

Wasteful Bluffing in Charitable Giving – An Experiment on Indirect Signalling

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Abstract

People often care about how they are perceived by others, and this motivates many individuals to act in a way that sends a favourable signal about their character. In this paper, we introduce a decomposition of signalling into its direct and indirect components: an observed behaviour can influence a person's image *directly* when the behaviour itself is image-relevant, and it can influence a person's image *indirectly* by changing people's beliefs about an unobserved, image-relevant behaviour. In an experiment on charitable giving, donors decide on (i) what charities to donate to, and (ii) how much to donate. We vary which of the donors' decisions are observed by a third-party. We find that individuals engage in wasteful, indirect signalling: they engage in a behaviour that in itself is not image-relevant (donating to many charities), but only if doing so can change observers' beliefs about an unobserved, image-relevant behaviour (donating large amounts). Avoiding wasteful signalling is key to designing effective institutions, and decision-makers therefore need to consider the two components of signalling.

Keywords: Signalling, Observability, Charitable Giving, Altruism

JEL: C91, D01, D64, D91

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1 Introduction

As social beings, humans are heavily influenced by how others perceive and evaluate them (Fiske, 2018). From an early age, we learn that how we behave matters for whether other people think of us as friendly or unfriendly, honest or deceitful, intelligent or stupid, etc. We learn that the impression we make – our public image – matters for our interactions with others throughout our education, at the workplace, and in our social lives. And we learn that conforming with social norms will often help us get along with other people. This social motivation has many positive effects because the desire to improve our public image can prompt us to act prosocially. Thus, when individuals are observed, they often become more cooperative (Grimalda et al., 2016), increase donations (Lacetera and Macis, 2010; Karlan and McConnell, 2014), and volunteer more (Linardi and McConnell, 2011). Yet, such studies only focus on one behaviour (e.g. donated amounts) and its related character trait (e.g. altruism).

Far less attention has been paid to the empirically relevant case where individuals engage in more than one behaviour and care about the joint image they obtain from all their behaviours. If in those cases not all behaviours are observed, signalling may take two forms (as illustrated in Figure 1): an observed behaviour can influence a person’s image *directly* if the behaviour itself is image-relevant, and it can influence a person’s image *indirectly* by changing people’s beliefs about an unobserved, image-relevant behaviour.

For example, an employee might frequently stay at their desk during lunch breaks or until late in the evening. This can influence the employee’s image in two ways: if the co-workers care about time spent in the office *per se*, it may influence the employee’s image *directly*. In addition, spending more time in the office may change the co-workers’ beliefs about the unobserved effort of the employee. Such image effects that take place through expectations about unobserved behaviour is what we refer to as *indirect* signalling. Importantly, because effort is unobserved, some individuals may send manipulative, indirect signals: for example, an employee might sit extra hours by their desk to improve their image and chance of promotion, but in fact use the time to send personal e-mails or read articles unrelated to work (cf. pseudo-commitment strategies, Rothlin and Werder, 2007). Another example is when students carry textbooks and highlighters and sit in the front row in class. While this may influence their image in itself (direct), it may also influence their image by changing beliefs about how much unobserved effort they put into their studies (indirect). Consequently, teachers might reward the “first-row students” even if some of these students do not in fact put any effort into studying outside of class. A third example is when citizens show their social engagement through charity stickers on cars or “vanity” license plates, e.g. labeling themselves as “voluntary firefighters” (Carpenter and Myers, 2010). Such signals may improve a person’s image in itself (direct),

but it may also influence their image by changing beliefs about unobserved donations or volunteering (indirect). Yet, as we show in this study, publicly demonstrating support for a cause might not in fact translate into devoting significant resources to it.

The notion of indirect signalling implies that image concerns may play a larger role than is often acknowledged: even if people do not care about employees staying late in the office, students sitting in the front row in class, or citizens putting charity stickers on cars, these behaviours may still be driven by image concerns if they change beliefs about unobserved, image-relevant behaviours.

In this paper, we study indirect signalling through the case of charitable giving, as previous research has demonstrated that social motivation greatly influences donations to charity (e.g. [Agerström et al., 2016](#); [Krupka and Croson, 2016](#); [House, 2018](#)). Notably, donations involve two related, but distinct decisions: (i) how much to donate, and (ii) what charities to donate to. Often, the decisions are not both observable, and donors may use this strategically. For example, donors may want to publicly show that they give to multiple charities, e.g. through social media posts or when talking to friends, to make others infer that they donated large amounts. Such indirect signalling would be wasteful, as a larger number of donations imply greater processing costs and thereby efficiency losses.¹ To examine whether indirect signalling plays a role for charitable giving, we ask the following questions: How do individuals adapt their giving behaviour to different levels of observability? And how do individuals consider efficiency losses from spreading their donations to many charities?

To address these research questions, we build a conceptual framework and provide experimental evidence on whether image concerns can have negative effects when individuals use indirect signals to manipulate their public image. Participants decide under different levels of observability (i) how much to donate to charity and (ii) how many charities to give to.² We mimic charitable giving in the field by providing a wide range of charities across different

¹In the field, donors often give to several charities, which is inefficient as a large part of the processing costs are independent of the size of the donation ([Ahmed et al., 2016](#); [Bloom, 2016](#)). These processing costs stem from transaction costs as well as labour costs from accounting tasks such as maintaining records of donations, issuing receipts, reporting back to donors and the government, etc. While the costs are larger for donations via traditional channels (mail, cheque, etc.), [Ahmed et al. \(2016\)](#) show that even a donation made by credit card often costs more than USD 2 to process. While processing costs may be considered modest for any one donation, they lead to huge losses in the aggregate as 160 million donors on average give to 4.3 charities every year in the US alone ([Blackbaud Institute, 2018](#); [YouGov \(Oana Dumitru\), 2022](#)). Many charities have responded to the loss that comes from donors spreading their donations among too many charities by introducing a minimum amount for donations (e.g. [Earth Island Institute](#)).

²As we show in Section 5.2, indirect signalling in the current experiment takes place through *how many* charities donors give to rather than *what* charities.

causes and by including fixed transaction costs for each additional charity participants give to. As such, donors' public image may be influenced by (i) how altruistic they are, and (ii) how efficiency-minded they are. To see whether people are concerned about inefficiency in giving to multiple charities, we compare a treatment with no transaction costs (*NoCost*) to a treatment in which donors incur transaction costs for each additional charity they give to (*Private*). Then, we compare *Private* with different levels of observability to test for indirect signalling. In treatments with observability, donors are informed that spectators will judge them after observing their decision(s) by assigning (non-monetary) feedback points. In *PublicN*, spectators observe what charities a donor has given to, but not the donated amounts. This allows for indirect signalling, as donors may signal how much they donated by means of how many charities they donated to.³ Finally, in *PublicNAmount* donors are informed that the spectators will also observe the amounts donated to each charity, thereby removing the possibility for indirect signalling.

We derive three key results from our study: first, we find that efficiency matters for donors. We observe that donors decrease the number of charities they give to when each donation comes with a fixed transaction cost. Second, we find that the extent to which donors are observed influences how many charities they give to. Specifically, some donors engage in wasteful, indirect signalling when only the receiving charities are observed. They do so because they (correctly) anticipate that spectators infer greater total donations from a larger number of charities. With such partial observability, donors can improve their image by engaging in an “altruistic bluff”, in which they give tiny donations to many charities in order to signal that they are altruistic. This preference for being viewed as altruistic thus becomes more important to donors than appearing efficiency-oriented. Such altruistic bluffing works, as spectators evaluate those donors more positively who give to several charities. In contrast, with full observability donors do not increase the number of charities they give to because altruistic bluffing is no longer possible. Third, looking at the total amounts donated, we find no differences between the treatments. We discuss potential reasons for the lack of an effect, including that the demand for a good image is price sensitive: the price of improving one's image is higher when donations are also observed, as donors can then no longer improve their image by making several tiny donations.

This study makes two important contributions to the literature. The primary contribution of this paper is to show empirically that individuals engage in wasteful indirect signalling to improve their public image. In its standard form, signalling behaviour directly informs

³The case of partial observability, where spectators see the charities that a person has donated to but not amounts, is relevant, as many charities enable donors to signal that they donated by social media posts, badges, cards, or other small gifts.

about a person's type (Spence, 1973). Theoretical studies have extended this framework to multidimensional signalling games, where individuals engage in multiple behaviours to send signals about multiple unobserved characteristics (e.g. Quinzii and Rochet, 1985; Engers, 1987). Yet, existing empirical papers focus only on image concerns for one behaviour, showing e.g. that image concerns can make individuals behave more prosocially (Freeman, 1997; Batson, 1998). In the case of charitable giving, individuals also tend to be influenced by others' views and behaviour, as social norms have been shown to affect donations (Croson and Shang, 2008; Bicchieri and Xiao, 2009; Shang and Croson, 2009; Krupka and Weber, 2013; Drouvelis and Marx, 2021). In this study, we decompose signalling into its direct and indirect components. By doing so, we show how signalling may also occur for behaviours that are not relevant for reputation per se if the observed behaviours correlate with relevant unobserved behaviours. In addition, we demonstrate that indirect signalling can lead image concerns to have negative consequences for society even in situations where people improve their public image from prosocial behaviour such as giving to charity.⁴

A second contribution of this paper relates to the literature on charitable giving. To the best of our knowledge, we are the first to study how donors decide how many charities to give to when increasing the number of charities involves processing costs. Recent years have seen an increased focus on the efficiency of charities (Singer, 2009; Null, 2011; Exley, 2020) and the role of overhead costs (Gregory and Howard, 2009; Gneezy et al., 2014). Yet, the costs from giving to multiple charities remains understudied, as most studies focus primarily on the donated amounts (Andreoni and Payne, 2013; Saeri et al., 2022). Some studies exogenously vary the number of recipients and show that total donations increase with more charities, but at a decreasing rate (e.g. Andreoni, 2007; Soyer and Hogarth, 2011; Chiang and Hsu, 2019, but see also Bolton et al., 1998).⁵ Relatedly, other studies examine competition between charities and whether giving to one charity crowds out donations to others (e.g. Reinstein, 2011; Corazzini et al., 2015; Meer, 2017; Gee and Meer, 2019). Yet, in this paper we make the choice about the number of recipients endogenous. In doing so, we address an important source of efficiency loss that charities face but which has received little attention in the literature: the processing

⁴Related to our study, Butera and Horn (2020) study the effect of providing public information about the effectiveness of charities. They find that donors use signals about higher quality of charities to donate less while appearing to contribute to the charitable output. Whereas Butera and Horn (2020) study donors' decision to give conditioned on efficiency, we study the choice about whether to give in an efficient manner. In addition (and in contrast to Butera and Horn, 2020), we examine how spectators judge donors' decisions, and we elicit beliefs to obtain more direct measures of donors' intentions to manipulate their public image.

⁵One exception to the fixed set of recipients is Fehérová et al. (2022), who allow some participants to choose whether they want to give to one or three charities (without efficiency concerns). They find that this autonomy induces more individuals to donate, but it does not increase the average amount donated.

costs of spreading donations to multiple charities (see Footnote 1).

This paper proceeds as follows: section 2 presents a conceptual framework that explains how indirect signalling may occur when an individual engages in multiple behaviours. In Section 3, we detail the experimental design and our hypotheses. We present the main results in Section 4 and discuss further results in Section 5, including how the spectators respond to the signals of donors, what other motives donors may have for spreading their donations, and how behaviour in our experiment correlates with relevant psychological traits. The Online Supplement includes experimental instructions, a power analysis, as well as further results, tables, and figures.

2 Conceptual Framework

In the following, we explain how indirect signalling may occur in situations where individuals engage in more than one behaviour simultaneously. Our notation is general, as the idea of indirect signalling is general, but we use the frame of charitable giving to reflect the experiment presented in Section 3.

2.1 Setting

Consider an individual i who makes two decisions, a and b ($a \in A \subset \mathbb{R}$, $b \in B \subset \mathbb{R}$). To tie the model to our experiment, we consider a to be total donations to charities, and b to be the number of charities one donates to.⁶ When deciding on a and b , we follow [Bénabou and Tirole \(2006\)](#) and assume that individuals have both extrinsic, intrinsic, and reputational motives. We denote by $x(a, b)$ the individual's monetary payoff from the combination of a and b , with both actions weakly reducing payoff ($x'_a \leq 0, x'_b \leq 0; x''_{aa} = 0, x''_{bb} = 0$), e.g. by giving to charity. We assume that both actions involve cognitive costs $C(a, b)$, $C'_a, C'_b > 0$, which are convex ($C''_{aa} \geq 0, C''_{bb} \geq 0$) and separable ($C''_{ab} = 0$). Such costs could for example be the effort required to decide how much and to what charities to give to ([Huck and Rasul, 2010](#); [Knowles and Servátka, 2015](#)).

We represent the psychological benefits of the joint decision (a, b) by the function $g(a, b, \alpha, \beta)$, where α and β are sensitivities towards the two behaviours. The sensitivities are drawn independently from a continuous and bounded distribution f with support over both positive and negative values. Individuals know their own sensitivities, but they need to infer sensitivities of others from the others' decisions (as explained below). We assume that individual i receives

⁶For the examples provided in the Introduction, a could e.g. be ‘working hard’ or ‘effort in studying’, and b ‘the act of staying late in the office’ or ‘always bringing one’s books to the front of the classroom’.

utility from both a and b ($g'_a, g'_b \geq 0$), that the marginal utilities from a and b are decreasing ($g''_{aa}, g''_{bb} < 0$), and that the marginal utility is increasing in the sensitivities ($g''_{a\alpha}, g''_{b\beta} > 0$, which is the standard single-crossing condition). In the case of charitable giving, this means that individual i receives utility from giving to charity (from pure or impure altruism, [Andreoni, 1989, 1990](#); [Crumpler and Grossman, 2008](#)) and from giving to more charities ([Sharps and Schroeder, 2019](#); [Schmitz, 2021](#)). Because spreading donations to more charities is inefficient in this setting, we expect β to be inversely correlated with concerns for efficiency.

Finally, individual i may care about her reputation $R(a, b)$, which we model as the beliefs that spectators have about α and β . Specifically, the spectators infer α and β from the information set Ω , which could entail either full observability ($\Omega = \{a, b\}$), partial observability ($\Omega = \{a\}$ or $\Omega = \{b\}$), or nothing ($\Omega = \{\emptyset\}$). In sum, the individual receives the following utility:

$$U(a, b) = x(a, b) + g(a, b, \alpha, \beta) - C(a, b) + \gamma_a E(\alpha|\Omega) + \gamma_b E(\beta|\Omega), \quad (1)$$

where $R(a, b) \equiv \gamma_a E(\alpha|\Omega) + \gamma_b E(\beta|\Omega)$, and γ_a and γ_b are sensitivities towards the reputations for α and β , respectively.

The individual decides on (a, b) by maximising Equation 1 with respect to a and b . This yields the following first-order conditions that implicitly characterise the optimal levels a^* and b^* :

$$g'_a + r_a = C'_a - x'_a \quad (2)$$

$$g'_b + r_b = C'_b - x'_b \quad (3)$$

where $r_a \equiv \gamma_a \frac{\partial E[\alpha|\Omega]}{\partial a} + \gamma_b \frac{\partial E[\beta|\Omega]}{\partial a}$, and $r_b \equiv \gamma_a \frac{\partial E[\alpha|\Omega]}{\partial b} + \gamma_b \frac{\partial E[\beta|\Omega]}{\partial b}$ are the partial effect of a and b on $R(a, b)$.

2.2 Effect of Observability

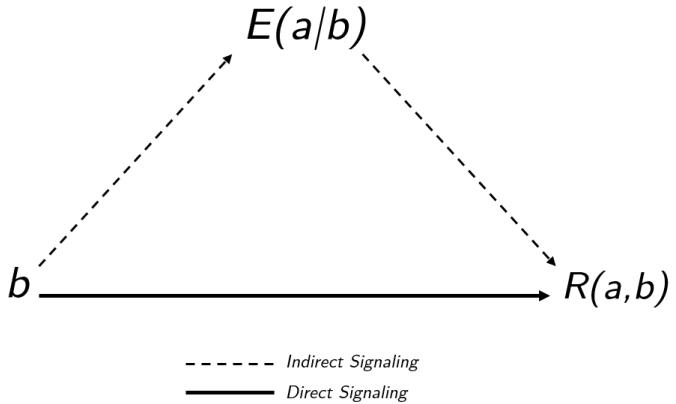
In the following, we provide intuition based on the conceptual framework. We discuss further details in Appendix A.1 and refer the reader to the seminal work of [Quinzii and Rochet \(1985\)](#) and [Engers \(1987\)](#) for comprehensive models of multidimensional signalling.

In the case of no observability ($\Omega = \{\emptyset\}$), we assume that behaviour does not influence reputation ($r_a = r_b = 0$). Individual i chooses the optimal levels of a and b to equate the marginal psychological benefits (g'_a and g'_b) with the marginal monetary and cognitive costs ($C'_a - x'_a$ and $C'_b - x'_b$, respectively). Then, an increase in α (β) leads to an increase in a (b). In the example of charitable giving, this means that people who are more altruistic give greater amounts to charity, and people who care more about spreading donations between charities

give to more charities. The interplay between α (β) and b (a) depends on the sign of g''_{ab} , and this is less straight-forward to determine ex ante, as we discuss in Appendix A.1.

When choices are observed ($\Omega = \{a, b\}$), the sign of r_a and r_b will determine how observability influences the optimal levels of a and b compared to the case of no observability. For simplicity, we restrict our attention to pure-strategy Perfect Bayesian equilibria, and we assume that, ceteris paribus, there is a monotonic, increasing relationship between α (β) and a (b), which is anticipated by the spectators, as beliefs are accurate in equilibrium. In the context of charitable giving, these assumptions imply that, holding all other things equal, people who are more altruistic give more to charity, and people who care more about spreading donations between charities give to more charities.

