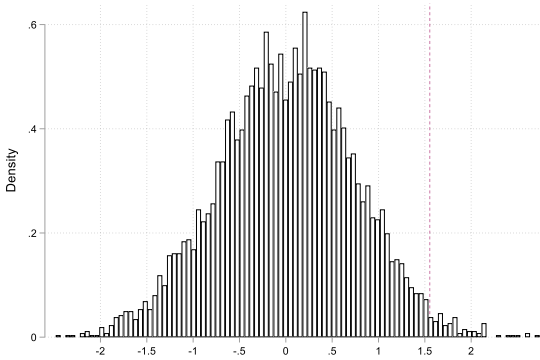


Figure 5 Fisherian randomization inference test for the treatment effect estimated in Table 2, Column I

Panel A: only monetary gifts

Panel B: including buffet pledges monetized at €10



Note: Based on 5,000 permutations.

Table 7 Individual characteristics in each of the 2x2 randomization cells and t-test p-values

Treatment:	Donation				Contribution															
Treatment:	10€		20€		10€		20€													
	1		2		3		4		1=2		1=3		2=3		4=2		4=3		1=4	
	N=135		N=137		N=137		N=136													
Share of participants pertaining to the group of:	Mean	Std. err.	Mean	Std. err.	Mean	Std. err.	Mean	Std. err.	Two-sided t-test p-values											
Females	0.504	0.043	0.511	0.043	0.504	0.043	0.511	0.043	0.905	0.999	0.904	0.953	0.951	0.952						
Professors	0.044	0.018	0.051	0.019	0.051	0.019	0.051	0.019	0.798	0.798	1.000	0.798	0.798	1.000						
Postdocs	0.141	0.030	0.139	0.030	0.146	0.030	0.139	0.030	0.961	0.902	0.863	0.898	0.764	0.860						
PhD students	0.207	0.035	0.182	0.033	0.190	0.034	0.182	0.033	0.606	0.717	0.877	0.832	0.953	0.762						
Student research assistants	0.141	0.030	0.153	0.031	0.161	0.031	0.153	0.031	0.771	0.649	0.869	0.906	0.778	0.863						
Faculty I	0.185	0.034	0.204	0.035	0.212	0.035	0.204	0.035	0.691	0.585	0.882	0.951	0.931	0.647						
Faculty II	0.081	0.024	0.102	0.026	0.095	0.025	0.102	0.026	0.556	0.698	0.840	0.710	0.865	0.828						
Faculty III	0.126	0.029	0.117	0.028	0.117	0.028	0.117	0.028	0.818	0.818	1.000	0.450	0.450	0.328						
Faculty IV	0.074	0.023	0.044	0.018	0.051	0.019	0.044	0.018	0.291	0.436	0.777	0.979	0.798	0.304						
Faculty V	0.096	0.025	0.124	0.028	0.124	0.028	0.124	0.028	0.466	0.466	1.000	0.964	0.964	0.440						
Administration	0.081	0.024	0.080	0.023	0.058	0.020	0.080	0.023	0.971	0.458	0.477	0.971	0.458	1.000						
IT	0.007	0.007	0.015	0.010	0.015	0.010	0.015	0.010	0.571	0.571	1.000	0.571	0.571	1.000						
Library	0.030	0.015	0.022	0.013	0.044	0.018	0.022	0.013	0.689	0.536	0.311	0.689	0.536	1.000						
Press unit	0.022	0.013	0.022	0.013	0.015	0.010	0.022	0.013	0.986	0.642	0.653	0.986	0.642	1.000						
Secretaries	0.059	0.020	0.073	0.022	0.066	0.021	0.073	0.022	0.650	0.827	0.813	0.650	0.827	1.000						

Note: All variables above are dummy variables; there are overlaps between the different categories. Std. err.: standard errors.

Table 8 Early and late gifts

Treatment	Early gifts with match offer of €5					Late gifts without match offer				
	Total number of gift givers	Buffet pledges	Number of monetary gifts	Average positive monetary gift	Average positive gift including buffet pledges monetized	Total number of gift givers	Buffet pledges	Number of monetary gifts	Average positive monetary gift	Average positive gift including buffet pledges monetized
	I	II	III	IV	V	VI	VII	VIII	IX	X
Contribution	36	12	33	8.33 (0.891)	11.67 (0.976)	25	4	22	9.44 (1.359)	11.04 (1.575)
Donation	43	13	40	12.44 (2.531)	15.47 (2.439)	25	5	22	14.4 (3.898)	16.4 (3.759)

Table 9 Google Trends searches worldwide (01.01.04–15.12.17)

<b>Donation</b>	<b>Relative frequency</b>	<b>Contribution</b>	<b>Relative frequency</b>
blood	100	ira	100
blood donation	95	ira contribution	100
organ donation	45	401k contribution	75
plasma donation	40	401k	75
plasma	35	what is contribution	55
donate	35	roth contribution	50
goodwill	25	ira contribution limits	50
donation center	25	roth ira	40
goodwill donation	25	roth ira contribution	40
egg donation	20	contribution margin	35
donation letter	20	sss	35
sperm donation	20	sss contribution	30
salvation army donation	20	hsa contribution	25
salvation army	20	hsa	25
donation request	20	401k limits	25
charity donation	20	401k contribution limits	25
red cross donation	20	roth contribution limits	25
donation pick up	20	cpf	25
red cross	15	cpf contribution	20
car donation	15	roth ira contribution limits	20
hair donation	15	defined contribution	20
clothing donation	15	maximum 401k contribution	20
furniture donation	15	lotto contribution	20
red cross blood donation	10	lotto world contribution	15
clothes donation	10	contribution definition	15