Figure 1: Indirect Signalling



Notes: the figure illustrates how two decisions, a and b , influence an individual's reputation, $R(a, b)$. The figure shows the case where the spectator only observes b and forms beliefs about a conditional on b , $E(a|b)$. This means that b can influence $R(a, b)$ *directly* if the behaviour itself is image-relevant (bold line), and it can influence $R(a, b)$ *indirectly* if b affects $E(a|b)$, and $E(a|b)$ affects $R(a, b)$ (dashed line).

In the case of full observability ($\Omega = \{a, b\}$), a and b may influence reputation in two ways. Observing a influences beliefs about α , but it may also influence beliefs about β , depending on the sign of g''_{ab} (and vice-versa for b). Intuitively, if $g''_{ab} > 0$, an individual may decide on a high level of a both due to a high α and a high b . Thus, a high a and a low b send a stronger signal about α than a high a and a high b . The sign of r_a and r_b will then depend on the relative concerns for the reputation of α (γ_a) and β (γ_b). In the case of charitable giving, previous studies show that individuals are more concerned about *how much* donors give than *how they give* (Berman et al., 2018), implying that $\gamma_a > \gamma_b$. Then, $r_a > 0$, meaning that giving greater amounts provides a good reputation, while the sign of r_b is ambiguous.

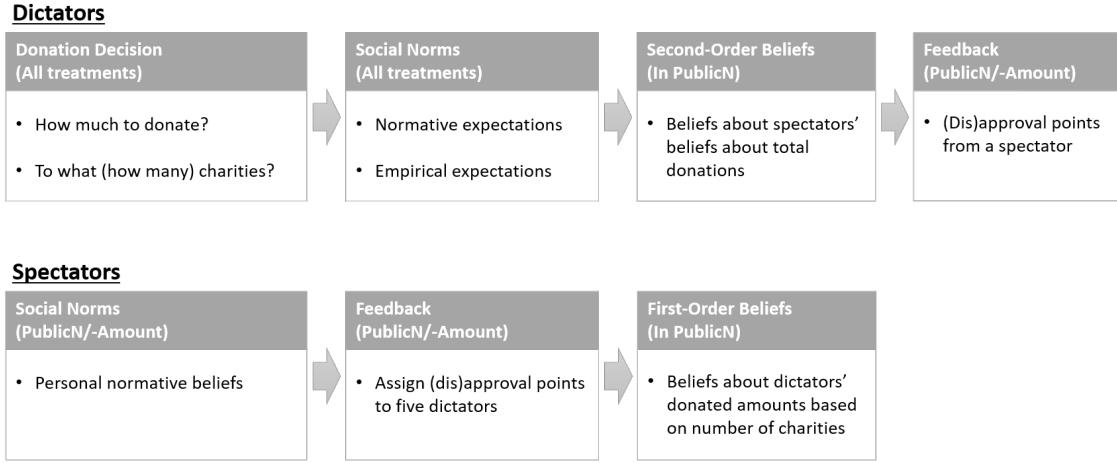
In the case of partial observability ($\Omega = \{a\}$ or $\Omega = \{b\}$), we distinguish between *direct signalling* and *indirect signalling*. In the case where only b is observed (as in our experiment), direct signalling comes from the effect that b has on $R(a, b)$ from b itself, and indirect signalling is the effect that b has on $R(a, b)$ via the beliefs about a (illustrated in Figure 1). Such indirect signalling is not present with full observability, as the spectators here also observe a . With partial observability, on the contrary, the indirect channel may matter greatly: if $g''_{ab} > 0$, a greater b correlates with a greater a , which in turn predicts a greater α (and vice-versa for $g''_{ab} < 0$). For the example of charitable giving, this means that spectators who see a larger number of charities would infer that the total donations are greater and therefore believe that the person is more altruistic. Thus, in contrast to the case of full observability, $r_b > 0$ could occur even if neither donors nor spectators care about b per se. For charitable giving, this implies that even if neither donors nor the spectators care about the number of charities donors give to, observing the number of charities may influence donor behaviour if (i) donors care about their reputation from the (expected) amounts they donate, and (ii) there is a common belief that donors who give to many charities tend to donate more. Under partial observability, the beliefs about the relation between a and b will therefore be of great importance, and we measure these both for the spectators (first-order beliefs) and donors (second-order beliefs) in the experiment, which we now proceed to explain.

3 Experimental Design

We run an online experiment to examine (i) whether individuals respond to transaction costs from spreading their donations to many charities, and (ii) how individuals adapt their giving behaviour to different levels of observability. The experiment consists of four parts and a survey (see Figure 2). First, one group of participants ('dictators' and in the text also referred to as 'donors') make decisions about how much to donate and how many charities to donate to. In different treatments, dictators make their decisions under either no, partial, or full observability. Second, we measure social norms for the donation decisions by eliciting normative and empirical expectations. Third, we elicit first- and second-order beliefs of participants in the treatment with partial observability. Fourth, a second group of participants ('spectators') provide non-monetary (dis)approval points to the dictators based on what they observe. Finally, participants complete a survey.⁷

⁷In all treatments, we make sure that participants understand the donation decision, the transaction costs, and the level of observability with a series of control questions that all must answer correctly in order to continue with the experiment.

Figure 2: Timeline of the experiment



3.1 Donation Decision

Setting. The main part of our experiment is a modified dictator game, in which dictators choose (i) how much of EUR 100 they want to donate to charities or keep for themselves and (ii) how many charities they want to give to. Here, we use the large nominal stakes of EUR 100 to make it meaningful for donors to distribute the money to several causes. Participants are informed that 10 dictators are randomly chosen and their charity decisions implemented (for validation of the random payment procedure, see e.g. [Bolle, 1990](#); [Cox et al., 2008](#); [Charness et al., 2016](#); [Clot et al., 2018](#)).

When making their decisions, participants see a list of 49 charities divided into the following seven topics: Health, Rights, Environment, Development Aid, Youth and Children, Security, and Women Advocacy.⁸ Specifically, they see the list of seven topics, and clicking on any topic will show the seven charities within that topic. If donors click on a charity, they see two sentences that describe the activities of the charity as well as a small picture that represents the topic (for a graphical illustration, please see Online Supplement S.6, for the list of all charities and their descriptions, see Online Supplement S.7). To preclude order effects, we present the different topics in random order, and we randomise the appearance of the charities under each topic.

All 49 charities have received a top rating in the [CharityWatch](#) efficiency ranking, and we inform participants about this to mitigate that donors give to multiple charities in order to reduce the risk of their donations being spent inefficiently.

⁸With the comprehensive list of 49 possible charities, we aim to induce an impression of an overwhelming number of possible targets for donations, reflecting how donors may feel about selecting charities in the field.

Treatments. In a between-subjects design, we divide participants into four treatments (see Table 1). First, we test in two treatments without observation whether individuals care about the efficiency loss of donating to many charities. Specifically, dictators in the *NoCost* treatment are informed that the entire amount that they donate will be received by the respective charities. In contrast, dictators in the *Private* treatment are informed that they have to pay a transaction cost of EUR 1 for each additional charity they give to (reflecting the fixed costs of donating in the field, cf. Footnote 1).⁹ Comparing giving behaviour between *NoCost* and *Private* sheds light on the influence of transaction costs. Notably, if dictators do not adapt their behaviour to transaction costs, it would reduce the scope for the dictators to send signals by spreading their donations, as mimicking the ‘desirable type’ would be perceived to be cheap.

Second, we introduce two further treatments with observation to examine how individuals adapt their giving behaviour to different levels of observability. Both observed treatments include transaction costs, so the benchmark without observation is the *Private* treatment. In the *PublicN* treatment, dictators are informed prior to their allocation decision that two spectators will judge them after observing what charities they give to and that the spectators will learn their last name (Charness and Gneezy, 2008; see Samek and Sheremeta, 2014, Regner and Riener, 2017, and Fromell et al., 2020, for similar manipulations).¹⁰ The spectators observe the list of charities that dictators give to and evaluates the decisions by sending feedback through non-monetary (dis)approval points (similar to e.g. Deffains et al., 2019), which we describe further in Section 3.4. In the *PublicNAmount* treatment, spectators additionally observe the amounts donated to each charity. Comparing *Private*, *PublicN*, and *PublicNAmount* sheds light on how the level of observability causally influences behaviour when an individual engages in two behaviours simultaneously.

Table 1: Treatment Overview

Treatments	Costs	Observed
NoCost	-	-
Private	1€ per charity	-
PublicN	1€ per charity	Charities
PublicNAmount	1€ per charity	Charities & Donated Amounts

⁹When effectuating the payments to the charities, the actual transaction costs of the charities were covered by the experimenters.

¹⁰To increase the statistical power for the main comparisons between dictators, each spectator observes five dictators, and pairs of spectators evaluate the same five dictators.

3.2 Social Norm Elicitation

We further examine the role of social motivation by eliciting social norms, which are informative of what behaviours individuals think are socially desirable. To measure social norms directly, we first recruit a separate sample ('social norm elicitors') and present them with the decisions of the dictators. Each social norm eliciter only sees the decisions in one of the four treatments, and we ask them how much they think a person *ought* to give and to how many charities. By using a separate sample rather than the dictators to elicit these 'personal normative beliefs' (Bicchieri, 2017), we reduce biases in these responses that would occur e.g. from self-justification.

In the main study, we then elicit the normative and empirical expectations of the dictators for both the total donations and the number of charities donated to. Specifically, after making their own choices, dictators are asked what they think the median responses among the social norm elicitors are (normative expectations), and dictators are asked what they think the median decision among dictators is (empirical expectations).¹¹ This belief elicitation is incentivised: we draw at random either the questions related to normative or empirical expectations, and participants receive EUR 0.5 if they correctly guess the number of charities and the amount donated (with a margin of error of EUR ± 3).¹²

After the questions related to normative and empirical expectations, dictators state their beliefs about how much they think dictators on average donated to each of the seven topics. These belief elicitations are incentivised, as one topic is drawn at random, and dictators earn EUR 0.5 if their guess is correct (± 3). These questions shed light on a possible coordination problem in giving, to which we return in Section 5.2.

3.3 Second-Order Beliefs

As explained in Section 2, the case of partial observability (*PublicN*) allows for indirect signalling. Yet, the direction of the indirect signalling effect depends on the (expected) relation between the two behaviours. To shed light on this, we ask dictators (spectators) in *PublicN* about their second-order (first-order) beliefs about the total donations based on the number of charities. Specifically, we ask spectators to guess the total amount donated by the dictator

¹¹Prior to this page in the experiment, all participants read an explanation of what a median is, see examples from sets of numbers, and show in a control question that they are able to find the median in a series of numbers.

¹²Throughout the experiment, we use the interval method of belief elicitation (Dufwenberg and Gneezy, 2000; Charness and Dufwenberg, 2006) for uncovering beliefs about amounts donated. Previous research suggests that simple, incentivised elicitation methods are often more suitable than complex methods (Charness et al., 2021), despite the theoretical superiority of the latter methods, as they are easy for participants to understand. Moreover, using this simple method enables us to elicit many different beliefs (also related to second-order beliefs and in the survey described below) without making the task too tedious and time-consuming for participants.

based on the number of charities she donates to. This question is incentivised as we randomly draw one guess for each spectator, and the spectator additionally earns EUR 0.5 if she correctly guesses the amount donated (\pm EUR 3). We then elicit second-order beliefs from the dictators by asking them to state what the first-order beliefs of the spectators are. This question comes as a surprise to not influence the previous decision, and it is incentivised as the dictator may additionally earn EUR 0.5 if she correctly guesses the beliefs of the spectators (\pm EUR 3). The elicitation of first- and second-order beliefs provides a test for whether dictators expect that their decision about how many charities to donate to influences the spectators' beliefs about total donations.

3.4 Feedback

After participants answer questions related to social norms, spectators in *PublicN* and *PublicNAmount* observe the decisions by the dictators and evaluate them on a 6-point scale. We use the German high school grading system, which is a 6-point scale ranging from “very good” to “insufficient”. This is a grading system that is well-known to all participants and therefore used in other experiments with German samples (e.g. [Barrett and Dannenberg, 2016](#)). For ease of interpretation, we recode the variable ex post such that a higher rating is more favourable.

3.5 Survey

At the end of the experiment, participants answer demographic questions about their gender, age, field of study, and how many hours they have volunteered in the past year. We then elicit several measures to explore factors beyond our conceptual framework that may influence the dictators' decisions. First, they answer a question about their general risk preferences ([Dohmen et al., 2011](#)). Second, participants rate on a 5-point Likert scale how important they think supporting each of the seven topics is. Third, they answer two questions about their preferences for spreading donations.¹³ Fourth, they answer the 10-item Self-Importance of Moral Identity scale ([Aquino et al., 2002](#)), which measures the degree to which a person wants to possess moral qualities (Internalisation) and the degree to which a person believes that her actions communicate being moral to others (Symbolisation). We standardise responses to all the attitudinal controls as proportions of maximum possible (POMP) scores, ranging between zero and one, to enable an easy interpretation despite using different scale lengths ([Cohen](#)

¹³One concern is whether the treatments influence participants' responses to the questions about preferences for spreading donations (cf. post-treatment bias, [Montgomery et al., 2018](#)). Yet, we find no differences across treatments for these questions, risk preferences, the Self-Importance of Moral Identity scale, nor the average perceived importance of the seven topics (Kruskal-Wallis test, all p 's $> .208$, cf. Online Supplement S.2).

et al., 1999; Mellenbergh, 2019).¹⁴

3.6 Procedure

The experiment was conducted between March and May 2023 as an online experiment of the experimental laboratory of the University of Hamburg. We recruited a total of 826 individuals, of whom 804 completed the experiment. Of these, 585 were dictators, 132 were spectators, and 87 were social norm elicitors. We oversampled the number of dictators in *Private*, *PublicN*, and *PublicNAmount* (168-170) compared to *NoCost* (77) to ensure sufficient power for the contrasts between different levels of observability. With this sample size, we expected based on power simulations to have a power of .8 to detect a difference in the number of charities of 1 and in total donations of EUR 6.5 (see Online Supplement S.1). Yet, one spectator and 10 dictators in *PublicN* fail to provide consistent answers to the questions about first- and second-order beliefs, respectively, leaving us with a main sample of 793 individuals.¹⁵ In the main sample, 36 percent were male, and the mean age was 26 years. We provide further sample characteristics and summary statistics in Tables S.8 and S.9.

For completing the study, dictators (social norm elicitors and spectators) received a show-up fee of EUR 4.5 (3) in addition to the payment for the incentivised belief elicitation questions and the payment to the 10 randomly selected dictators.¹⁶ The median earnings of the experiment were EUR 4.5, and the median completion time was 21 minutes.

3.7 Hypotheses

Drawing on our conceptual framework, we now explain our pre-registered hypotheses about how transaction costs and observability influence giving behaviour. First, we compare *NoCost* and *Private* to shed light on the role of transaction costs. Previous research indicates that many people have a preference for giving to multiple charities even if some charities are more effective than others (Sharps and Schroeder, 2019; Schmitz, 2021). Yet, other studies demonstrate that people care about their donations not being wasteful, e.g. by avoiding paying too much for

¹⁴We use POMP scores rather than standardised (z) scores, as the responses to the ‘spread for efficiency’ question and the Internalisation subscale are skewed (test for skewness: $p = .045$ and $p < .001$, D’Agostino and Belanger, 1990; Royston, 1991). Such skewness can make the z scores misleading (Cohen et al., 1999).

¹⁵The first and second-order belief elicitations provide a comprehension check. For example, if a spectator observes (no) donations to a charity, then believing that total donations are (not) zero suggests that the spectator did not understand the task. In Online Supplement S.3, we show that our results are also robust to including stricter, non-preregistered sample restrictions.

¹⁶We adjusted the participation fee from EUR 3 to EUR 4.5 after the first two sessions to account for the fact that the experiment lasted slightly longer than in the pilot. We show in Online Supplement S.3 that our results are robust to controlling for this change.

administration (Meer, 2014; Portillo and Stinn, 2018). Similarly, another study points to a productivity-driven substitution pattern across charities, yet this effect becomes weaker the more dissimilar the charities are (Ek, 2017). This suggests a trade-off between giving to multiple charities and giving in an efficient manner. Such a trade-off has not yet been studied in a setting where donors decide how many charities to give to when increasing the number of charities involves an efficiency loss (in the form of transaction costs). Yet, if the trade-off exists, we expect dictators to give to fewer charities when each donation involves transaction costs, as such costs makes it more wasteful to spread donations. This leads to our first hypothesis:

Hypothesis 1 (Efficiency) *Dictators on average give to more charities in NoCost than in Private.*

We then turn to the effects of observability. Importantly, we expect indirect signalling to influence behaviour differently depending on the (expected) correlation between the two decisions (which in our conceptual framework is given by the sign of g''_{ab} , see Section 2). In the pre-registration, we therefore conditioned the direction of the following hypotheses on the expected correlation between the two decisions. Looking at the first- and second-order beliefs that we elicit in the *PublicN* treatment, we find that spectators believe that dictators who donated to more charities donated larger amounts (repeated measures correlation $r_{rm} = .602$, $p < .001$), and dictators anticipate this relation (Pearson's $r = .404$, $p < .001$). This suggests that $g''_{ab} > 0$, and we use this to formulate the following hypotheses.

With $g''_{ab} > 0$, increasing the number of charities in *PublicN* has two effects (as explained in Section 2): it influences reputation from observing a greater b (direct effect), and it influences reputation through the spectator beliefs about total amounts (indirect effect). If individuals are more concerned about *how much* donors give than *how they give* (Berman et al., 2018), then the indirect effect should outweigh the direct effect, leading to an increase in the number of charities that dictators donate to in *PublicN*. In contrast, the comparison between *Private* and *PublicNAmount* is not clear ex ante. On the one hand, dictators may be motivated to decrease b in *PublicNAmount* to make their giving a greater signal about a . On the other hand, as explained below, we expect total donations to be greater in *PublicNAmount* than in *Private*. With $g''_{ab} > 0$, this should make dictators in *PublicNAmount* increase the number of charities they give to compared to *Private*. Due to these opposite effects, we do not include a hypothesis comparing the number of charities in *Private* and *PublicNAmount*. Thus, we arrive at our second hypothesis:

Hypothesis 2 (Number of Charities)

1. *The average number of charities participants give to is greater in PublicN than in Private.*
2. *The average number of charities participants give to is greater in PublicN than in PublicNAmount.*

We expect total donations to be greater in *PublicNAmount* than in *PublicN* and *Private* because when donations are observed, giving more is a signal of greater altruism ($\frac{\partial E(\alpha|\Omega=\{a,b\})}{\partial a} > 0$). Furthermore, for $g''_{ab} > 0$, total donations should be greater in *PublicN* than in *Private*. This is because b is greater in *PublicN* (cf. Hypothesis 2), which leads g'_a to be greater in *PublicN* than in *Private*, which in turn increases total donations. Our hypothesis regarding total donations is therefore as follows:

Hypothesis 3 (Total Donations)

1. *On average, participants donate more in PublicNAmount than in PublicN.*
2. *On average, participants donate more in PublicNAmount than in Private.*
3. *On average, participants donate more in PublicN than in Private.*

4 Analysis

We now present the results on how participants respond to the inclusion of transaction costs and the (partial or full) observation by spectators. In doing so, we follow the pre-analysis plan exactly, as we estimate “regressions with (i) no controls, (ii) demographic controls (age, gender, field of study, and hours of volunteering the past year), and (iii) controls also for attitudes (two questions on preferences for diversification, internalisation, and symbolisation).” Our preferred specification is (iii), as adding the relevant control variables increases the efficiency and statistical power of our analysis. In Online Supplement S.3, we show that our results are robust to using different operationalisations of the control variables. We also show that all significant results in this section are at least marginally statistically significant when we control for the family-wise error rate (FWER) or the false-discovery rate (FDR).

Hypotheses 1 and 2 (henceforth H1 and H2) concern differences in the number of charities that dictators donate to. As the number of charities is count data (i.e. non-negative integers), we pre-registered to use negative binomial regressions. We show in Online Supplement S.3.2 that negative binomial regressions are preferable to Poisson regressions and zero-inflated negative binomial regressions, but that our results are robust to using instead these regressions.

To test Hypothesis 3 (henceforth H3), we rely on tobit regressions, as the total donations are censored data between 0 and 100 (with the upper limit depending on how many charities dictators choose to donate to in the treatments with transaction costs). For robustness, we here also consider the nonparametric Mann-Whitney U-test (henceforth MWU-test, Wilcoxon, 1945; Mann and Whitney, 1947) and the semiparametric Symmetrically Censored Least Squares estimator (henceforth SCLS test Powell, 1986). Table A.1 provides descriptive statistics, Figure A.1 shows the distribution of total donations across treatments, and Figures A.2 and A.3 show how donations were allocated across topics and charities.

In Section 5, we discuss evaluations by spectators, why donors may have an intrinsic preference for giving to multiple charities, and how our results correlate with the Internalisation and Symbolisation subscales of the Self-Importance of Moral Identity scale.

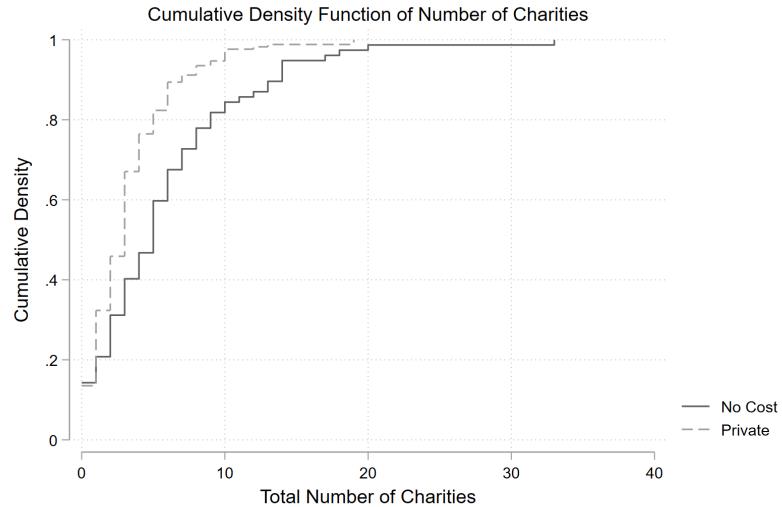
4.1 H1: Donors Respond to Transaction Costs

The first hypothesis states that donors should respond to transaction costs by reducing the number of charities they give to. Comparing *NoCost* and *Private*, this is what we see: donors in *NoCost* on average give to 5.82 charities, whereas in *Private* they only give to 3.27 charities on average (see Figure 3). Table 2 documents that this difference is statistically significant for all levels of controls (all p 's $< .001$). The table reports the results of negative binomial regressions in the form of incidence rate ratios (irr). The irr is .59, which means that the average number of charities donated to in *Private* is .59 times the average number of charities in *NoCost*. Because this is significantly lower than 1, it implies that the average number of charities is lower in *Private* than in *NoCost*. Alternatively, holding all control variables at their means, the predicted number of charities donated to in *NoCost* is 5.19, and the predicted value for *Private* is 3.05.

A closer look at the data reveals that the treatment difference is driven by a change on the intensive rather than the extensive margin. That is, we find no effect of transaction costs on the number of dictators who decide to make positive donations. In both *NoCost* and *Private*, 86 percent of dictators donate to charity, and there are no significant differences when adding control variables (logit regression, $p = .995$).¹⁷ Rather, we find a large difference in how many

¹⁷The share of participants who donate some of the EUR 100 endowment seems relatively high; yet, many participants donate rather small amounts, such that 21-24 percent of donors in our study give at most 10 percent of their endowment. The high share of individuals donating is likely influenced by the endowment being unearned rather than earned (Hoffman et al., 1994, 1996; Lefgren et al., 2016) and the recipients being charities rather than other participants (Cartwright and Thompson, 2022; Livingston and Rasulmukhamedov, 2023). In fact, these two factors may interact in leading to even higher donations (Umer et al., 2022). Yet, because these factors are held constant across treatments, they are unlikely to affect the main treatment comparisons.

Figure 3: Total Charities in NoCost vs. Private



Notes: the figure presents the cumulative density function (or empirical distribution function) of the dictators' decision about how many charities to give to, shown separately for *Private* and *NoCost*.

Table 2: Transaction Costs and the Number of Charities (H1)

	(1)	(2)	(3)
Private	0.56*** (0.07)	0.55*** (0.07)	0.59*** (0.07)
Demographic Controls	No	Yes	Yes
Attitudinal Controls	No	No	Yes
Observations	247	247	247

Notes: negative binomial regressions with the number of charities as the dependent variable. The demographic controls are age, gender, field of study, and volunteering. The attitudinal controls are preferences for spreading donations (two questions) and the two subscales of the Self-Importance of Moral Identity scale. The corresponding table with all coefficients is Table S.10. Coefficients are incidence rate ratios.

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

charities dictators give to conditional on them making positive donations. In negative binomial regressions using only the donors who make a positive donation, we find a highly significant treatment difference for all levels of control ($\text{IRR} = .59$, $p < .001$). Intuitively, holding all control variables at their means, the predicted average number of charities in *NoCost* is 6.19, and the predicted value for *Private* is 3.68. We sum up the results on H1 as follows:

Result 1 *Individuals give to fewer charities when they have to pay transaction costs for each charity they give to. This effect is driven by a change in donation behaviour among the individuals who give (intensive margin) and not by the number of individuals who give (extensive margin).*

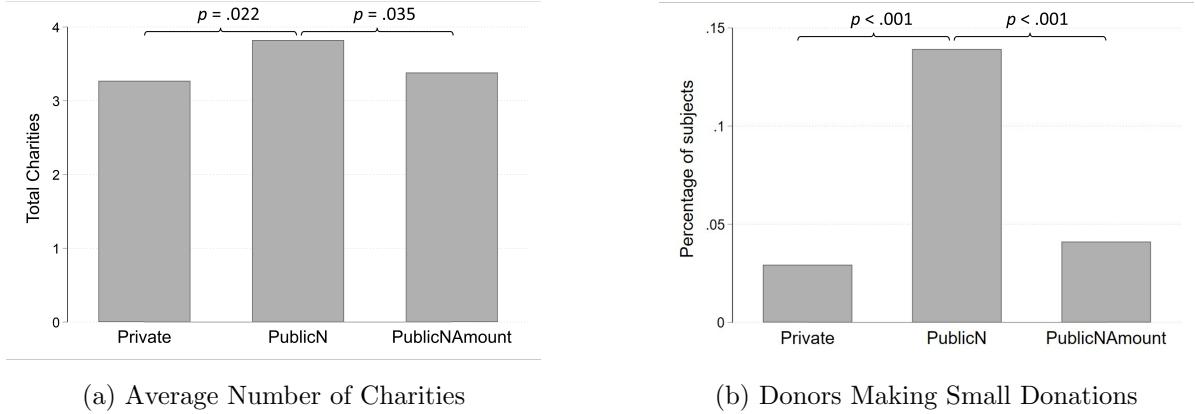
4.2 H2: Partial Observability Affects the Number of Charities

The second hypothesis states that donors give to more charities when spectators only observe what charities they give to. In the following, we test this hypothesis and discuss the results.

PublicN vs. Private. Comparing *PublicN* and *Private*, we indeed find that donors on average give to more charities when spectators only observe what charities donors give to (3.82, *PublicN*) than when there is no observation (3.27, *Private*), cf. Figure 4a. Looking at negative binomial regressions, this effect is statistically significant ($p = .022$, cf. Table 3). The coefficient (IRR) is 1.21, and this implies that the average number of charities donated to in *PublicN* is 1.21 times the average number of charities in *Private*. Because this is significantly greater than 1, it implies that the average number of charities is larger in *PublicN* than in *Private*. Alternatively, one could examine the predicted values in the two treatments when holding all control variables at their means. Here, we find a predicted average number of charities of 3.68 in *PublicN*, which is significantly larger than the 3.04 in *Private*. With the transaction cost of EUR 1 per donation, this corresponds to an increase in total transaction costs of 17 percent.

The treatment difference is driven by a change in the extensive rather than the intensive margin. That is, adding partial observability leads more participants to donate to charity, but it does not change the average number of charities donors give to conditional on positive donations. Thus, we find that while 86 percent of donors give to charity in *Private*, this number increases to 96 percent in *PublicN*. This difference is statistically significant for all levels of control (logit regressions, all $p's < .003$). In contrast, we find no difference in the number of charities that donors give to conditional on positive donations (negative binomial regressions, all $p's > .339$).

Figure 4: Donations to Charities and Observability



Notes: figure (a) shows the average number of charities that dictators donate by treatment. p -values are obtained from negative binomial regressions with all control variables. Figure (b) shows the percentage of donors who make donations that are smaller than EUR 3 by treatment. p -values are obtained from logit regressions with all control variables.

PublicN vs. PublicNAmount. The data also suggest that donors give to more charities in *PublicN* (3.82) than in *PublicNAmount* (3.38), cf. Figure 4a. While this difference fails to reach statistical significance without any control variables ($p = .136$), it becomes statistically significant in our preferred specification, where demographic and attitudinal controls increase the efficiency of the estimate without notably changing the irr ($p = .035$, cf. Table 3). The irr is 1.17, and this implies that the average number of charities donated to in *PublicN* is 1.17 times the average number of charities in *PublicNAmount*. This translates into predicted values at the mean of all control variables of 3.62 in *PublicN* and 3.09 in *PublicNAmount*, corresponding to an increase in total transaction costs of 15 percent.

Again, the treatment difference is driven by a change in the extensive rather than the intensive margin. Whereas 85 percent of donors in *PublicNAmount* donate to charity, this number increases significantly to 96 percent in *PublicN* (logit regressions, all p 's $< .001$). We find no difference in the number of charities that donors give to conditional on positive donations (negative binomial regressions, all p 's $> .624$). We summarise the results as follows:

Result 2 *Dictators give to more charities when spectators observe the number of charities donated to (partial observability) compared to situations of no or full observability.*

Discussion of Results. As demonstrated above, our data suggest that adding image concerns to the donation decision has an effect primarily by inducing donations from the dictators who would otherwise not have donated. In terms of our conceptual framework, this implies

Table 3: Observability and the Number of Charities (H2)

	PublicN vs. Private			PublicN vs. PublicNAmount		
	(1)	(2)	(3)	(4)	(5)	(6)
PublicN	1.17*	1.20**	1.21**	1.13	1.14	1.17**
	(0.10)	(0.11)	(0.10)	(0.09)	(0.10)	(0.09)
Demographics	No	Yes	Yes	No	Yes	Yes
Attitudes	No	No	Yes	No	No	Yes
Observations	328	328	328	328	328	328

Notes: negative binomial regressions with the number of charities as the dependent variable. The demographic controls are age, gender, field of study, and volunteering. The attitudinal controls are preferences for spreading donations (two questions) and the two subscales of the Self-Importance of Moral Identity scale. The corresponding table with all coefficients is Table S.11. Coefficients are incidence rate ratios.

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

that introducing reputational concerns, $R(a, b)$, is important for changing the behaviour of donors whose intrinsic motivation, g , was not large enough to induce giving. If the results are truly driven by dictators trying to manipulate their public image, we would expect that such dictators give strategically to improve their reputation at the lowest possible costs. Dictators in *PublicN* achieve this by making many small donations, as spectators only see the number of charities and not the amounts donated. In an exploratory analysis, we do find this type of “bluffing” in charitable giving especially among dictators in *PublicN*. As seen in Figure 4b, the share of dictators making donations less than EUR 3 is significantly greater in *PublicN* than in both *Private* and *PublicNAmount* (logit: both $p's < .001$).¹⁸ The 14 percent of dictators in *PublicN* who give donations less than EUR 3 make on average 3.6 such donations. We summarise this result as follows:

Result 3 *When spectators only observe what charities a donor has given to but not the donated amounts (partial observability), some individuals use this strategically by making many tiny donations.*

¹⁸As this is an exploratory analysis, we determined the cut-off for how large a “small donation” is a posteriori. The effect is significant for the *Private* vs. *PublicN* comparison for cut-offs in the range (0,4); for the *PublicN* vs. *PublicNAmount* comparison, it is significant for cut-offs in the range (0,11).

4.3 H3: Observability Does Not Influence Donated Amounts

The third hypothesis relates to how observability affects the amounts that dictators donate. In the following, we go through each subhypothesis in turn and document that there are no significant treatment differences in donated amounts.

PublicNAmount vs. PublicN. H3.1 states that dictators should donate more on average in *PublicNAmount* than in *PublicN*. Yet, we find little difference with average donations of EUR 45.23 in *PublicNAmount* and EUR 44.64 in *PublicN*. Testing for differences in tobit regressions, we find no statistically significant difference regardless of the level of controls (all p' s $> .615$, cf. Table 4). We also find no statistically significant difference using the MWU-test ($p = .985$) and the SCLS estimator ($p = .774$).

PublicNAmount vs. Private. H3.2 states that dictators should donate more on average in *PublicNAmount* than in *Private*. Yet, while dictators donate slightly more in *PublicNAmount* (EUR 45.23) than in *Private* (EUR 40.22), this difference is not statistically significant for any level of control (tobit, all p' s $> .219$, cf. Table 4). The difference is also not statistically significant in any robustness test (MWU: $p = .180$, SCLS: $p = .146$).

PublicN vs. Private. Finally, H3.3 states that dictators donate more on average in *PublicN* than in *Private*. While donors give slightly more in *PublicN* (EUR 44.64) than in *Private* (EUR 40.22), this is not statistically significant (tobit: all p' s $> .117$ cf. Table 4, MWU: $p = .216$, SCLS: $p = .220$). We summarise the results in this section as follows:

Result 4 *The total amounts that dictators give to charity are not affected by neither full nor partial observability of the spectators.*

Discussion of Results. In this section, we have shown that the level of observability did not significantly influence the total donations made by the dictators. This somewhat contradicts a literature demonstrating that people tend to donate more when they are observed (e.g. [Lacetera and Macis, 2010](#); [Karlan and McConnell, 2014](#)). Yet, [Bradley et al. \(2018\)](#) document in a meta-analysis that effects of observation tend to be largest in in-person labs, whereas we run an online experiment. One reason to expect a smaller effect in an online study is the “online disinhibition effect” ([Joinson, 1998, 2003](#); [Suler, 2004](#); [Lapidot-Lefler and Barak, 2012](#)). This theory builds on social psychology and the notion of “inhibition”, which occurs when people constrain their behaviour due to worries about public evaluation, anxiety about social situations, or other reasons for self-consciousness ([Zimbardo, 1977](#)). Already [Joinson](#)

Table 4: Observability and Total Donations (H3)

PublicNAmount vs. PublicN			
PublicNAmount	-1.17 (3.91)	-1.58 (3.93)	-1.90 (3.78)
Demographic Controls	No	Yes	Yes
Attitudinal Controls	No	No	Yes
Observations	328	328	328
PublicNAmount vs. Private			
PublicNAmount	4.84 (3.93)	3.83 (4.01)	2.79 (3.92)
Demographic Controls	No	Yes	Yes
Attitudinal Controls	No	No	Yes
Observations	340	340	340
PublicN vs. Private			
PublicN	5.94 (3.78)	5.15 (3.80)	4.34 (3.73)
Demographic Controls	No	Yes	Yes
Attitudinal Controls	No	No	Yes
Observations	328	328	328

Notes: tobit regressions with total donations as the dependent variable. The demographic controls are age, gender, field of study, and volunteering. The attitudinal controls are preferences for spreading donations (two questions) and the two subscales of the Self-Importance of Moral Identity scale. The corresponding tables with all coefficients are Tables S.12-S.14. Coefficients are average partial effects, robust standard errors in parentheses.