Table 10 Examples of the use of the word ‘contribution’ by charities and projects at a crowdfunding platform

Charity	Citation	Context	Source
Panel A: Examples from charities’ own websites			
American Red Cross	Charitable <b>Contributions</b> . Donations to the American Red Cross are tax deductible to the full extent of the law.	Tax treatment	<a href="https://www.redcross.org/donations/ways-to-donate/charitable-contributions.html">https://www.redcross.org/donations/ways-to-donate/charitable-contributions.html</a>
UNICEF	Sweden <b>contributes</b> US\$2.7 million to UNICEF’s emergency response for children in Syria	Government donations	<a href="https://www.unicef.org/mena/press-releases/sweden-contributes-us27-million-unicefs-emergency-response-children-syria">https://www.unicef.org/mena/press-releases/sweden-contributes-us27-million-unicefs-emergency-response-children-syria</a>
United Way	When you give to United Way, your <b>contribution</b> helps foster both individual and collective success.	Individual donations	<a href="https://www.unitedway.org/get-involved/ways-to-give#">https://www.unitedway.org/get-involved/ways-to-give#</a>
APOPO	APOPO Cambodia is deeply grateful for the support and generous <b>contributions</b> of its partners and donors.	Corporate donations	<a href="https://www.apopo.org/en/latest/2020/12/APOPO-and-CMAC-commit-to-another-year-of-partnership">https://www.apopo.org/en/latest/2020/12/APOPO-and-CMAC-commit-to-another-year-of-partnership</a>
DNDi	Listed below are supporters who have given a cumulative <b>contribution</b> of over USD or EUR 10,000 since 2003, as well as collaborative funding partners.	Government donations	<a href="https://dndi.org/about/public-donors/">https://dndi.org/about/public-donors/</a>
Oxfam UK	In 2010/11, more than 40 institutional donors <b>contributed</b> an all-time high of £173.5 million to our projects worldwide.	Institutional donations	<a href="https://www.oxfam.org.uk/about-us/how-we-work/about-our-partners/">https://www.oxfam.org.uk/about-us/how-we-work/about-our-partners/</a>
Tree of Hope	you can help by <b>contributing</b> to that campaign fund	Individual donations	<a href="https://www.treeofhope.org.uk/ways-to-donate/donate-to-a-campaign/">https://www.treeofhope.org.uk/ways-to-donate/donate-to-a-campaign/</a>
Unseen	Just set up a Just Giving page for your friends and family to pay in their <b>contributions</b> – or pay in lump sums easily yourself.	Individual donations	<a href="https://www.unseenuk.org/get-involved/helpline-hero/">https://www.unseenuk.org/get-involved/helpline-hero/</a>
Safe Line	Donate to us. ... Your <b>contribution</b> can change lives for the better.	Individual donations	<a href="https://www.safeline.org.uk/support-us/why-support-us/">https://www.safeline.org.uk/support-us/why-support-us/</a>
Panel B: Examples from project descriptions on an online crowdfunding platform			
GoFund Me	Ramadhan gives each and every one of us the opportunity to <b>contribute</b> to charity and be a part of uniting our Ummah.	Individual donations	<a href="https://www.gofundme.com/f/7rbym-gift-of-water">https://www.gofundme.com/f/7rbym-gift-of-water</a>
GoFund Me	please consider <b>contributing</b> to this sweet family	Individual donations	<a href="https://www.gofundme.com/f/sza4d-family-in-need-due-to-covid19">https://www.gofundme.com/f/sza4d-family-in-need-due-to-covid19</a>
GoFund Me	<b>Contribute</b> to Lifesaving Medical Care in Lebanon	Individual donations	<a href="https://www.gofundme.com/f/contribute-to-lifesaving-medical-care">https://www.gofundme.com/f/contribute-to-lifesaving-medical-care</a>
GoFund Me	If anyone would like to <b>contribute</b> to our funds please see link below.	Individual donations	<a href="https://www.gofundme.com/f/p2p29z-kindness-homeless-street-team-glasgow">https://www.gofundme.com/f/p2p29z-kindness-homeless-street-team-glasgow</a>
GoFund Me	We would love for your support by making a <b>contribution</b> to the 2nd annual Staff Appreciation Fund.	Individual donations	<a href="https://www.gofundme.com/f/ghes-staff-appreciation-fund">https://www.gofundme.com/f/ghes-staff-appreciation-fund</a>
GoFund Me	I would be very grateful if anyone is able to <b>contribute</b> .	Individual donations	<a href="https://www.gofundme.com/f/help-with-orthopedic-surgery-in-kenyan-hospital">https://www.gofundme.com/f/help-with-orthopedic-surgery-in-kenyan-hospital</a>