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

(1998) noted that on the Internet, one could see disinhibition stemming from a “reduction in concerns for self-presentation and the judgement of others” (p. 44). We aimed at reducing such feeling of anonymity in the current experiment by showing the dictators’ names to the spectators. Yet, we speculate that dictators still put less value on reputational concerns in our setting compared to in-person lab experiments. In terms of our conceptual framework, this implies that the costs of giving ($-x'_a$) may be too large compared to the reputational concerns (γ_a).

Another reason for the lack of significant effects on donated amounts could be that dictators anticipate that while giving increases evaluations, it does so with a decreasing effect. That is, while donors may increase donations from e.g. EUR 20 to 40 and see an increase in their evaluations, increasing donations from e.g. EUR 80 to 100 has almost no effect on evaluations (discussed in Section 5.1).

These explanations – online disinhibition and the decreasing effect of donations on evaluations – suggest that the perceived reputational benefits of donating larger amounts may be limited. But why, then, do we observe individuals who send wasteful, indirect signals to strategically manipulate their public image by increasing the number of charities they give to (cf. Section 4.2)? One notable difference is that the cost of manipulating one’s signal in *PublicN* is much lower: a dictator may engage in “bluffing” and send a signal by donating e.g. only EUR 1 to a charity. In contrast, spectators in *PublicNAmount* call the dictators’ bluff, as they see also the amounts donated. Therefore, it is much more costly for dictators to manipulate their public image in *PublicNAmount* than in *PublicN*. If demand for a favourable image is price sensitive, we speculate that such a cost-benefit explanation can reconcile the different results for H2 and H3.

5 General Discussion

In the preceding section, we demonstrated that (i) dictators change their giving behaviour when there are transaction costs, (ii) dictators give to more charities when spectators observe only the number of charities that they give to, (iii) some individuals strategically give many tiny donations (“bluffing”) to manipulate their public image, and (iv) dictators do not change the total amounts they donate depending on the level of observability.

In the following, we report a number of results from exploratory analyses. First, we show that bluffing works, as a larger number of charities improves the spectator evaluations in *PublicN*. Second, we show that dictators who give to multiple charities tend to do so out of a preference for donating to different topics, that the dictators do not behave as if they

perceive the giving situation as a coordination problem, and that they do not strategically choose what topics they support when being observed. Third, we report correlations between giving patterns by dictators and the subscales of the Self-Importance of Moral Identity scale, providing suggestive evidence that the two giving decisions tap into relevant psychological constructs.

In Online Supplement S.4, we discuss gender differences and show that (i) women tend to give to more charities and that this is explained by differences in preferences for spreading donations as well as differences in self-importance of moral identity, (ii) women tend to give larger amounts, and (iii) men are more responsive to the *PublicN* treatment. We further discuss the social norms related to the two giving decisions, documenting i.a. that even with transaction costs, there is a normative expectation that donors ought to give to more than one charity. We also discuss that experimenter demand effects are unlikely to influence the results of the experiment.

5.1 Spectator Responses – Bluffing Works

In the following, we explore how spectator evaluations depend on the total donations of the dictator and the number of charities that the dictator donates to. We report here the results of OLS regressions and show in Online Supplement S.5.2 that the results are robust to using instead ordered logit regressions. We cluster on the level of the pair of spectators evaluating the same five dictators.¹⁹ First, we analyse spectator evaluations in *PublicNAmount*. Here, spectators observe both donations and charities, and this thereby allows us to examine what matters for the spectators in their evaluations. Second, we examine spectator evaluations in *PublicN*, and we show that spectator evaluations are influenced via their first-order beliefs about the total donations.

PublicNAmount: What Do Spectators Value? We first examine spectator evaluations in *PublicNAmount*. Including both observed donations and observed charities in the regression yields a highly significant effect of observed donations ($\beta = .034, p < .001$), whereas the effect of observed charities is not statistically significant ($\beta = .048, p = .229$).²⁰ The magnitudes and significance are unaffected by the level of control (cf. Table S.15). The result has the interpretation that going from no donations to the maximum possible donations improves evaluations by 3.24 on a 6-point scale.

¹⁹Our results are robust to instead clustering on the level of the individual spectator, and the results are robust to adding spectator-fixed effects.

²⁰The data do not allow us to separate the effect of the observed number of charities from the observed number of topics that a donor gives to, as these are highly correlated ($r = .847$, Spearman's $\rho = .945, p < .001$).

From the spectator evaluations, we also see that while giving more leads to an improved evaluation, it does so at a decreasing rate (see Figure S.4). To formally test for such nonlinearity, we include $(\text{total donations})^2$ and $(\text{total charities})^2$ in the regression. We find that the relation between total donations and spectator evaluations is indeed nonlinear: across all levels of control, the squared total donations is negative and highly significant (all $p's < .001$, cf. Table S.16), and the linear term remains highly significant ($\beta = .080$, all $p's < .001$). On the contrary, neither total charities nor the square of total charities is statistically significant. The interpretation of the nonlinearity in total donations is that changing one's total donations from e.g. EUR 10 to 20 is associated with an improved average evaluation of .66, whereas an increase from e.g. EUR 70 to 80 is only associated with an improved average rating of .09.

One potential concern with the above regressions is the strong correlation between total donations and total charities in *PublicNAmount*. Specifically, the Pearson's r between total donations and total charities is .531 ($p < .001$, Spearman's $\rho = .587$, $p < .001$), and such collinearity may reduce our ability to statistically detect how each of the two variables is associated with spectator evaluations. To counteract this problem, we examine the two variables in turn. Specifically, we first conduct three OLS regressions of evaluations on total donations, holding the number of charities within $\{1, 2\}$, $\{3, 4\}$, and $\{5, 6\}$, respectively. In all three intervals, the coefficient on total donations is statistically significant (all $p's < .014$, cf. Table S.17), and the average coefficient is $\beta = .025$. That is, holding charities almost constant, every additional euro donated on average leads to an approved evaluation of .025 on a 6-point scale (shown visually in Figure S.5). Second, we conduct six regressions of evaluations on total charities, holding the total donations within the intervals [10, 24], [25, 39], [40, 54], [55, 69], [70, 84], and [85, 100], respectively. We find no positive, statistically significant relation in any of the intervals (cf. Table S.18), and the average coefficient is $\beta = -.015$ (shown visually in Figure S.6). That is, holding donations within narrow bounds, we overall find no effect of total charities on evaluations.

In sum, we find that under full observability, spectators do not respond to the number of charities that dictators donate to. In contrast, spectators give better evaluations to dictators who donate larger amounts, although at a decreasing rate.

PublicN: The Effect of Bluffing. We next look at spectator evaluations in *PublicN*. Estimating an OLS regression with only the observed charities, we now find a positive and significant effect of increasing total charities on spectator evaluations ($\beta = .145$, $p = .006$), and this is unaffected by the level of control (cf. Table S.19). Hence, increasing the number of charities one donates to leads to an improved evaluation. Testing for nonlinearities as before,

we also here see a decreasing effect: the coefficient on the squared term is negative and statistically significant for all levels of controls (all $p's < .001$, cf. Table S.20), and allowing for the nonlinearity increases the coefficient on observed charities to $\beta = .649$ (all $p's < .001$). The interpretation of this nonlinearity is that increasing the number of charities from e.g. 1 to 3 is associated with an improved evaluation of .958, whereas increasing the number of charities from e.g. 5 to 7 is only associated with an improved evaluation of .245.²¹

Yet, a closer look at the data indicates that while spectators in *PublicN* approve of dictators who give to more charities, they do so because they believe the dictators have given larger amounts and not because of the number of charities per se. We find a strong, positive correlation between the number of charities dictators give to and the first-order beliefs of the spectators about how much the dictators donated (repeated measures correlation $r_{rm} = .602$, $p's < .001$). That is, spectators correctly anticipate a positive relation between total donations and the number of charities, but they overestimate this relation compared to the actual Pearson's $r = .347$ in *PublicN*. In a regression of spectator evaluation on both the number of charities and the spectators' first-order beliefs about donations, we find that the effect of observed charities diminishes substantially and loses its statistical significance ($\beta = .034$, $p = .440$), whereas the effect of first-order beliefs is highly significant ($\beta = .023$, $p < .001$, cf. Table S.19). This is corroborated by a mediation analysis: the effect from the number of charities to evaluations goes solely through first-order beliefs as a mediator ($p < .001$), while the direct effect is insignificant ($p = .111$, cf. ‘indirect-only mediation’, Zhao et al., 2010). In sum, these results confirm the finding above, namely that spectators award dictators who donate large amounts, but they care less about the number of charities, i.e. how the amounts are donated.

5.2 Why Do Donors Spread Donations?

In Section 4, we demonstrated that dictators give to fewer charities when there are transaction costs associated with each donation and that some dictators are motivated by reputational concerns to increase the number of charities they give to. Yet, a general result is that dictators are willing to pay additional transaction costs in order to donate to more than one charity (cf. Table A.1), and we see this also in the *Private* treatment, which includes transaction costs but no observation by spectators. In our conceptual framework, we posit that one reason for donors to spread their donations is that they receive utility from giving to multiple charities (e.g. from warm glow). In this section, we further explore why donors may have a preference

²¹As with *PublicNAmount*, we are not able to separate the effect of the number of charities from the number of topics, as the two are highly correlated ($r = .842$, Spearman's $\rho = .904$).

for donating to more than one charity.

Preference for Diversification. In our study, we found that dictators tend to diversify donations across different charities. While this may relate to a more general diversification bias in decision-making (Read and Loewenstein, 1995; Fox et al., 2005; Baron and Szymanska, 2011) even when this is inefficient (Null, 2011), we also find that the tendency to diversify donations correlates with self-reported preferences for diversification. Specifically, we ask all participants to rate their agreement with the statements “It is important to spread one’s donations to reduce the risk that a particular charity will miss out” and “It is important to spread one’s donations to reduce the risk that donations will be spent inefficiently”.²² In all treatments and in the total sample, we find that agreement with the statement that a particular charity should not miss out strongly predicts giving to more charities (negative binomial regressions, all $p's < .044$, cf. Table S.25). The interpretation for the whole sample is that going from ‘Completely Disagree’ to ‘Completely Agree’ leads to an increase of 143 percent in the number of charities a dictator donates to. Opposingly, agreement with the statement that spreading reduces the risk of inefficiency is always insignificant (all $p's > .115$).²³

A Preference for Multiple Topics. Another possible reason for giving to multiple charities is that it enables donors to support different topics. Specifically, charities that operate under similar causes are closer to being substitutes, and one may speculate that donors would be less willing to pay additional transaction costs for donating to different but interchangeable charities (e.g. Berman et al., 2018). If this is true in our setting, it would imply that donors who give to more charities choose these from different rather than the same topic. This is indeed what we find (see Figure S.3).

In *PublicN* and *PublicNAmount*, donors may also try to support the causes that they think the spectators care about. We find that dictators on average give to more topics in *PublicN* than in *Private* (negative binomial regression, all $p's < .005$, cf. S.26). In contrast, the difference in the average number of topics between *PublicN* and *PublicNAmount* is smaller and only becomes marginally statistically significant when including all control variables (all

²²As noted in Section 3, we sought to make it clear to all participants that giving to multiple charities is inefficient in our setting, so we informed them that all charities had been picked from a list of highly efficient charities. Yet, we included this question in case participants may e.g. doubt the validity of such charity ratings.

²³One problem with correlating the number of charities with responses to the statements is that agreement with the two statements is highly correlated (Pearson’s $r = .455$, $p < .001$). Yet, regressing the total number of charities on the responses separately, we find that the coefficient on ‘spreading such that a charity does not miss out’ is significantly greater than the coefficient on ‘spreading to reduce inefficiency’ (Wald test, $p < .001$).

p' s > 0.075 , cf. S.27).²⁴ This suggests that observation can lead individuals to spread their donations between more topics.²⁵

No Coordination Problem. Another reason for donating to different charities is that dictators may wish to donate to the charities/topics that receive few donations from others. Viewed jointly for all dictators, the giving decision would in this respect be a coordination game, where dictators seek to coordinate on giving in such a way that the charities/topics that the dictators find important receive donations. Intuitively, if all dictators bundle their giving into a single donation to increase efficiency, there is an increased risk that some of the causes that the dictators deem worthy do not receive funding. This gives rise to strategic uncertainty, and dictators may diversify their donations in order to reduce this uncertainty.

To test whether dictators view the giving decision as a coordination problem, we use the participants' beliefs about the mean donations to each of the seven topics. Specifically, if participants seek to give to topics that others do not give to, we should see a negative relation between the share a donor allocates to a topic and how much the dictator believes that others give to the topic. Yet, we find the opposite effect: looking only at the dictators who donate positive amounts, we find for all seven topics a positive relation between the share of donations a person allocates to the topic and the expected share of others' donations accruing to the topic (Spearman's $\rho \in [.208; .402]$, all p' s $< .001$, cf. Figure S.7). This suggests that dictators do not view the giving decision as a coordination problem; rather, the data are in line with a false-consensus effect (Ross et al., 1977), where dictators believe that there is a consensus to support exactly the topics they find most deserving.

Strategic Choice of Charities? Observability could also change donation behaviour by making dictators give to those charities or topics that they believe spectators find important rather than donating to the topics they themselves find important. In other words, observability may change 'what' charities are being donated to in addition to 'how many' charities.

A first test of this channel is to see whether dictators prefer to give to different topics when they are observed compared to when they are not observed. A visual examination

²⁴Looking instead at within-topic diversification for the topics that donors select, we find no significant difference between *PublicN* and *Private* (MWU-test, $p = .471$). But dictators in *PublicN* on average give to more charities within the topics they donate to than dictators in *PublicNAmount* (1.25 vs. 1.05, $p = .044$).

²⁵We show in Online Supplement S.5 that there is no difference across treatments in the distribution of total donations between topics (Figure S.8) or in the number of charities donors give to between topics (Figure S.9). Specifically, the topics 'Environment' and 'Children & Youth' are the two most popular across all treatments, 'Security' receives the lowest support with below 5% in all treatments, and the remaining topics ('Health', 'Rights', 'Women Advocacy', and 'Development Aid') fall somewhere in between.

suggests that there is no difference in the relative donations made to each topic across the treatments (donated amounts in Figure S.8; number of charities in Figure S.9). This impression is confirmed statistically: in 21 pairwise treatment comparisons (with and without controls), we only find one statistically significant comparison; donors in *PublicNAmount* allocate less of their total donations to the topic of health (fractional regression, $p = .048$).

A second test of whether observability changes ‘what’ charities dictators give to is to examine how important the topics are, to which the dictators donate. Recall from Section 3 that our survey asks all participants to rate how important they think each of the topics is (see Appendix S.2 for evidence that there is no post-treatment bias for these questions). Computing the relative importance rating for each topic, we consider the case where dictators give to topics to which they assign a weight less than $1/7$; that is, donations to topics that dictators think are less important than the average topic. If we found that dictators in *PublicN* are more likely to give to topics they find relatively unimportant, it could suggest that the dictators sought to give in a way appreciated by the spectators. Yet, we find no difference in the likelihood that dictators donate to topics they consider relatively unimportant (Fisher’s exact tests: *PublicN* vs. *Private*, $p = .359$; *PublicN* vs. *PublicNAmount*, $p = .434$).

5.3 Behaviour Correlates with Self-Importance of Moral Identity

In the survey, participants answer the 10-item Self-Importance of Moral Identity scale ([Aquino et al., 2002](#)). This scale measures how important moral identity is for a person’s self-definition, defining morality as the combined set of the following traits: caring, compassionate, fair, kind, generous, helpful, hardworking, honest, and friendly. Of the 10 items in the SIMI scale, five measure the degree to which a person wants to possess moral qualities (Internalisation), and five items measure the degree to which a person believes that their actions communicate being moral to others (Symbolisation).

We find that dictators with an above-median score in Internalisation tend to donate more than dictators with a below-median score (tobit, $p < .001$, cf. Table S.28). The size of the effect is such that having an above-median Internalisation score predicts an increase in total donations of EUR 13. Opposingly, we find no significant correlation between Symbolisation and total donations ($p = .664$). These results mirror those of [Hansson et al. \(2022\)](#), who find that Internalisation but not Symbolisation predicts greater donations to charity. Yet, looking at the number of charities donors give to, the pattern is reversed: we find no significant correlation with scores on Internalisation (negative binomial regression, $p = .196$, cf. Table S.29), but Symbolisation is a highly significant predictor ($p = .001$). The interpretation of this effect is that having an above-median Symbolisation score predicts an increase in the number

of charities of 25 percent. Interestingly, of the treatments where giving to multiple charities involves transaction costs, only the association in *PublicN* reaches statistical significance ($p = .016$).

These results suggest that the two decisions, total donations and the number of charities, tap into distinct psychological constructs. Whereas total donations is related to the desire to possess moral qualities, the number of charities is related to the desire to communicate being moral to others.

6 Conclusion

In this paper, we provide empirical evidence that individuals engage in indirect signalling to improve their public image. In the context of charitable giving, we first show that donors care about efficiency: they reduce the number of charities they give to when each donation entails transaction costs. Yet, when donors are observed and evaluated only based on what charities they give to, they (correctly) anticipate that spectators will infer greater donated amounts from a larger number of charities. Some donors use this strategically and engage in a wasteful “altruistic bluff”, whereby they make numerous tiny donations to signal that they are altruistic. Such bluffing is not possible when spectators also observe total donations. In this case, donors do not adapt how many charities they give to, suggesting that the number of charities does not influence donors’ public image *directly*. Rather, how many charities one supports can influence public image *indirectly* through changing beliefs about total donations when donated amounts are not observable.