Table 11 MTurk survey and emotion levels by frame

	Donation		Contribution		
	N= 474		N= 511		
	Mean	Std. err.	Mean	Std. err.	t-test p-value
Interest	63.015	1.274	67.456	1.186	0.011
Amusement	35.565	1.479	41.941	1.425	0.002
Pride	46.219	1.587	47.840	1.463	0.453
Joy	48.276	1.504	47.182	1.412	0.596
Pleasure	50.173	1.463	51.002	1.376	0.680
Contentment	53.479	1.504	55.996	1.352	0.214
Love	37.928	1.550	34.082	1.452	0.070
Admiration	33.850	1.490	34.070	1.394	0.914
Relief	28.992	1.372	33.098	1.323	0.031
Compassion	49.105	1.573	42.965	1.457	0.004
Sadness	7.274	0.704	9.634	0.764	0.023
Guilt	9.439	0.804	12.260	0.882	0.018
Regret	9.338	0.708	12.759	0.884	0.003
Shame	7.968	0.738	10.630	0.850	0.018
Disappointment	7.561	0.655	10.487	0.822	0.005
Fear	8.063	0.700	11.992	0.845	0.000
Disgust	5.589	0.555	8.667	0.773	0.001
Contempt	12.447	1.064	15.415	1.089	0.052
Hate	5.361	0.534	7.159	0.683	0.038
Anger	5.411	0.545	7.675	0.700	0.011

Note: Std. err. = standard errors.



Although we were unable to determine exact participation at the party, it seemed to be similar to previous years. Below, we present the numbers of people who donated, those who were eligible to take part in games, and those who actually took part in the games.

Table 12 Participation at the party

Donated €5 or more	Donated at least €10 or buffet	Donated at least €20 or buffet+€10				
Eligible for participation in games or more	Eligible for only 1 experiment	Eligible for 2 experiments	Maximum possible participation in experiments	Actual participation in experiment 1	Actual participation in experiment 2	sum
130*	57	34	125	49	28	77

Note: \* The exact number of attendees is unknown, though we estimate it to be larger than 130. Some guests brought family members; some employees joined for a short time and went back to work; some came early and left early, while others came and left late. Given the many points of entry and exit and different timings, it was not possible to count the number of attendees. Games and experiment 1 were organized in the form of stations, while experiment 2 took place at one point in time. Not all eligible participants took part in the experiments for various reasons, for example, timing or preferring to chat with others.

## Appendix B Suggestions of €10 and €20

Table 13 Results of suggestions

Treatment	€ 10		€ 20		T-test p-value	Test of proportions p-value
Panel A: only monetary gifts						
Number of subjects	272		273			
Number of monetary gifts	61		59			
Share of monetary gifts	0.224	(0.025)	0.216	(0.025)		0.8185
Monetary return per mail in €	2.5	(0.472)	2.788	(0.508)	0.679	
Average positive monetary gift in €	11.148	(1.699)	12.898	(1.833)	0.485	
Minimum in €	5		5			
Median in €	5		10			
Maximum in €	100		100			
Share of gifts €5–6 conditional on giving	0.508	(0.064)	0.322	(0.060)		0.0386
Share of gifts €10 conditional on giving	0.279	(0.057)	0.424	(0.064)		0.0958
Share of gifts €15 and more conditional on giving	0.213	(0.052)	0.254	(0.057)		0.5944
Panel B: including buffet pledges monetized at €10						
Number of buffet pledges	18		16			
Share of buffet pledges	0.066	(0.015)	0.059	(0.014)		0.7149
Total number of gift givers	66		64			
Overall response rate	0.243	(0.026)	0.234	(0.026)		0.8220
Return in € per mail including buffet pledges monetized at €10	3.162	(0.515)	3.374	(0.539)	0.776	
Average positive gift in € including buffet pledges monetized at 10€	13.030	(1.605)	14.391	(1.686)	0.560	

Note: standard error in parenthesis

Figure 6 Frequency of different gift values by donation/contribution frame and different suggestions.