Therefore, we propose decomposing signalling into its direct and indirect components. By doing so, it becomes evident that signalling can also occur for behaviours that bear no reputational effects per se if the observed behaviours correlate with relevant unobserved behaviours.

Moreover, we show in this paper that such indirect signalling can lead to inefficiencies if the observable behaviour – in our case, the number of charities donated to – is negatively correlated with efficiency. This dynamic is not limited to the domain of charitable giving, and it is likely to occur when some behaviours are more easily observed than others. For example, organisations that seek to appear inclusive may invest excessively in the sheer number of visible diversity programmes, even if fewer initiatives of higher quality would improve the organisational culture more. Job seekers may invest too much in obtaining public certifications to signal competence and too little in developing substantive, yet less visible, skills. And politicians may devote too much money and time to marketing and social media to signal political action, even if this comes at the expense of developing and implementing well-founded policies. In each

case, the focus on an easily observed behaviour as an indirect signal of less visible behaviour leads to a misallocation of resources and reduced overall efficiency. Our study offers potential ways to mitigate such wasteful indirect signalling: if possible, one may seek to remove the observed signal (as in our *Private* treatment) or make the relevant behaviour observed (as in *PublicNAmount*).

Yet, our study also has some limitations that are important for interpreting our results. First, our study draws on only one sample, and it is not clear how the results generalise to other samples or cultures. Notably, because we consider indirect signalling, populations may behave differently not only due to different preferences for a certain behaviour, but also due to different correlations between observed and unobserved behaviours.

Second, our study uses an online lab setting, in which donors signal to anonymous spectators. It is probable that the incentives for signalling are greater in field settings that involve face-to-face interaction and long-run reputation-building. In addition, our setting exogenously imposes a level of observability on the participants. This is interesting from a practical perspective, as e.g. organisations may decide the extent to which workers are monitored, and charities or companies may allow their customers to send signals of different informational value after donations or purchases. In other field domains, however, individuals self-select into different degrees of observability, e.g. by choosing what to tell friends or what to post on social media. Because such self-selection increases the scope for manipulating one's public image, it could be that it reduces the signalling value of observed behaviours. An interesting avenue for future research is therefore to examine how selection into different levels of observability occurs and how such selection influences the credibility of the signals being sent.

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A Appendix

A.1 Conceptual Framework

In this section, we provide further details about the analysis of the conceptual framework presented in Section 2.

Benchmark: No Observability ($\Omega = \{\emptyset\}$). As explained in Section 2, we assume that unobserved behaviour does not influence reputation; that is, if $\Omega = \{\emptyset\}$, then $r_a = r_b = 0$. Then, the optimal decisions are implicitly defined by $g'_a = C'_a - x'_a$ and $g'_b = C'_b - x'_b$. Due to the concavity of g and convexity of $C - x$, this leads to a positive relation between α (β) and a (b). How b (a) is associated with α (β) depends on the sign of g''_{ab} . In the case of charitable giving, spreading one's donations across many charities is inefficient (cf. Footnote 1), and we therefore assume that β is inversely related to efficiency concerns. Yet, there is mixed evidence on the relation between efficiency and donations (Karlan and Wood, 2017): for example, Butera and Horn (2020) find that many donors give less when the charities are efficient, as giving to efficient charities allows donors to save money while maintaining a high charitable output ($g''_{ab} > 0$). In contrast, Metzger and Günther (2019) find that information about aid effectiveness increases donations for high-impact projects and decreases donations for low-impact projects ($g''_{ab} < 0$). Without knowing the sign of g''_{ab} a priori, we instead note from Equations 2 and 3 that (i) $g''_{ab} = 0$ implies no effect of α (β) on b (a), (ii) $g''_{ab} > 0$ implies that an increase in α (β) leads to an increase in b (a), and (iii) $g''_{ab} < 0$ implies that an increase in α (β) leads to a decrease in b (a).

Signalling and Indirect Signalling. With observability, we allow for $r_a \neq 0$ and $r_b \neq 0$. As noted in Section 2, we restrict our attention to pure-strategy Perfect Bayesian equilibria, and we assume a monotonic, increasing relationship between α (β) and a (b), which is anticipated by the spectators (i.e. $\frac{\partial E[\alpha|a \in \Omega]}{\partial a} > 0$, $\frac{\partial E[\beta|b \in \Omega]}{\partial b} > 0$).

In the case of full observability ($\Omega = \{a, b\}$), a and b both influence $R(a, b)$ by their positive relations to α and β , respectively. In addition, there may be a relation between α (β) and b (a), depending on the sign of g''_{ab} . Intuitively, if $g''_{ab} > 0$, an individual may decide on a high level of a both due to a high α and a high b . Thus, a high a and a low b send a stronger signal about α than a high a and a high b . That is, $\frac{\partial E[\alpha|\Omega=\{a,b\}]}{\partial b} < 0$ (and likewise $\frac{\partial E[\beta|\Omega=\{a,b\}]}{\partial a} < 0$). The relative concerns for α (γ_a) and β (γ_b) then determines the sign of r_a and r_b . As explained in Section A.1, $\gamma_a > \gamma_b$ is likely to hold in our experiment on charitable giving. Then, $r_a > 0$, meaning that giving greater amounts provides a good reputation, while the sign of r_b is ambiguous and may even be negative if $\gamma_a > -\gamma_b \frac{\partial E[\beta|\Omega=\{a,b\}]}{\partial b} \cdot \left(\frac{\partial E[\alpha|\Omega=\{a,b\}]}{\partial b} \right)^{-1}$.

Naturally, $g''_{ab} < 0$ would lead to the opposite case. If $g''_{ab} = 0$, i.e. if the psychological benefits received from both behaviours are independent, we assume that there is no reputational spill-overs ($\frac{\partial E[\beta|\Omega=\{a,b\}]}{\partial a} = \frac{\partial E[\alpha|\Omega=\{a,b\}]}{\partial b} = 0$), as α and β are drawn independently. In this case, $r_a > 0 \Leftrightarrow \gamma_a > 0$ and $r_b > 0 \Leftrightarrow \gamma_b > 0$ follow from the positive relation between α (β) and a (b).

The case of partial observability ($\Omega = \{a\}$ or $\Omega = \{b\}$) leads us to distinguish between *direct signalling* and *indirect signalling*. As explained in Section 2, indirect signalling is the effect that b has on $R(a, b)$ via the beliefs about a . This channel is not present when the spectators observe a . If $g''_{ab} > 0$, then $\frac{\partial E[a|\Omega=\{b\}]}{\partial b} > 0$, which in turn leads to $\frac{\partial E[\alpha|\Omega=\{b\}]}{\partial b} > 0$. That is, whereas a greater b , ceteris paribus, predicted a smaller α in the case of full observability ($\frac{\partial E[\alpha|\Omega=\{a,b\}]}{\partial b} < 0$), the opposite may thus be true in the case of partial observability.

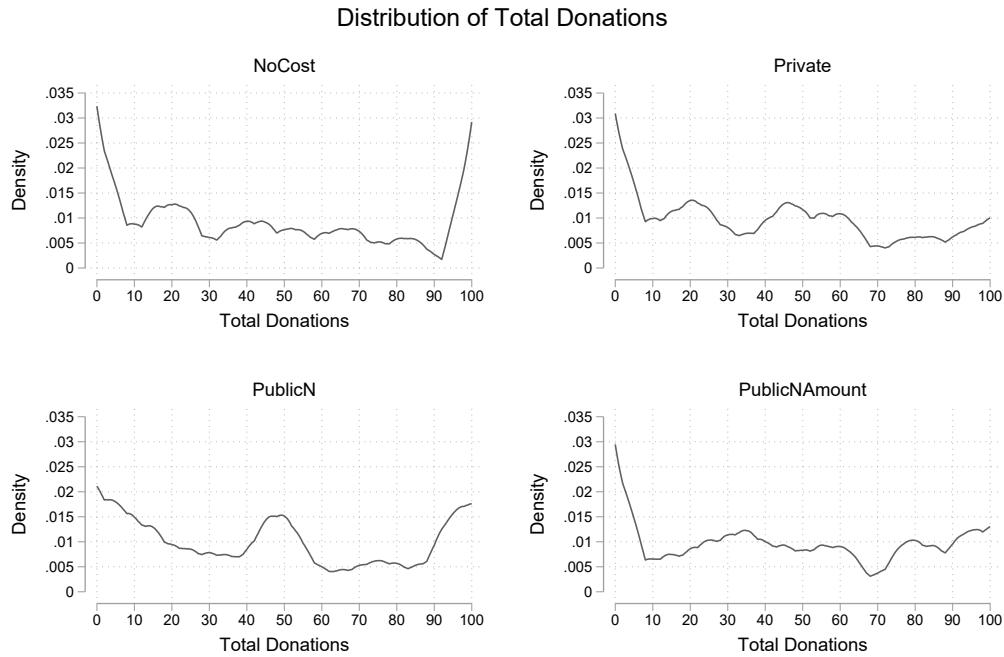
A.2 Tables and Figures

Table A.1: Descriptive Statistics

	NoCost	Private	PublicN	PublicNAmount	Total
Observations (Dictators)	77	170	158	170	575
Donations					
Actual Donations	44.55	40.22	44.64	45.23	43.50
Norm. Exp. Donations	55.35	49.89	52.92	55.05	52.98
Emp. Exp. Donations	41.69	42.66	43.17	42.56	42.64
Charities					
Actual Charities	5.82	3.27	3.82	3.38	3.80
Norm. Exp. Charities	9.60	6.18	4.96	6.59	6.42
Emp. Exp. Charities	7.38	5.65	4.59	4.58	5.27

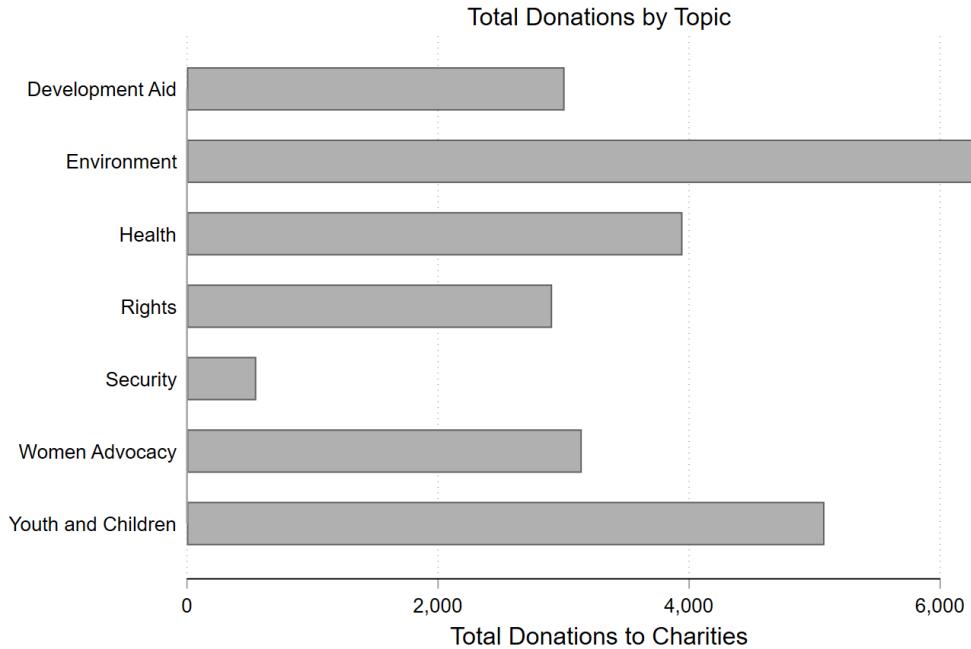
Notes: the table shows average values for each treatment and combining all treatments. Actual Donations and Actual Charities refer to the total donations (excl. transaction costs) and the total number of charities that dictators chose to give to. Norm. (Emp.) Exp. is the normative (empirical) expectations elicited by the dictators after the donation decision. Note that we deliberately randomised fewer dictators into the *NoCost* treatment to obtain more power for the comparisons between levels of observability, cf. the pre-registration. The reason for the lower number of observations in *PublicN* than in *Private* and *PublicNAmount* is that *PublicN* includes an additional control question, cf. Section 3.3.

Figure A.1: Distribution of Total Donations Across Treatments



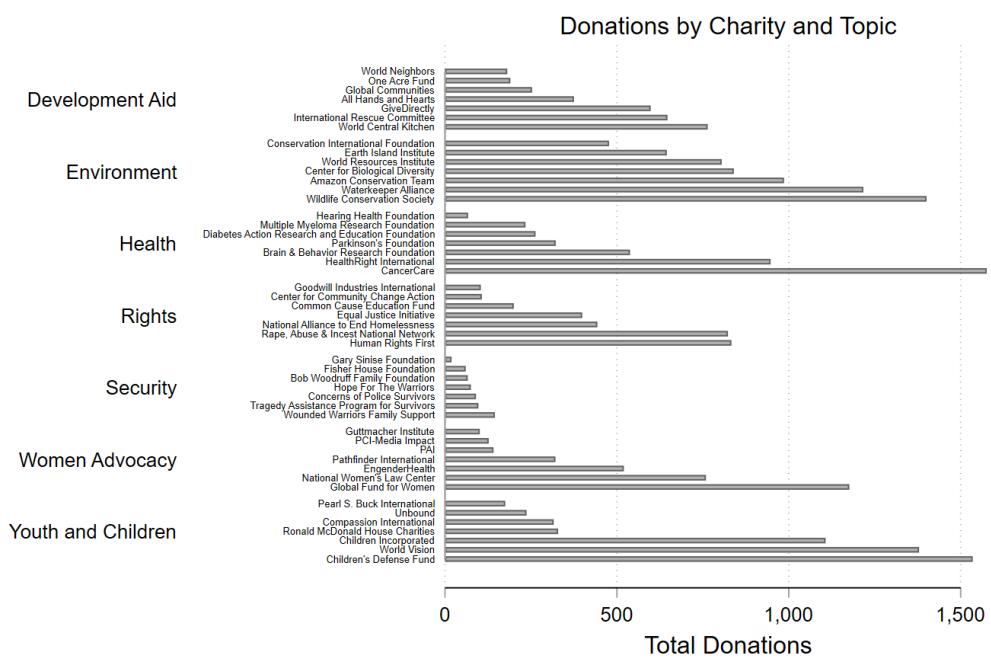
Notes: this figure shows kernel densities of total donations for each treatment, using the Epanechnikov kernel and bandwidth 8.

Figure A.2: Total Donations Across Topics



Notes: this figure shows the total donations to each of the seven topics, pooling all treatments.

Figure A.3: Total Donations Across Charities



Notes: this figure shows the total donations to each charity, grouped by the seven topics. The figure pools donations from all treatments.

Online Supplement

Bluffing in Charitable Giving – An Experiment on Indirect Signalling

Jonas Pilgaard Kaiser & Juliane Koch

13 February 2025

S.1 Power Analysis

We pre-registered that we would aim for 170 dictators in *Private*, *PublicN*, and *PublicNAmount*. This decision was informed by an analysis of statistical power (simulations in Stata, version 17). For comparing dictator decisions about the number of charities to give to, we expected to have a power of 0.8 to detect a minimum treatment difference of approximately 1 charity. To arrive at this result, we assumed that donors would give to an average of 4 charities (similar to the empirical pattern uncovered by [Blackbaud Institute \(2018\)](#)).

For comparing amounts donated between treatments, we run simulations based on giving behaviour in a dictator game by [Kaiser \(2023\)](#), where participants gave on average 37.8 percent of their endowment with a standard deviation of 20.7. Accounting for censoring and using tobit regressions, we expected to have a power of 0.8 to detect a minimum treatment difference of EUR 6.5.

The power simulations are agnostic about the potential explanatory power of the control variables that we use in our analysis. As we do not factor in the efficiency gain from including the control variables, we consider the power estimates to be conservative.

S.2 No Post-Treatment Bias

In this section, we document that there is no evidence of post-treatment bias in the attitudinal variables that we elicit in the survey part of the experiment. Post-treatment bias is a concern that arises when control variables are elicited after the treatment manipulation, as the treatment manipulation could influence the control variables and thereby distort the statistical inference. In the following, we consider possible treatment differences in risk preferences,

answers to the two questions about preferences for spreading donations, answers to the two subscales of the SIMI scale, and the average perceived importance of the seven topics.

We first test for statistical differences when comparing all treatments simultaneously. This has the advantage of reducing the number of tests, thereby reducing the risk of Type I errors. Using the nonparametric Kruskall-Wallis test, we find no statistical differences in any of the aforementioned variables (all $p's > .208$).

Second, we examine all contrasts between treatments in all of the control variables. This analysis has the benefit of capturing differences between treatments in cases where e.g. three of the four treatments are sufficiently similar that the Kruskall-Wallis test does not find overall differences. The disadvantage is that we now conduct six tests for six variables, which implies a potentially inflated Type I error rate. The resulting p -values from Mann-Whintey U-tests are shown in Table S.1. We find no statistically significant differences, but we do find two marginally statistically significant differences. As this is to be expected with 36 tests, we conclude that we find no evidence of post-treatment bias.

Table S.1: Post-Treatment Bias, Pairwise Treatment Comparisons

(a) Risk Preferences				(b) Spread for Equality			
	NoCost	Private	PublicN		NoCost	Private	PublicN
NoCost	.	.	.	NoCost	.	.	.
Private	0.235	.	.	Private	0.358	.	.
PublicN	0.051	0.346	.	PublicN	0.147	0.469	.
PublicNAmount	0.238	0.911	0.431	PublicNAmount	0.370	0.968	0.431

(c) Spread for Efficiency				(d) Internalisation			
	NoCost	Private	PublicN		NoCost	Private	PublicN
NoCost	.	.	.	NoCost	.	.	.
Private	0.821	.	.	Private	0.464	.	.
PublicN	0.302	0.253	.	PublicN	0.948	0.372	.
PublicNAmount	0.619	0.695	0.518	PublicNAmount	0.861	0.444	0.888

(e) Symbolisation				(f) Perceived Importance			
	NoCost	Private	PublicN		NoCost	Private	PublicN
NoCost	.	.	.	NoCost	.	.	.
Private	0.315	.	.	Private	0.984	.	.
PublicN	0.594	0.547	.	PublicN	0.201	0.131	.
PublicNAmount	0.059	0.332	0.084	PublicNAmount	0.217	0.119	0.979

Notes: the tables show p -values for each pairwise comparison between all treatments for the six variables. p -values stem from Mann-Whitney U-tests.

S.3 Robustness

S.3.1 Sample Restrictions

In the main analysis, we included all participants who completed all parts of the experiment and passed all control questions. In the following, we examine the robustness of our results to employing stricter, non-preregistered screeners. First, we exclude participants who provided inconsistent responses to the norm elicitation questions. Here, participants are asked about their beliefs about total donations including transaction costs (when these apply) and their beliefs about the number of charities. In *Private*, *PublicN*, and *PublicNAmount*, the transaction costs of EUR 1 imply that donations should be strictly larger than the number of charities, and we thus exclude 19 participants from the main sample for whom this was not the case. Second, as we run an online experiment, one potential concern is the use of bots in aiding participants. As suggested by [Zhang et al. \(2022\)](#), participants with an odd-numbered screen resolution are potential bots, and this leads to the further exclusion of 20 participants. Third, we exclude participants who answered any control question wrong more times than there were possible multiple choice answers. This can occur since we do not inform participants about what question(s) they get wrong. This leads to the exclusion of further 15 participants. Fourth, we wanted to exclude participants who were flagged by an experimenter in a lab session for needing extensive additional explanation, suffering from technical difficulties, or the like. Yet, while there were seven such participants in our sample, they were all excluded by the previous screeners. Hence, we arrive at a restricted sample of 740 participants.

Across all hypotheses, we find no change in the qualitative conclusions when adding additional sample restrictions. At our preferred level of control (cf. our pre-registration), the incidence ratio for Hypothesis 1 changes from .59 to .61, the incidence ratio for Hypothesis 2.1 changes from 1.21 to 1.18, and the incidence ratio for Hypothesis 2.2 changes from 1.17 to 1.15. For all these cases, the incidence ratios remain statistically significant despite the loss of power from using fewer observations (although the contrast between *PublicN* and *PublicNAmount* now yields $p = .052$). For Hypothesis 3.1, 3.2, and 3.3, the average partial effects change from -1.90, 2.79, and 4.34 to -2.66, 3.10, and 4.24, respectively. In none of these cases do the regressions on the restricted sample yield significant effects.

S.3.2 Models for Analysing Count Data

Negative Binomial Regression vs. Poisson Regression. The Poisson regression is based on the log-likelihood parameterisation of the Poisson probability distribution, and it assumes among other things that the mean of the distribution is equal to its variance. This

assumption is not necessary for the negative binomial regression, which is based on a Poisson-gamma mixture distribution. The negative binomial regression allows for greater variation of the data (overdispersion) compared to a true Poisson distribution, implying that this is more appropriate when the variance of the count variable is greater than its mean. Thus, while the Poisson model has only one parameter, λ , the negative binomial model has two parameters, λ and α , where α is the overdispersion parameter. In all treatments, we find evidence for overdispersion: in *NoCost*, the average number of charities donated to is 5.82 and the variance is 31.89; in *Private*, the average number of charities donated to is 3.27 and the variance is 9.87; in *PublicN*, the average number of charities donated to is 3.82 and the variance is 7.26; in *PublicNAmount*, the average number of charities donated to is 3.38 and the variance is 7.82. Moreover, in all models for H1 and H2, we find that a likelihood-ratio test rejects that $\alpha = 0$, suggesting that there is overdispersion in our models.

The above results supports our use of the negative binomial regression instead of the Poisson regression as the primary model for testing H1 and H2. Yet, examining robustness by running instead Poisson regressions yield similar results: comparing *NoCost* and *Private* (H1) yields an incidence rate ratio of 1.75 ($p < .001$). Comparing *PublicN* to *Private* (H2.1) yields an incidence rate ratio of 1.20 ($p < .001$), and comparing *PublicN* to *PublicNAmount* (H2.2) yields an incidence rate ratio of 1.17 ($p < .001$).

Negative Binomial Regression vs. Zero-Inflated Negative Binomial Regression. While the negative binomial regression may accommodate a large number of zeros, this would restrict the other predicted outcomes. To predict both a large fraction of zeros and not restrict the other outcomes, one may use a zero-inflated negative binomial regression. This is a mixture model that assumes that the excess zero counts come from a model with a binary outcome (e.g. logit, “excess zeros”) and that the remaining counts come from a negative binomial regression (“true zeros”, allowing for overdispersion). We think it unlikely that our data provide a case of an excess number of zeros, as 86 percent of donors give to a charity in *NoCost* and *Private*, 96 percent of donors give to a charity in *PublicN*, and 85 percent of donors give to a charity in *PublicNAmount*. This suggests that a zero-inflated model may not be suitable in our case. Trying to estimate zero-inflated negative binomial regressions with maximum likelihood (in Stata version 18) resulted in convergence issues, corroborating that the zero-inflated negative binomial regression is not suitable for our data.

These results support our use of the negative binomial regression instead of a zero-inflated negative binomial regression. Yet, we manage to achieve convergence by (i) transforming our measure of volunteering to a continuous rather than a categorical variable, (ii) dropping

the dummies for the different study areas, and (iii) estimating the logit component of the zero-inflated model without controls. Examining robustness by running instead zero-inflated negative binomial regressions yield similar results: we find an incidence rate ratio of 1.72 when comparing *NoCost* and *Private* (H1, $p < .001$), an incidence rate ratio of 1.20 when comparing *PublicN* and *Private* (H2.1, $p < .001$), an incidence rate ratio of 1.15 when comparing *PublicN* and *PublicNAmount* (H2.2, $p = .062$).

In sum, the data support using a negative binomial regression as the main specification for analysing the number of charities that donors give to. Yet, using instead alternative count data models yields similar results.

S.3.3 Updating the Participation Fee

After starting data collection, we noticed that the experiment lasted slightly longer than in the pilot, implying that we set the participation fee too low for ensuring ethical remuneration of the participants. As a consequence, we raised the participation fee from EUR 3 to EUR 4.5, and participants taking part in the experiment after the first two sessions were aware of the participation fee before starting the experiment.

To ensure that our treatment effects were not influenced by any potential wealth effects from this change of the participation fee, we estimate all our primary specifications when controlling for the level of the participation fee. Importantly, we confirm that all our results were unaffected by this change: we still find significant effects for the number of charities donors give to (H1: $p < .001$; H2.1: $p = .023$; H2.2: $p = .035$), whereas the results for total donations remain statistically insignificant (H3.1: $p = .624$; H3.2: $p = .480$; H3.3: $p = .241$).

S.3.4 Different Operationalisations of Control Variables

Preferences for Spreading Donations. In our main specifications reported in Section 4, we preregistered to control for two variables measuring preferences for diversification. Specifically, the participants rated their agreement with the statements “It is important to spread one’s donations to reduce the risk that a particular charity will miss out” and “It is important to spread one’s donations to reduce the risk that donations will be spent inefficiently”. One issue with using these control variables jointly is, however, that they turned out to be strongly correlated in our data ($r = 0.455$, $p < .001$). If we instead average the responses to the two statements to construct one variable capturing preferences for spreading donations, we find that this strongly predicts how many charities participants give to. Across the tests for H1 and H2, the incidence rate ratio for preferences for spreading donations is between 1.54 and 3.50, all $p's < .050$.

Importantly, our results are unchanged when we change the main specification by replacing the two variables measuring preferences for diversification with their average. Doing so yields significant results for the number of charities participants give to (H1: $p < .001$; H2.1: $p = .021$; H2.2: $p = .038$), while the results for total donations remain statistically insignificant (H3.1: $p = .659$; H3.2: $p = .375$; H3.3: $p = .235$).

Volunteering. In our main specifications reported in Section 4, we control for volunteering as a categorical variable, essentially including a dummy for each possible interval reported by participants. Controlling instead for volunteering as a continuous variable taking on the middle value in each interval does not alter the results: across all tests of our hypotheses, volunteering does not predict neither the number of charities (H1: $p = .830$; H2.1: $p = .307$; H2.2: $p = .109$) nor the total donations (H3.1: $p = .474$; H3.2: $p = .596$; H3.3: $p = .293$). Moreover, our main results for the treatment comparisons remain the same for both the number of charities (H1: $p < .001$; H2.1: $p = .019$; H2.2: $p = .025$) and the total donations (H3.1: $p = .563$; H3.2: $p = .467$; H3.3: $p = .220$).

S.3.5 Correcting for Multiple Hypothesis Testing

We preregistered the six main hypothesis that we tested in Section 4, of which H1 concerns the role of efficiency concerns, H2.1-2 concern (indirect) signalling through the number of charities, and H3.1-3 mainly concern (direct) signalling through the total donations. Testing six rather than one hypothesis implies that our expected overall type I error rate – the probability of finding an effect when there is in fact no effect – is larger than the significance level of .05. We therefore preregistered to also report p -values where we correct for the false discovery rate (FDR) and family-wise error rate (FWER). As we adjust the p -values for multiple hypothesis testing, note that while the type I error rate decreases, the type II error rate – the probability of failing to find an effect when there is in fact an effect – increases.

False Discovery Rate. The FDR is the expected share of detected effects that are false. We control for the FDR using the procedure by [Benjamini et al. \(2006\)](#), which is a linear step-up procedure to obtain multiplicity-adjusted p -values (so-called q -values, see also [Anderson, 2008](#)). Controlling the FDR at a level of .05 leads to q -values that imply at least marginal statistical significance for the hypotheses concerning the number of charities (H1: $p = .001$, H2.1: $p = .058$, H2.2: $p = .063$). Unsurprisingly, all results for total donations remain statistically insignificant (all p 's $> .226$).

Family-Wise Error Rate The FWER is the probability of falsely rejecting at least one null hypothesis among all hypotheses in a family of tests (all six hypotheses in our case). Controlling the FWER is a more conservative alternative to controlling the FDR, implying that this test involves less statistical power (i.e. a greater risk of a type II error). We control the FWER by the resampling procedure put forth by [Westfall and Young \(1993\)](#), using the *wyoung* package in Stata version 18. This leads to multiplicity-adjusted p -values that suggest that our results related to the number of charities are at least marginally statistically significant ($H_1: p < .001$, $H_{2.1}: p = .080$, $H_{2.2}: p = .080$). Again, all results for total donations remain insignificant (all p' s $> .4$).

S.4 Discussion

S.4.1 The Role of Social Norms

As explained in Section 3.2, we elicit normative and empirical expectations from the dictators about both the number of charities and the total donations. In the following, we first present the expectations of the dictators and compare these with the actual decisions made by the dictators.

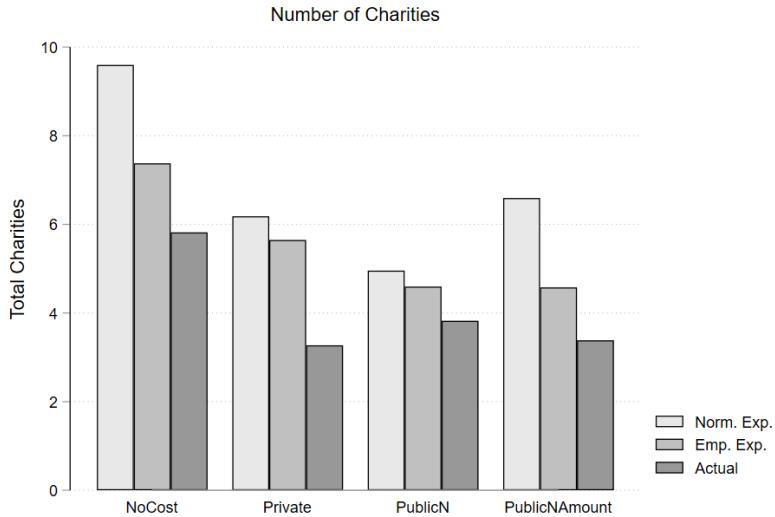
Charities. We first examine the normative and empirical expectations related to the decision about how many charities to give to. As seen in Figure S.1, we find in all treatments that the average normative and empirical expectations are considerably greater than one. That is, dictators on average believe that (i) a separate sample has stated that they believe one ought to give to more than one charity, and (ii) the median dictator gives to more than one charity. Because giving to only one charity is the most efficient way of giving in our setting, this suggests that dictators on average expect others to assign importance to giving to multiple charities. This corroborates earlier findings in the literature that individuals tend to care more about *giving* than giving *efficiently* ([Berman et al., 2018](#); [Metzger and Günther, 2019](#)). In comparing the average decisions made by dictators to their expectations, we use negative binomial regressions while clustering on the level of the dictator. We find that the average decision made by dictators falls short of both the normative and empirical expectations in all treatments (all p' s $< .053$).

Yet, comparing normative and empirical expectations between *NoCost* and *Private* shows that both expectations decrease with transaction costs. That is, dictators believe that when there are transaction costs, others state that one ought to give to fewer charities and other donors actually give to fewer charities on average (negative binomial regressions, both p' s $<$

.001).

In sum, we find that there is a norm of giving to multiple charities, but the average normative and empirical expectations decrease when there are transaction costs.

Figure S.1: Expectations Related to Number of Charities



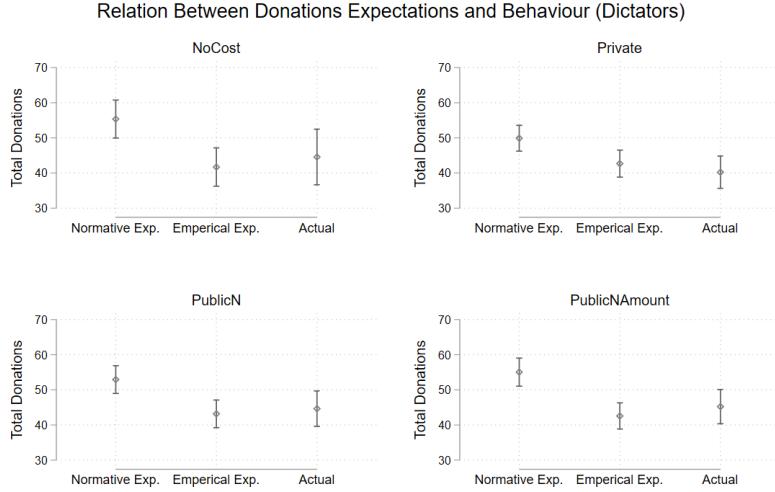
Notes: the figure presents the average normative and empirical expectations of the number of charities in each treatment and compares this to the actual donation pattern on average.

Donations. We next look at the normative and empirical expectations about the total donations. As seen in Figure S.2, dictators in all treatments have normative expectations that exceed both the empirical expectations and actual donations (Wilcoxon signed-rank tests, all $p's < .017$). Thus, while dictators on average have normative expectations of donations of EUR 50-55 across all treatments, empirical expectations are only EUR 42-43 and actual donations EUR 40-45. In contrast, the average empirical expectations are aligned with the average donations (Wilcoxon signed-rank tests, all $p's > .216$).

Looking instead across treatments, we find in general no differences in normative expectations (MWU-test, all $p's > .370$), but the contrast between *Private* and *PublicNAmount* is marginally statistically significant (MWU-test, $p = .059$). In terms of empirical expectations, we find no difference among any treatments (MWU-test, all $p's > .719$). That is, we find that neither expectation responds to the introduction of transaction costs nor observability.

In sum, we find in all treatments that normative expectations exceed both empirical expectations and average donations. The treatments do not influence any of the two expectations.

Figure S.2: Expectations Related to Donations



Notes: the figure presents average normative and empirical expectations about the total donations in each treatment and compares this to the total donations made by donors on average. The bars display 95 percent confidence intervals.

Spectators. Lastly, we asked spectators in both *PublicN* and *PublicNAmount* about their personal normative beliefs, i.e. how many charities they think dictators ought to give to and how much they think dictators ought to give. For the number of charities, we find median responses in both treatments of 4 and 3, respectively. That is, in both treatments spectators believe that one ought to give to more than 1 charity, suggesting a preference for spreading donations. The answers in the two treatments are not statistically significantly different (negative binomial regression, $p = .671$). With regards to total donations, the median in both treatments is EUR 55, and answers are not statistically significantly different (MWU-test, $p = .724$).

S.4.2 Gender Differences

In this section, we report gender difference in giving behaviour, i.e. number of charities and total amount, and how this relates to existing literature. Information about preferences for efficiency and equality as well as the Self-Importance of Moral Identity scale allows us to identify underlying mechanisms for such gender differences. Finally, we provide results on differences between men and women as regard the responsiveness to partial observability.

Preferences for Spreading Donations. First, we find that women are more likely to agree to the statement “It is important to spread one’s donations to reduce the risk of any organisation coming up short”. The interpretation of the coefficient is that men tend to score 0.1 lower in their agreement on a scale from 0 (“Strongly disagree”) to 1 (“Strongly agree”), and the difference is statistically significant for all levels of control (OLS regressions, all p 's < .038, cf. Table S.3). In contrast, we find no gender differences in agreement with the statement “It is important to spread out your donations to reduce the risk that donations will be spent inefficiently” (OLS regressions, all p 's > .358).

Table S.3: Gender and Preferences for Spreading Donations

	Spread for Efficiency			Spread for Equality		
Male	-0.03 (0.03)	-0.02 (0.03)	-0.01 (0.03)	-0.09*** (0.03)	-0.08*** (0.03)	-0.06** (0.03)
Constant	0.42*** (0.02)	0.25*** (0.08)	0.19 (0.13)	0.48*** (0.02)	0.36*** (0.08)	0.14 (0.13)
Demographic Controls	No	Yes	Yes	No	Yes	Yes
Attitudinal Controls	No	No	Yes	No	No	Yes
Observations	498	498	498	498	498	498

Notes: OLS regressions with spread preferences as dependent variable, transformed to Proportion of Maximum Possible, and robust standard errors in parentheses. The regressions exclude the NoCost treatment, as this treatment does not involve transaction costs of spreading donations, but results are robust to including this.