Panel A: only monetary gifts

Panel B: including buffet pledges monetized at €10

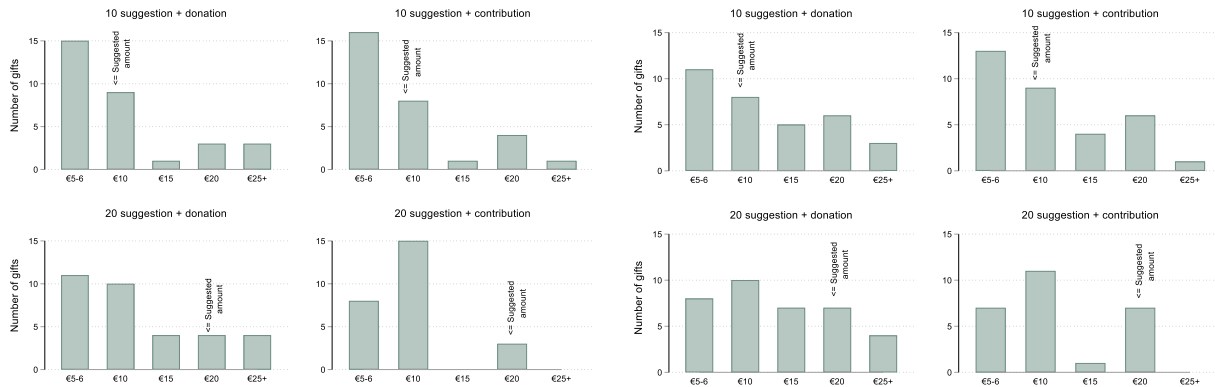


Table 13 presents the results by different suggestion levels. While the response rate was almost identical in both treatments, the average positive monetary gift increased by €1.75 or 16% when the higher amount was suggested (not significant). The median increased from €5 in the €10 suggestion treatment to €10 in the €20 suggestion treatment. Since the shares of individuals that contributed to the buffet were similar between the two treatments, we do not see any substitution between monetary and non-monetary donations. Figure 6 presents the distribution of different gift categories by the suggested level (€10 and €20) and frame. There is a visible shift in the distribution towards larger amounts with higher suggestions. Moreover, the mode increases from €5 with lower suggestions to €10 with higher suggestions. Table 13 confirms the impression from Figure 6. The giving frequency of €5 is higher with lower suggestions, and this difference is statistically significant. The giving frequency of €10 as well as that of €15 and up are higher with higher suggestions, though only the first difference is statistically significant. While the overall monetary return is higher with higher suggestions, it is so only by 12%, and this difference is not statistically significant.

## Appendix C Individual characteristics and heterogenous treatment effects

In this section, we explore the available information on the personal characteristics of the participants in our field experiment. However, one must be cautious with the interpretation, since these characteristics are likely related to the actual attendees of the summer party and this, in turn, with participation in the crowdfunding campaign.

In Table 14, we present the results from simple regressions including individual characteristic dummies.<sup>1</sup> Column I shows the monetary return per e-mail by presenting the results from an OLS regression with monetary gifts (including zeros) as the dependent variable. Column II shows the effect of individual characteristics on positive gifts only (OLS regression). Column III analyses the response rate by presenting the marginal effects from a Probit regression. When looking at the dummies professor, postdoc, PhD student, student research assistants, and administrative staff, note that the reference group is the remainder including current guests, alumni, and affiliated researchers not on the institute's payroll. First, we see that the response rate of postdocs, PhD students, and administrative staff is significantly higher. In terms of positive gifts, those given by professors clearly stand out (an increase by €30). The positive gifts by student research assistants are significantly lower (by almost €6). The combined result—the return—is significantly lower for student research assistants.

Next, we present separate and more detailed comparisons between the group of academics and the administrative staff, subgroups of the academics only, and between male and female e-mail recipients that confirm the above results. We also tested for heterogeneous treatment effects and found that females responded more often when the donation framing was used and that the administrative staff members were less responsive to higher suggestions.<sup>2</sup>

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<sup>1</sup> We did not control for block fixed effects here because this would only be feasible in Column I.

<sup>2</sup> We chose gender and administrative status for the heterogeneity analysis since this divides the sample into relatively large groups. Gender differences in positive versus negative frames in public good games have been studied by Fujimoto and Park (2010), who found that gift levels are similar for both genders in the positive frame, while male subjects give significantly lower amounts in the negative frame. With our interpretation of the donation frame being more positive, our results differ from Fujimoto and Park (2010). The results in Table 17 suggest that female participants gave significantly more often than males in the donation frame, but this might have been driven by more females working in administration and thus having lower incomes as well as by higher participation from the administrative staff, which seems in line with the results in Table 18.

Figure 7 shows the average returns in both frames by academic status. This status also corresponds to large income (also age) differences. While in the contribution frame, the gifts seem not to be strongly related to status/income, they are in the donation frame.<sup>3</sup>

Table 14 Individual characteristics

	Monetary return	Average positive gift	Overall response rate
	OLS	OLS	Probit marginal effects
'Donation'	1.402** (0.676)	4.265* (2.311)	0.030 (0.036)
€20 suggestion	0.189 (0.692)	1.604 (1.867)	-0.013 (0.036)
Female	0.229 (0.880)	-2.576 (2.848)	0.039 (0.037)
Professor	6.394 (4.252)	30.731** (13.823)	0.023 (0.090)
Postdoc	1.327 (0.837)	-2.405 (2.290)	0.148*** (0.055)
PhD student	0.528 (0.644)	-3.239* (1.731)	0.114** (0.051)
Student research assistant	-1.424*** (0.465)	-5.887*** (1.598)	-0.092 (0.064)
Administrative staff	1.815 (1.178)	1.111 (2.800)	0.154*** (0.048)
Constant	0.929 (0.830)	10.293*** (2.762)	
Observations	544	119	544
$R^2$ / Pseudo $R^2$	0.050	0.280	0.044

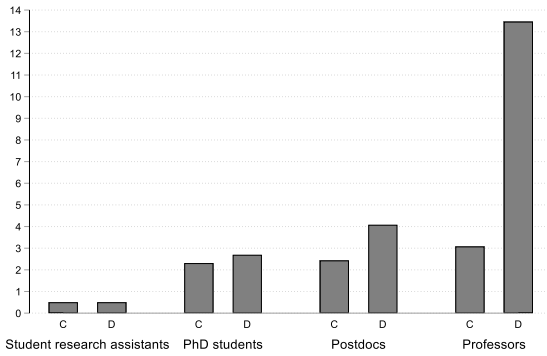
Note: Robust standard errors in parentheses; not accounting for buffet contributions;

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

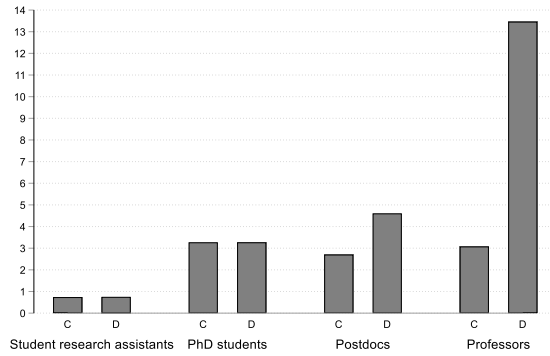
<sup>3</sup> Note that there might not be that large of a difference in income between postdocs and doctoral students. These individuals are usually remunerated according to the same pay scale, but doctoral students often hold less than full-time (typically 66–75%) contracts.