* p < 0.10, ** p < 0.05, *** p < 0.01

Self-Importance of Moral Identity. Second, we find that women score higher on both sub-scales of the 10-item Self-Importance of Moral Identity (SIMI) scale. Specifically, the SIMI scale elicits the degree to which a person wants to possess moral qualities (Internalisation) and the degree to which a person believes that their actions communicate being moral to others (Symbolisation). For Internalisation, we find that women score 0.04 higher than men on a scale from 0 to 1, and this difference is statistically significant for all levels of control (OLS regressions, all p 's < .014, cf. Table S.4). For Symbolisation, the difference is 0.08 on a scale from 0 to 1 (OLS regressions, all p 's < .001, cf. Table S.4). That is, women in general state that morality is more important for their self-identity, and this is true for both their desire to possess moral qualities and to communicate being moral.

Table S.4: Gender and Self-Importance of Moral Identity

	Internalisation			Symbolisation		
Male	-0.04*** (0.01)	-0.04*** (0.01)	-0.03** (0.01)	-0.08*** (0.02)	-0.07*** (0.02)	-0.06*** (0.02)
Constant	0.84*** (0.01)	0.87*** (0.03)	0.85*** (0.03)	0.45*** (0.01)	0.32*** (0.05)	0.26*** (0.06)
Demographic Controls	No	Yes	Yes	No	Yes	Yes
Attitudinal Controls	No	No	Yes	No	No	Yes
Observations	575	575	575	575	575	575

Notes: OLS regressions with SIMI subscales as dependent variable, transformed to Proportion of Maximum Possible, and robust standard errors in parentheses.

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

Differences in Charities and Donations. We now turn to the actual behaviour of men and women in the role of dictators. Here, we find that men tend to give to 16 percent fewer charities (negative binomial regression, $p = .016$), and men on average donate EUR 11.44 less than women (average partial effect, tobit regression, $p < .001$). While both differences remain statistically significant when including demographic controls, only the difference in average donations remain when also including attitudinal controls (average partial effect of EUR 6.45, $p = .044$), whereas the difference in the number of charities becomes statistically insignificant ($p = .494$), cf. Tables S.5 and S.6. This reduction of the estimated difference and statistical significance can be explained by the fact that both preferences for spreading donations, Internalisation, and Symbolisation to some extent predict the donation patterns by the dictators. Hence, the gender differences in attitudes towards spreading donations and the self-importance of morality explain gender differences in the number of charities and partly explains gender differences in total donations.

These results extend previous findings on gender differences in charitable giving. First, Bloom (2016) describes that women in general give to more charities than men when giving is influenced by empathy, and women have been shown to be less concerned about efficiency than men (Croson and Konow, 2009). Our results corroborate these findings and suggest that the gender differences can be explained by (i) the different preferences for giving to multiple charities out of a fear that some charities might miss out and (ii) how important the moral identity of the genders is.

Table S.5: Gender and the Number of Charities

	(1)	(2)	(3)
Male	0.84** (0.06)	0.85** (0.06)	0.95 (0.07)
Private	0.57*** (0.06)	0.56*** (0.06)	0.59*** (0.06)
PublicN	0.68*** (0.07)	0.67*** (0.07)	0.70*** (0.07)
PublicNAmount	0.58*** (0.06)	0.58*** (0.06)	0.59*** (0.06)
Age	0.99 (0.01)	0.99 (0.01)	
Social Sciences	1.00 (0.13)	0.97 (0.11)	
Humanities	0.97 (0.11)	0.97 (0.10)	
Economics	0.95 (0.10)	0.96 (0.09)	
Medicine	0.77 (0.18)	0.80 (0.17)	
Law	1.11 (0.13)	1.09 (0.12)	
Other Field of Study	1.03 (0.12)	1.04 (0.11)	
1-5 Hours, Volunteering	1.04 (0.11)	0.96 (0.10)	
5-10 Hours, Volunteering	1.14 (0.13)	0.94 (0.10)	
10-20 Hours, Volunteering	0.88 (0.11)	0.77** (0.09)	
20-30 Hours, Volunteering	1.05 (0.15)	0.86 (0.11)	
More Than 30 Hours, Volunteering	1.02 (0.10)	0.91 (0.09)	
Spread Donations for Equality		2.44*** (0.29)	
Spread Donations for Efficiency		1.00 (0.12)	
Internalisation (SIMI)		1.53* (0.38)	
Symbolisation (SIMI)		2.10*** (0.34)	
Observations	575	575	575

Notes: negative binomial regressions with the number of charities as the dependent variable. The baseline is a person in the *NoCost* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are incidence rate ratios.

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

Table S.6: Gender and Total Donations

	(1)	(2)	(3)
Male	-11.44*** (3.20)	-10.87*** (3.25)	-6.45** (3.19)
Private	-6.38 (5.04)	-5.82 (5.01)	-4.51 (4.83)
PublicN	0.92 (5.09)	-0.03 (5.07)	0.29 (4.88)
PublicNAmount	-1.41 (5.04)	-1.88 (5.05)	-1.86 (4.87)
Age		-0.59** (0.29)	-0.48* (0.28)
Social Sciences		0.45 (5.52)	-1.86 (5.30)
Humanities		2.87 (5.06)	2.58 (4.86)
Economics		-3.05 (4.51)	-1.93 (4.34)
Medicine		-10.53 (9.60)	-13.09 (9.28)
Law		-8.79* (5.14)	-9.03* (4.93)
Other Field of Study		4.83 (5.26)	5.13 (5.07)
1-5 Hours, Volunteering		-3.75 (4.69)	-5.27 (4.54)
5-10 Hours, Volunteering		-2.86 (5.16)	-7.45 (5.08)
10-20 Hours, Volunteering		-0.69 (5.26)	-2.12 (5.19)
20-30 Hours, Volunteering		0.31 (6.16)	-5.65 (6.08)
More Than 30 Hours, Volunteering		4.19 (4.22)	1.97 (4.30)
Spread Donations for Equality			23.81*** (5.64)
Spread Donations for Efficiency			-13.77** (5.51)
Internalisation (SIMI)			51.76*** (11.18)
Symbolisation (SIMI)			9.11 (7.62)
Observations	575	575	575

Notes: Average partial effects from tobit regressions with total donations as dependent variable, robust standard errors in parentheses. The baseline is a person in the *NoCost* treatment who studies Natural Sciences and does not volunteer (0 Hours).

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

Responsiveness to Treatments. Finally, we look at how responsive men and women are to the *PublicN* treatment, which allows for indirect signalling. As our study is powered to test for main effects and not interaction effects, we pool all other treatments to increase statistical power. In doing so, we find that women do not respond to the *PublicN* treatment; the incidence rate ratio is .92 and statistically indistinguishable from 1 (negative binomial regression, $p = .442$), and this is unaffected by the level of control, cf. Table S.7. In contrast, the incidence rate ratio for men is 1.35, and this difference is marginally statistically significant ($p < .062$) and unaffected by the level of control, cf. Table S.7. This implies that men are more responsive to the *PublicN* treatment than women in increasing the number of charities they give to (although from a lower baseline as shown above).

Table S.7: Gender and Responsiveness to PublicN

	(1)	(2)	(3)
Male	0.75*** (0.07)	0.76*** (0.07)	0.86* (0.07)
PublicN	0.92 (0.09)	0.91 (0.09)	0.95 (0.09)
Male \times PublicN	1.35* (0.22)	1.36* (0.22)	1.33* (0.20)
Demographic Controls	No	Yes	Yes
Attitudinal Controls	No	No	Yes
Observations	575	575	575

Notes: negative binomial regressions with the number of charities as the dependent variable. The demographic controls are age, gender, field of study, and volunteering. The attitudinal controls are preferences for spreading donations (two questions) and the two subscales of the Self-Importance of Moral Identity scale. Coefficients are incidence rate ratios.

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

S.4.3 1/N Heuristic

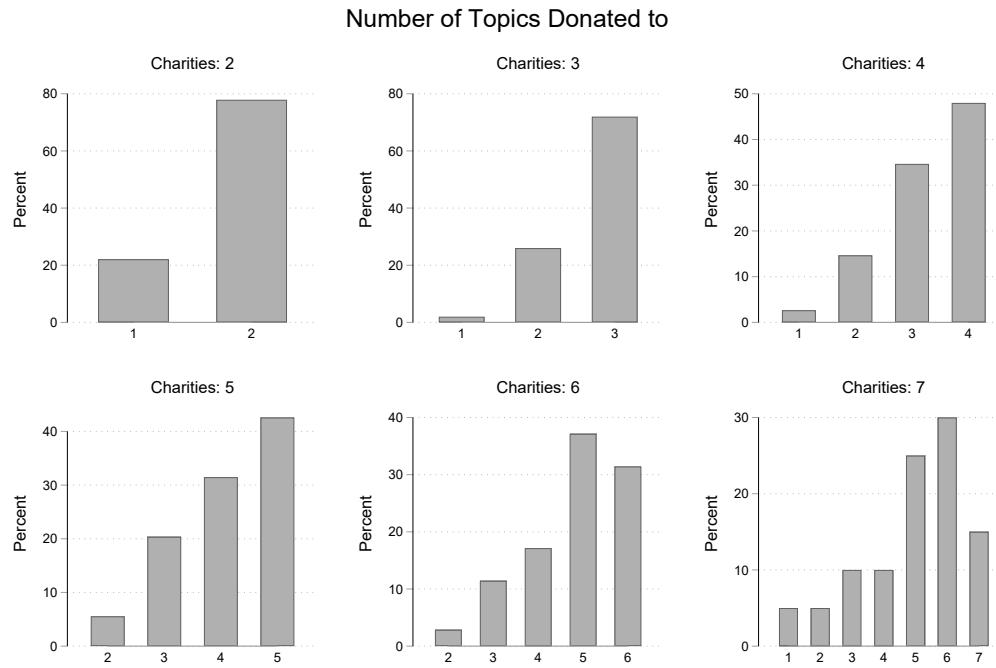
Of the dictators who donate to more than one charity, 42 percent apply a naive form of diversification, in which they give the same share of their donations to each of the charities they donate to (cf. the 1/N heuristic, [Benartzi and Thaler, 2001](#)). One might suspect that the tendency to use a 1/N heuristic is lower in *PublicNAmount*, as donors have the opportunity to signal to the spectators what charities are relatively more important. Yet, if anything,

the opposite seems to be true: in *PublicNAmount*, 50 percent of dictators who give to more than one charity use the $1/N$ heuristic; the respective shares for the other treatments is 37-42 percent.

S.4.4 Diversification Across Topics

Figure S.3 pools all treatments and shows the distribution of how many topics dictators gave to, separated by how many charities the dictators donate to (from 2 to 7). For instance, among the 100 dictators who gave to three charities, 72 picked those charities from three different topics, 26 picked them from two different topics, and the remaining 2 dictators picked them from the same topic. For all dictators who gave to 2-5 charities, picking each charity from its own topic is the mode of the distribution. For the dictators who gave to 6 or 7 charities, the mode is instead to give to one less topic than the number of charities, i.e. 5 or 6, respectively. This suggests that dictators who give to more charities tend to choose these from different topics.

Figure S.3: Donations Spread Across Topics



Notes: this figure pools all treatments and shows the distribution of the number of topics dictators donate to, separated by the number of charities the dictators donated to (from 2 to 7). For instance, the top left graph shows the distribution of the number of topics for the dictators who gave to two charities. Of these dictators, 78 percent donated to two different topics, whereas 22 percent donated to two charities within the same topic.

S.4.5 Experimenter Demand Is Unlikely to Drive the Effects

Experimenter demand effects (EDE) refer to changes in participants' behaviour due to expectations about what the researcher wants or perceives as appropriate behaviour (Orne, 1962; Zizzo, 2010). Although there is only limited evidence of EDE in experimental economics (Camerer, 2015; de Quidt et al., 2019), we address potential concerns of EDE in this section and explain why it is unlikely to influence the qualitative results of this paper.

One possible concern is that the instructions influence how much donors give in the experiment, for example, through the examples and control questions that are provided. Yet, the examples that are provided to explain the task balance high and low donations to avoid such influence. Thus, when reading the rules of the experiment, participants see both an example with donations of 5€ to one charity and total donations of 40€ to three charities. In the control questions, participants are asked about earnings and transaction costs for total donations of 20€, 5€, and 40€ to 2, 1, and 3 charities, respectively. These examples were also constant across treatments. Consequently, the examples avoid providing a strong anchor for the donors. Accordingly, Figure A.1 shows that the size of donations were distributed through the entire range with no strong bunching on a particular amount.

A second possible concern is that highlighting transaction costs could signal to donors that it is better to only give to one charity. In particular, the instructions in all treatments with transaction costs explain that giving to more charities leads to greater transaction costs, thereby reducing the total amount that can be given to the charities. In thus explaining the consequences of transaction costs, donors could perceive that they should not spread donations. Yet, as documented in Table A.1, the average normative expectations for the number of charities to give to in the treatments with transaction costs range between 4.96 and 6.59. This is considerably larger than the average number of charities that donors give to in these treatments (3.27-3.82). Thus, explaining the consequences of the transaction costs did not lead the participants to think of it as inappropriate to spread donations to many charities.

In sum, we consider it unlikely that EDE is driving the qualitative results of this paper. This is supported by further design choices that are often argued to reduce EDE: for example, we use a between-subjects design, in which participants are blind to the other treatments (Charness et al., 2012). Also, the experiment was conducted as an online lab study, which avoids the participants' reliance on us rejecting or accepting their work based on their responses (as is e.g. the case with crowdsourcing platforms such as Amazon's Mechanical Turk, Mummolo and Peterson, 2019). The online lab format also implied that participants read the instructions on their own and had no face-to-face interaction with the experimenter (Zizzo, 2010). And the experimenters in charge of conducting the online sessions did not know the purpose or

hypotheses of the study ([de Quidt et al., 2019](#)).

In addition to EDE, note that donors in the observed treatments may be influenced to act based on expectations about what their peers consider appropriate. Specifically, donors are told that two other participants will learn their last names and assess them based on either what charities they donate to (*PublicN*) or what charities they donate to and how much (*PublicNAmount*). This may induce donors to behave in such a way that will increase their social esteem, for example, by increasing donations to appear altruistic. Importantly, this type of behavioural change based on the expectations and reactions of others is exactly what we aim to study in this paper.

S.5 Further Tables and Figures

S.5.1 Main Analysis

Table S.8: Sample characteristics

	Freq.	Percent
Gender		
Female	511	64.4
Male	282	35.6
Field of Study		
Natural Sciences	190	24.0
Social Sciences	93	11.7
Humanities	115	14.5
Economics	167	21.1
Medicine	22	2.8
Law	110	13.9
Other	96	12.1
Volunteering in the Previous Year		
0 Hours	272	34.3
1-5 Hours	133	16.8
5-10 Hours	96	12.1
10-20 Hours	80	10.1
20-30 Hours	50	6.3
More Than 30 Hours	162	20.4
Total	793	100.0

Table S.9: Summary statistics by Treatment and Role

	NoCost	Private	PublicN	PublicNAmount	Total
Dictators					
Risk preferences	0.46	0.50	0.52	0.49	0.50
Spread Donations for Equality	0.49	0.45	0.43	0.46	0.45
Spread Donations for Efficiency	0.44	0.42	0.39	0.41	0.41
Internalisation	0.83	0.82	0.83	0.83	0.83
Symbolisation	0.39	0.42	0.41	0.44	0.42
Spectators					
Risk preferences	.	.	0.52	0.51	0.52
Spread Donations for Equality	.	.	0.53	0.42	0.48
Spread Donations for Efficiency	.	.	0.47	0.44	0.46
Internalisation	.	.	0.88	0.85	0.87
Symbolisation	.	.	0.40	0.44	0.42
Social Norm Eliciters					
Risk preferences	0.52	0.43	0.47	0.47	0.47
Spread Donations for Equality	0.47	0.36	0.35	0.44	0.41
Spread Donations for Efficiency	0.36	0.32	0.27	0.35	0.33
Internalisation	0.82	0.85	0.85	0.86	0.84
Symbolisation	0.44	0.39	0.40	0.40	0.41

Notes: the table shows the average values by treatment and role. All variables are standardised as proportions of maximum possible (POMP) scores with 0 (1) being the lowest (highest) possible score. ‘Spread Donations for Equality’ refers to agreement with the statement “It is important to spread out one’s donations to reduce the risk that any specific charity misses out on funds”. ‘Spread Donations for Efficiency’ refers to agreement with the statement “It is important to spread out one’s donations to reduce the risk that the donations are used inefficiently”. Internalisation and Symbolisation are the subscales of the Self-Importance of Moral Identity scale.

Table S.10: Transaction Costs and the Number of Charities (H1)

	(1)	(2)	(3)
Private	0.56*** (0.07)	0.55*** (0.07)	0.59*** (0.07)
Age		0.97** (0.01)	0.98** (0.01)
Male		0.79* (0.10)	0.90 (0.11)
Social Sciences		0.85 (0.18)	0.83 (0.16)
Humanities		0.83 (0.16)	0.84 (0.15)
Economics		0.84 (0.15)	0.86 (0.14)
Medicine		0.82 (0.28)	0.78 (0.26)
Law		1.19 (0.24)	1.09 (0.20)
Other Field of Study		1.04 (0.25)	0.96 (0.22)
1-5 Hours, Volunteering		1.28 (0.24)	1.28 (0.22)
5-10 Hours, Volunteering		1.33 (0.25)	1.08 (0.20)
10-20 Hours, Volunteering		0.99 (0.20)	0.89 (0.18)
20-30 Hours, Volunteering		1.17 (0.27)	0.91 (0.20)
More Than 30 Hours, Volunteering		1.27 (0.22)	1.09 (0.19)
Spread Donations for Equality			2.13*** (0.45)
Spread Donations for Efficiency			0.76 (0.15)
Internalisation (SIMI)			2.52** (1.13)
Symbolisation (SIMI)			2.56*** (0.75)
Observations	247	247	247

Notes: negative binomial regressions with the number of charities as the dependent variable. The baseline is a person in the *NoCost* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are incidence rate ratios.