Figure 7 Average unconditional gifts by status

Only monetary gifts



Including buffet pledges monetised at €10



Note: C – treatment ‘contribution’, D – treatment ‘donation’

Table 15 Academics versus administration

Group	Number of subjects	Number of monetary gifts	Overall return per e-mail	Average positive gift	Minimum Median Maximum	Share monetary gift	Share buffet	Overall response rate
Academics	325	64	2.354 (0.429)	11.953 (1.731)	5 10 100	0.200 (0.022)	0.046 (0.012)	0.203 (0.022)
Administration	118	36	3.686 (.958)	12.083 (2.675)	5 10 100	0.331 (0.033)	0.085 (0.026)	0.339 (0.044)
T-test p-value			0.147	0.966				
Test of proportions						0.004	0.120	0.003

Note: Standard errors in parentheses.

Table 16 Gender

Group	Number of subjects	Number of monetary gifts	Overall return per mail	Average positive gift	Minimum Median Maximum	Share monetary gift	Share buffet	Overall response rate
Male	269	54	2.494 (0.485)	12.426 (1.899)	5 10 100	0.204 (0.025)	0.048 (0.013)	0.212 (0.025)
Female	276	66	2.790 (0.496)	11.667 (1.660)	5 10 100	0.261 (0.026)	0.076 (0.016)	0.264 (0.027)
T-test p-value			0.670	0.763				0.150
Test of proportions						0.119	0.180	0.150

Note: Standard errors in parentheses.

Table 17 Interaction with gender

	Monetary return	Average positive gift	Overall response rate
	OLS	OLS	Probit marginal effects
'Donation'	0.683 (0.976)	6.283 (4.324)	-0.053 (0.053)
€20 suggestion	-0.720 (0.972)	-2.252 (3.753)	-0.037 (0.053)
Female	-1.362 (0.912)	-3.586 (2.861)	-0.053 (0.063)
Female x 'donation'	1.337 (1.384)	-2.698 (5.152)	0.155** (0.072)
Female x €20 suggestion	1.969 (1.377)	6.918 (4.917)	0.053 (0.073)
Constant	2.513*** (0.687)	10.676*** (2.102)	
Observations	545	120	545
$R^2$ /Pseudo $R^2$	0.013	0.052	0.013

Note: Robust standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table 18 Interaction with administrative staff

	Monetary return	Average positive gift	Overall response rate
	OLS	OLS	Probit marginal effects
'Donation'	1.256* (0.704)	4.830* (2.562)	0.017 (0.042)
€20 suggestion	1.074 (0.707)	3.630 (2.586)	0.011 (0.042)
Administrative staff	3.086** (1.364)	3.576 (2.806)	0.137* (0.073)
Administrative staff x 'donation'	0.787 (2.015)	0.047 (6.048)	0.062 (0.084)
Administrative staff x €20 suggestion	-4.116* (2.110)	-7.735 (5.825)	-0.099 (0.083)
Constant	1.160** (0.471)	7.395*** (1.766)	
Observations	544	119	544
$R^2$	0.024	0.049	
Pseudo $R^2$			0.018

Note: Robust standard errors in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .





- Participation in a decision experiment with the possibility of winning 50 Euros or  
Participation at a ‘tasting station’ with the possibility of winning 50 Euros

**[from € 20 or € 10 +1 buffet contribution {donation}]:**

- 1 pass for all games and game competitions (for example, Kicker, Kubb, Ping Pong)
- Participation in a decision experiment with the possibility of winning 50 Euros
- Participation at a ‘tasting station’ with the possibility of winning another 50 Euros

**[from € 30 or € 20 +1 buffet contribution {donation}]:**

- 1 pass for all games and game competitions (for example, Kicker, Kubb, Ping Pong)
- Participation in a decision experiment with the possibility of winning 50 Euros
- Participation at a ‘tasting station’ with the possibility of winning another 50 Euros
- We will play 5 songs of your choice

**[over 100 € or 90 € + 1 buffet contribution {donation}]:**

- 1 pass for all games and game competitions (for example, Kicker, Kubb, Ping Pong)
- Participation in a decision experiment with the possibility of winning 50 Euros
- Participation at a ‘tasting station’ with the possibility of winning another 50 Euros
- We will play 5 songs of your choice
- A copy of the book ‘Fleisch und Farbe’ (unique limited edition book, comprising only 100 individually numbered prints).

For every contribution {donation} made before 22.06.2016, an anonymous sponsor will make a **bonus contribution {donation} of € 5** on your behalf. (However, these 5 euros are not included in the calculation of your ‘Thank You’ Coupon.)

If the average monetary contribution {donation} is **20 € <10€>**,  
we need **100<200>** participants in the campaign  
to cover the expected costs.\*

The current status of contributions {donation} will be documented daily on the Intranet at (web address) (right column, updated each afternoon at 5 o'clock, Friday at 3).

Your generous monetary contributions {donation} (or willingness to contribute {donation} to the buffet) can be confidentially made to (name) (room (number), between 9am-12 and 1pm - 5pm). *(Those who cannot make the contribution {donation} in person may contact (name) [at: (e-mail address)] for the account details in order to do an online bank transfer) \*\**

**[Your contribution {donation} does even more!]:** Your contribution {donation} doesn't only support the summer party as a public good. If we receive more contributions {donation} than required for financing the party, then the surplus will be used for an additional worthy project, e.g. to support the Women's Bike Project, facilitated by the AG Refugees.

We look forward to your active participation in the crowdfunding campaign and, also, to a great party,

The (department name)

\* The revenues will also be used to cover various minor costs, such as the purchase of bread, rolls, paper plates and cutlery as well as the music organization.

\*\* We will not announce any individual contribution {donation} information and guarantee confidentiality.

\*\*\*\*\*

**First reminder**

Dear (name of the institute)-ers and friends,

Maybe you have overlooked our email last week starting a **crowdfunding campaign** for this year's **summer party** (see below). We really believe that a party is much nicer without cash boxes so we hope you will join the crowd and help fund the party.

Remember that if you contribute {donate} this week **until Wednesday** it will generate a **match** from an anonymous benefactor of **five additional euros**.

All best

The (name of the institute) Party Team

P.S. Crowdfunding barometer can be seen at (web address)! Take a look!

\*\*\*\*\*

**Second reminder**

Re: Last match day ((name of the institute)summer party 2016)

Dear (name of the institute)-ers and friends,

while our crowdfunding campaign for the summer party will continue until **end of June**, **TODAY** is the last day where every contribution {donation} that we get will be matched by an additional **5 €** from an anonymous benefactor.

Until yesterday we collected inspiring **495€ (+185€ Boni) + 16 buffet pledges**.

**Many thanks to all contributors {donors} so far!**

However, we are far away from the threshold we aim at

(Needless to say, it won't even cover the drinks).

Therefore, we need you to

**join the crowd now!**

To clarify all open questions, let us explain the purpose and working of this campaign once more: **Everything** what was traditionally organized and more: food (including vegetarian burgers and organic sausages), drinks (alcoholic and non-alcoholic), as well as music **WILL BE FREE** on the day. In addition, there will be the well renowned WZB potluck buffet of salads and cakes (also FREE).

The rewards offered within the crowdfunding campaign are made only possible by the additional efforts of our department, are by no means standard, and should serve as additional motivation for the participation in the crowdfunding campaign.

Follow the progress of the campaign at (web address)

All best

The (name of the institute) Party Team

\*\*\*\*\*

**Third reminder**

Last call: summer party crowdfunding and program

Dear (name of the institute)-ers and friends,

Less than a week is left till our amazing (name of the institute) summer party 2016 which takes place on Tuesday, **5<sup>th</sup> of July, starting at 4 p.m.** Since we don't have a huge external sponsor this year, we need to rely on your participation in the **crowdfunding campaign** to finance the party!

Until yesterday we collected inspiring 980€ (+395€ Boni) + 25 buffet pledges.

Many thanks to all contributors {donors} so far!

However, **we are still missing the threshold** we aim at.

**Two days left for contributions {donations}!**

Therefore, we need you to

**join the crowd now!**

(contributions {donations} are collected till the end of June by (name),

Room (number), 9-12 a.m. and 1-5 p.m.)

Remember: If the average monetary contribution {donation} is **20 €<10€>**,

we **need 100<200> participants** in the campaign

to cover the expected costs.

**Last call:** please send the information regarding the number of children you would like to sign in for the **(name of the institute) Kinderfest** (organized by Familienservice child care animators),

and their respective ages **TODAY** to: (e-mail address).

Preliminary program:

- From 4:00 p.m.                    **Barbeque** (including veggie and vegan options), **drinks**, and **potluck buffet**
- From 4:00 p.m.                    **(name of the institute) Kinderfest** fun activities for children.
- 4:00-5:30 p.m.                    **Tasting experiment** (Provided you are eligible, you may participate at any time while open. It won't take long, and you have the chance of winning 50 Euros.)
- From 4:00 p.m.                    **Tournaments** (in order to take part in Kicker (Foosball) or Table Tennis (Ping Pong) tournament you must sign up (alone or in pairs) till Friday 2 July with (e-mail address). You will be assigned the starting time. Kubb will be open for spontaneous teams.)
- 5:00 p.m.                            Experiment 2 (Those who are eligible will get a separate Email with instructions. It is necessary to be on time since the experiment takes place simultaneously for all participants. You must also bring either your smart phone, tablet or laptop with an internet connection with you. There is a chance to win 40 or 10 Euros.)
- 5:30 p.m.                            We play your songs
- 6:00 p.m.                            The results and winners of the experiments will be announced
- 6:30-8:00 p.m.                    We are pleased to announce that 8name) and his band (**name**) (web address) will play at our party
- 6:30 p.m.                            **Long drinks** stand will be opened

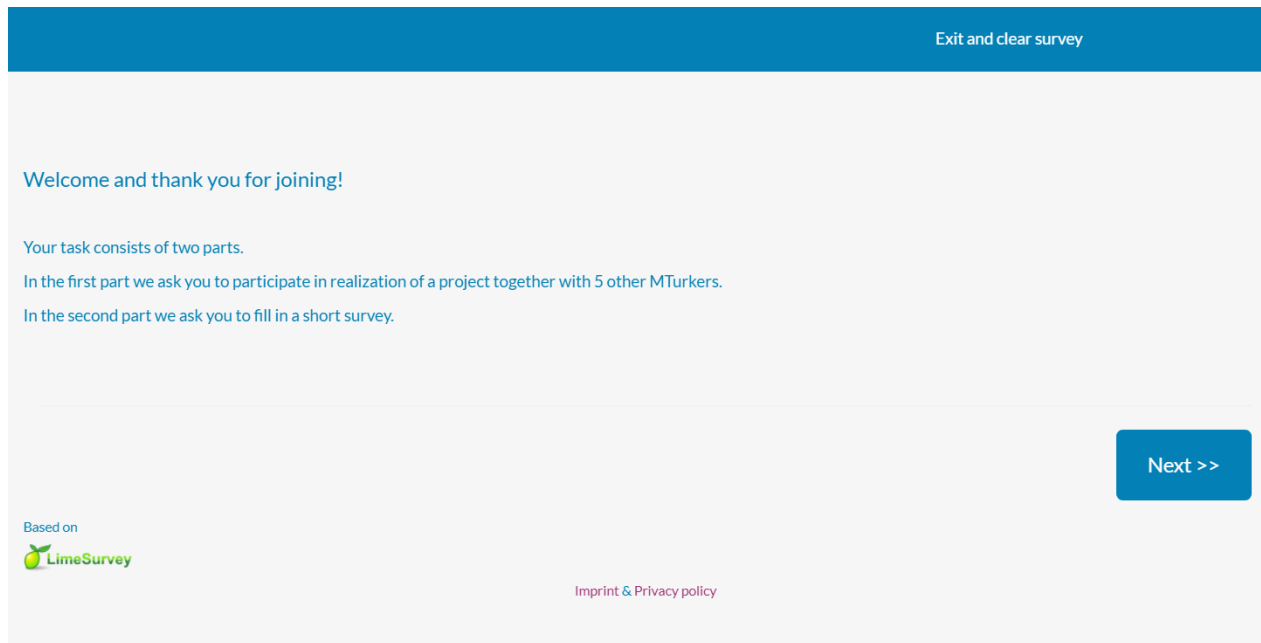
Follow the progress of the crowdfunding campaign at (web address)

All best

The (name of the institute) Party Team

## Appendix E Instructions in the MTurk experiment

Start page:



On the page below, participants were shown instructions and decided on the amount of their gift to the joint account. The screenshot shows the contribution frame. In the donation frame, the term ‘contribution’ was exchanged for the word ‘donation’. There was no prespecified (default) position of the slider: the blue indicator and explanation below only appeared once the individual had clicked. Participants could adjust the slider until choosing their preferred position.

0%

## Part 1 - Project

### Task

In this part you and 5 other anonymous MTurkers are matched together and receive exactly the same instructions. Each of you receives a budget of \$2. We ask you to contribute to a joint project in order to make it successful.

### Contributions towards a group account

You can contribute any amount between 0 and 2\$.

Any amount you keep will be directly added to your final payment, in addition to the base payment of 50c, and any bonus that may result from the project.

The amount you contribute will help to make the project successful.

### Project success

Your contribution and the contributions of the other 5 participants will be paid towards a group account. The project will be successfully realized if the total group contributions are at least \$5. If the project is realized, the money in the group account will be **doubled**.

If the total group contributions fall short of \$5, the project will not be realized, and the money in the group account will not be doubled.

In both cases the money will be equally distributed among all group participants regardless of their own contributions.

### Rewards

In order to thank you for your participation in the project we have designed additional rewards depending on the level of your contribution:

If you contribute at least 20c:

- a bronze contributor recognition award.

If you contribute at least 40c:

- a silver contributor recognition award
- reward of 5c added directly to the final payment.

If you contribute at least 80c:

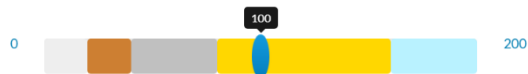
- a golden contributor recognition award
- reward of 10c added directly to the final payment.

If you contribute at least 1.6\$:

- a diamond contributor recognition award
- reward of 20c added directly to the final payment.

Please choose your contribution (centwise):

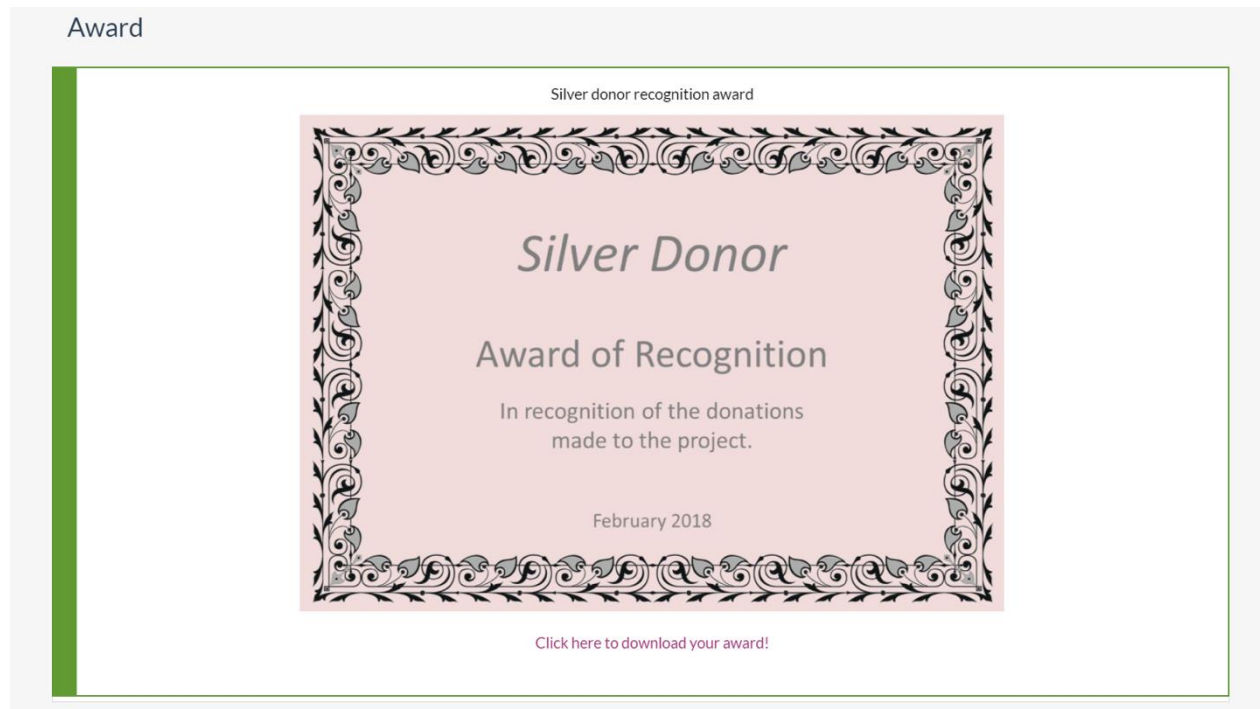
Your contribution



For your contribution of 100 cents,  
you will get the **golden** award  
and an additional reward of 10 cents.

Next >>

Next, participants received a symbolic award provided that they met one of the thresholds. The next screenshot shows an example of the silver donor award in the donation treatment.



Next, participants were asked how they felt when making their donation/contribution. They were presented with all 20 emotions from the GEW in a random order and marked their responses by moving the slider (again, there was no prespecified position ). The screenshot below shows an example with two emotions in the donation frame (the emotion questions were shown in random order).



Exit and clear survey

33%

### Part 1 - Project

Think about how you felt when you made your donation. Below you will find a list of 20 different emotions. Please tell us how strongly you experienced each of those emotions when you made your decision.

**Sadness**

not at all  very strongly

**Relief**

not at all  very strongly

Next, participants were asked what they thought regarding the level of donations/contributions by other participants in their group, on average.

Exit and clear survey

50%

### Part 1 - Project


How much do you think, that the other in your group donate on average (centwise):

**Other's donation on average**

0  200

[Next >>](#)

This survey is currently not active. You will not be able to save your responses.

Based on  LimeSurvey

[Imprint & Privacy policy](#)

Next, participants answered four demographic questions.

Exit and clear survey

66%

### Part 2 - Survey

Please answer the following questions.

What is your age?

**This question is mandatory**

What is your gender?

**This question is mandatory**

Male

Female

Other

What is your highest level of education completed?

**This question is mandatory**

Less than a High School Degree

High School Diploma

Vocational Training

Attended College

Bachelor's Degree

Graduate Degree

Unknown

Please choose the category that describes the total amount of income you earned in 2017. Consider all forms of income, including salaries, tips, interest and dividend payments, scholarship support, student loans, parental support, social security, alimony, and child support, and others.

**This question is mandatory**

Under \$5,000

\$5,000 - \$10,000

\$10,001 - \$15,000

\$15,001 - \$25,000

\$25,001 - \$35,000

\$35,001 - \$50,000

\$50,001 - \$65,000

\$65,001 - \$80,000

\$80,001 - \$100,000

Over \$100,000

Final page:

Exit and clear survey


83%

### Part 2 - Survey

Thank you very much for your participation.

For your payment, please state your Worker ID here. We will not use it for any other purpose.

Note, that your Worker ID can be found on your dashboard page.



The screenshot shows the Amazon Mechanical Turk dashboard. At the top, there are tabs for 'Your Account', 'HITS', and 'Qualifications'. The 'HITS' tab is active, showing '206,751 HITS available now'. Below the navigation bar, there is a search bar and a 'Dashboard' link. The 'Dashboard' link is highlighted, and a box around it contains the text 'Your Worker ID:'. Below the dashboard link, there is a table titled 'Rewards You Have Earned' with columns for 'Approved HITS', 'Bonuses', and 'Total Earnings'. The 'Total Earnings' row is highlighted.

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Please copy the survey code below to paste it into the box in MTurk to receive credit for taking our survey.

Your Code: 4057685

Submit