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

Table S.11: Observability the Number of Charities (H2)

	PublicN vs. Private			PublicN vs. PublicNAmount		
	(1)	(2)	(3)	(4)	(5)	(6)
PublicN	1.17*	1.20**	1.21**	1.13	1.14	1.17**
	(0.10)	(0.11)	(0.10)	(0.09)	(0.10)	(0.09)
Age		0.98**	0.97***		1.01	1.00
		(0.01)	(0.01)		(0.01)	(0.01)
Male		0.98	1.06		0.86	0.98
		(0.09)	(0.09)		(0.08)	(0.08)
Social Sciences		1.23	1.18		1.04	1.01
		(0.19)	(0.17)		(0.16)	(0.14)
Humanities		1.08	1.06		1.05	1.03
		(0.16)	(0.14)		(0.15)	(0.13)
Economics		1.11	1.08		0.99	0.96
		(0.15)	(0.13)		(0.13)	(0.11)
Medicine		0.91	0.93		0.70	0.79
		(0.23)	(0.22)		(0.22)	(0.23)
Law		1.20	1.10		0.99	1.03
		(0.18)	(0.15)		(0.14)	(0.13)
Other Field of Study		1.02	0.98		1.03	1.04
		(0.16)	(0.14)		(0.13)	(0.12)
1-5 Hours, Volunteering		1.02	0.94		0.91	0.80*
		(0.14)	(0.12)		(0.12)	(0.09)
5-10 Hours, Volunteering		1.20	1.03		1.07	0.82
		(0.17)	(0.14)		(0.15)	(0.11)
10-20 Hours, Volunteering		0.93	0.79		0.84	0.68***
		(0.15)	(0.12)		(0.13)	(0.09)
20-30 Hours, Volunteering		1.07	0.86		0.95	0.79
		(0.19)	(0.15)		(0.17)	(0.12)
More Than 30 Hours, Volunteering		1.02	0.92		0.93	0.82*
		(0.13)	(0.11)		(0.10)	(0.08)
Spread Donations for Equality			2.15***			2.60***
			(0.34)			(0.35)
Spread Donations for Efficiency			1.08			1.35**
			(0.17)			(0.18)
Internalisation (SIMI)			1.00			1.17
			(0.31)			(0.33)
Symbolisation (SIMI)			2.12***			1.74***
			(0.45)			(0.34)
Observations	328	328	328	328	328	328

Notes: negative binomial regressions with the number of charities as the dependent variable. The baseline for Specifications (1-3) is a person in the *Private* treatment who studies Natural Sciences and does not volunteer (0 Hours). The baseline for Specifications (4-6) is a person in the *PublicNAmount* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are incidence rate ratios.

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

Table S.12: Total Donations, PublicNAmount vs. PublicN (H3.1)

	(1)	(2)	(3)
PublicNAmount	-1.17 (3.91)	-1.58 (3.93)	-1.90 (3.78)
Age		-0.32 (0.41)	-0.23 (0.40)
Male		-10.27** (4.16)	-6.84* (4.07)
Social Sciences		8.40 (7.25)	4.62 (7.02)
Humanities		4.83 (6.65)	3.49 (6.45)
Economics		-2.74 (5.91)	-2.10 (5.71)
Medicine		-24.99* (13.79)	-25.32* (13.40)
Law		-9.56 (6.45)	-9.60 (6.23)
Other Field of Study		1.48 (6.16)	1.16 (6.00)
1-5 Hours, Volunteering		-4.73 (5.96)	-7.47 (5.83)
5-10 Hours, Volunteering		0.40 (6.90)	-4.18 (6.82)
10-20 Hours, Volunteering		-1.50 (6.83)	-2.76 (6.80)
20-30 Hours, Volunteering		6.70 (8.09)	1.04 (7.97)
More Than 30 Hours, Volunteering		2.03 (5.16)	0.69 (5.26)
Spread Donations for Equality			29.04*** (7.08)
Spread Donations for Efficiency			-12.84* (6.98)
Internalisation (SIMI)			38.57*** (14.22)
Symbolisation (SIMI)			3.01 (10.00)
Observations	328	328	328

Notes: tobit regressions with total donations as the dependent variable. The baseline is a person in the *PublicN* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are average partial effects, robust standard errors in parentheses.

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

Table S.13: Total Donations, PublicNAmount vs. Private (H3.2)

	(1)	(2)	(3)
PublicNAmount	4.84 (3.93)	3.83 (4.01)	2.79 (3.92)
Age		-0.59 (0.36)	-0.50 (0.35)
Male		-9.37** (4.28)	-4.34 (4.33)
Social Sciences		2.85 (7.73)	1.01 (7.55)
Humanities		6.92 (6.59)	6.86 (6.44)
Economics		5.37 (5.80)	5.75 (5.66)
Medicine		-4.81 (12.36)	-3.51 (12.21)
Law		-1.85 (6.70)	-2.55 (6.53)
Other Field of Study		8.15 (7.56)	9.93 (7.40)
1-5 Hours, Volunteering		-3.65 (6.04)	-4.78 (5.96)
5-10 Hours, Volunteering		-0.48 (6.79)	-4.45 (6.82)
10-20 Hours, Volunteering		0.49 (6.73)	-1.01 (6.78)
20-30 Hours, Volunteering		4.50 (8.15)	-1.96 (8.20)
More Than 30 Hours, Volunteering		4.11 (5.59)	1.17 (5.73)
Spread Donations for Equality			18.86** (7.47)
Spread Donations for Efficiency			-11.16 (7.37)
Internalisation (SIMI)			38.95*** (14.91)
Symbolisation (SIMI)			14.89 (9.80)
Observations	340	340	340

Notes: tobit regressions with total donations as the dependent variable. The baseline is a person in the *Private* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are average partial effects, robust standard errors in parentheses.

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

Table S.14: Total Donations, PublicN vs. Private (H3.3)

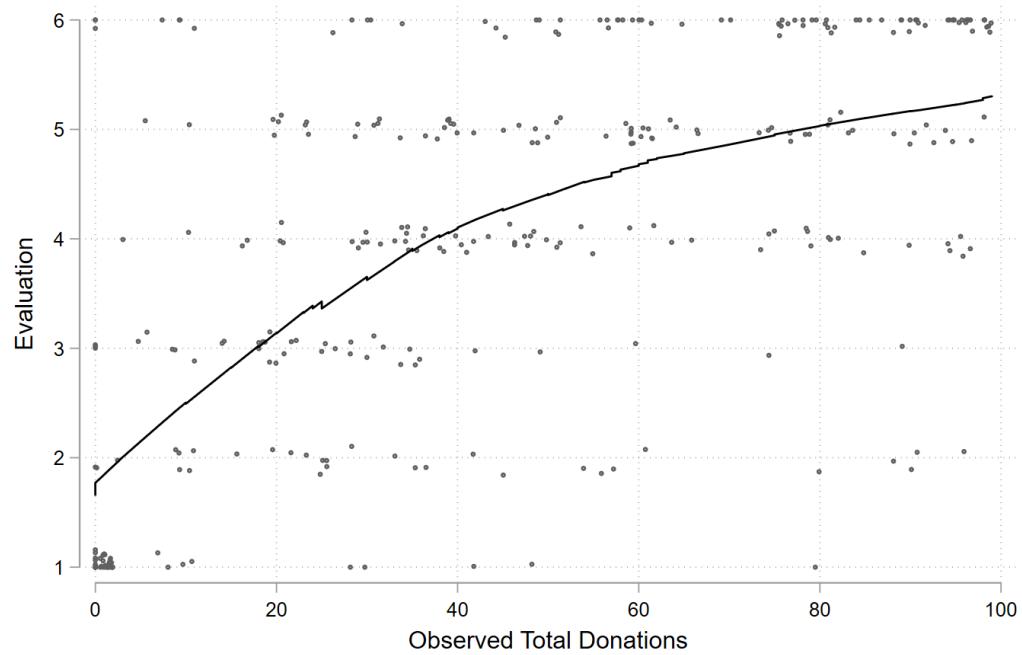
	(1)	(2)	(3)
PublicN	5.94 (3.78)	5.15 (3.80)	4.34 (3.73)
Age		-0.98*** (0.35)	-0.90*** (0.34)
Male		-9.23** (3.96)	-6.06 (3.98)
Social Sciences		7.67 (6.63)	5.39 (6.51)
Humanities		5.16 (6.24)	4.14 (6.12)
Economics		-2.42 (5.61)	-2.48 (5.55)
Medicine		0.56 (10.08)	-4.40 (10.02)
Law		-0.99 (6.45)	-2.82 (6.33)
Other Field of Study		8.13 (6.53)	6.58 (6.44)
1-5 Hours, Volunteering		-3.90 (5.78)	-3.65 (5.73)
5-10 Hours, Volunteering		-3.04 (6.08)	-5.40 (6.08)
10-20 Hours, Volunteering		1.92 (6.65)	-0.04 (6.66)
20-30 Hours, Volunteering		-1.07 (7.63)	-4.55 (7.70)
More Than 30 Hours, Volunteering		6.61 (5.29)	5.73 (5.51)
Spread Donations for Equality			9.06 (7.27)
Spread Donations for Efficiency			-6.64 (7.37)
Internalisation (SIMI)			44.63*** (14.16)
Symbolisation (SIMI)			5.10 (9.53)
Observations	328	328	328

Notes: tobit regressions with total donations as the dependent variable. The baseline is a person in the *Private* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are average partial effects, robust standard errors in parentheses.

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

S.5.2 Spectator Evaluations

Figure S.4: Diminishing Effect From Total Donations



Notes: locally weighted regression, using [Cleveland's \(1979\)](#) tricube weighting function and bandwidth 0.8.

Table S.15: Spectator Evaluations, PublicNAmount

	(1)	(2)	(3)
Observed Donation	0.03*** (0.00)	0.03*** (0.00)	0.03*** (0.00)
Observed Charities	0.06 (0.05)	0.05 (0.04)	0.05 (0.04)
Age		0.03 (0.03)	0.03 (0.03)
Male		-0.37 (0.23)	-0.38 (0.26)
Social Sciences		-0.68** (0.30)	-0.73** (0.34)
Humanities		-0.93* (0.55)	-1.00* (0.54)
Economics		-0.54 (0.33)	-0.43 (0.31)
Medicine		-0.52 (0.46)	-0.69 (0.60)
Law		-0.09 (0.38)	-0.10 (0.42)
Other Field of Study		-0.38 (0.33)	-0.40 (0.33)
1-5 Hours, Volunteering		-0.30 (0.35)	-0.25 (0.35)
5-10 Hours, Volunteering		0.06 (0.30)	0.08 (0.29)
10-20 Hours, Volunteering		0.09 (0.30)	0.10 (0.29)
20-30 Hours, Volunteering		0.95*** (0.35)	0.99** (0.37)
More Than 30 Hours, Volunteering		-0.52 (0.40)	-0.52 (0.38)
Spread Donations for Equality			-0.39 (0.41)
Spread Donations for Efficiency			-0.21 (0.46)
Internalisation (SIMI)			0.66 (1.24)
Symbolisation (SIMI)			-0.14 (0.61)
Constant	2.27*** (0.19)	2.00** (0.96)	1.77 (1.43)
Observations	330	330	330

Notes: OLS regressions with spectator evaluations as the dependent variable. The baseline is a person who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

Table S.16: Nonlinearity in Spectator Evaluations, PublicNAmount

	(1)	(2)	(3)
Observed Donation	0.0743*** (0.0113)	0.0774*** (0.0099)	0.0798*** (0.0090)
(Observed Donation) ²	-0.0004*** (0.0001)	-0.0005*** (0.0001)	-0.0005*** (0.0001)
(Observed Charities)	0.0503 (0.1120)	0.0428 (0.0970)	0.0293 (0.0951)
(Observed Charities) ²	-0.0035 (0.0064)	-0.0034 (0.0062)	-0.0024 (0.0060)
Age		0.0403 (0.0305)	0.0379 (0.0321)
Male		-0.3891* (0.2298)	-0.3853 (0.2523)
Social Sciences		-0.6291* (0.3179)	-0.6863* (0.3554)
Humanities		-0.8982 (0.5531)	-0.9901* (0.5459)
Economics		-0.5325 (0.3285)	-0.3996 (0.3046)
Medicine		-0.3966 (0.4025)	-0.6021 (0.5458)
Law		0.0246 (0.3691)	0.0185 (0.4107)
Other Field of Study		-0.5202 (0.3323)	-0.5279 (0.3251)
1-5 Hours, Volunteering		-0.3343 (0.3395)	-0.2695 (0.3304)
5-10 Hours, Volunteering		-0.0280 (0.2922)	-0.0017 (0.2825)
10-20 Hours, Volunteering		-0.0098 (0.2868)	0.0001 (0.2803)
20-30 Hours, Volunteering		0.8313** (0.3362)	0.8715** (0.3595)
More Than 30 Hours, Volunteering		-0.6498 (0.4201)	-0.6344 (0.3877)
Spread Donations for Equality			-0.4244 (0.3935)
Spread Donations for Efficiency			-0.2653 (0.4712)
Internalisation (SIMI)			0.8966 (1.1851)
Symbolisation (SIMI)			-0.1524 (0.5901)
Constant	1.7846*** (0.2065)	1.3658 (0.9688)	0.9688 (1.3729)
Observations	330	330	330

Notes: OLS regressions with spectator evaluations as the dependent variable. The baseline is a person who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

Table S.17: Evaluations and Total Donations, PublicNAmount

	(Charities $\in \{1, 2\}$)	(Charities $\in \{3, 4\}$)	(Charities $\in \{5, 6\}$)
Observed Donations	0.03*** (0.00)	0.02*** (0.01)	0.02** (0.01)
Constant	2.73*** (0.21)	3.31*** (0.34)	3.29*** (0.42)
Observations	88	108	50

Notes: OLS regressions with spectator evaluations as the dependent variable. Standard errors are clustered at the level of pairs of spectators.

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

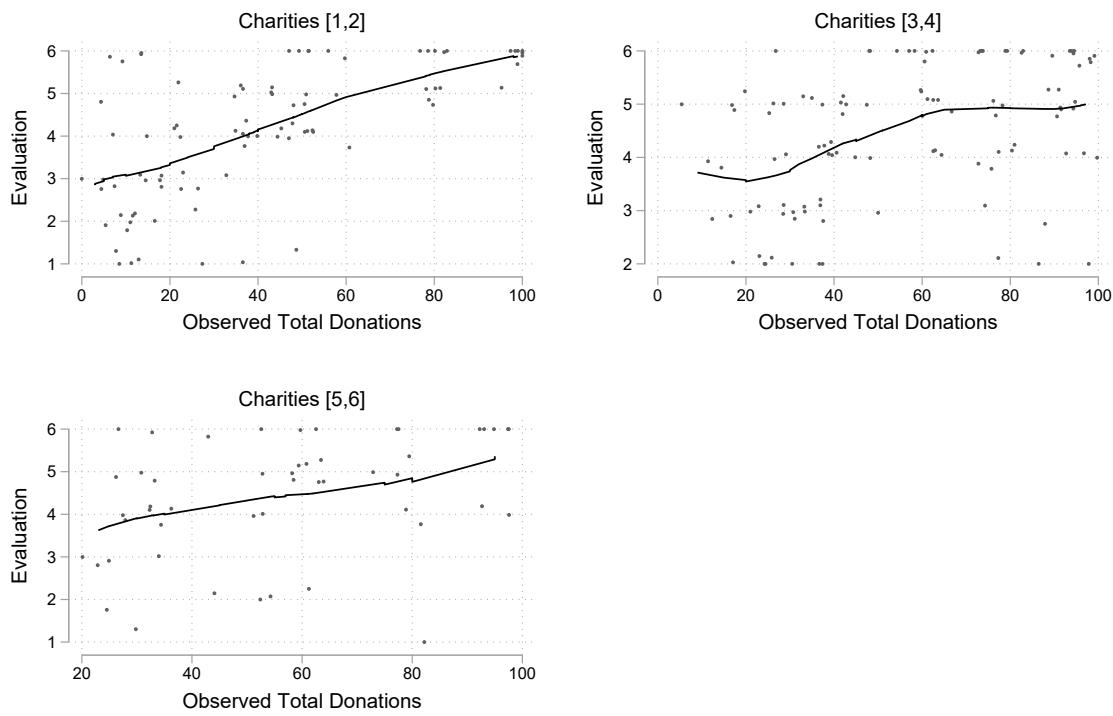
Table S.18: Evaluations and Total Charities, PublicNAmount

	(Donations $\in [10, 24]$)	(Donations $\in [25, 39]$)	(Donations $\in [40, 54]$)
Observed Charities	0.16 (0.17)	0.11 (0.14)	-0.02 (0.09)
Constant	2.90*** (0.42)	3.35*** (0.60)	4.45*** (0.33)
Observations	37	55	45
	(Donations $\in [55, 69]$)	(Donations $\in [70, 84]$)	(Donations $\in [85, 100]$)
Observed Charities	-0.32*** (0.09)	-0.04 (0.07)	0.02 (0.04)
Constant	6.27*** (0.39)	5.17*** (0.30)	5.11*** (0.32)
Observations	36	41	55

Notes: OLS regressions with spectator evaluations as the dependent variable. Standard errors are clustered at the level of pairs of spectators.

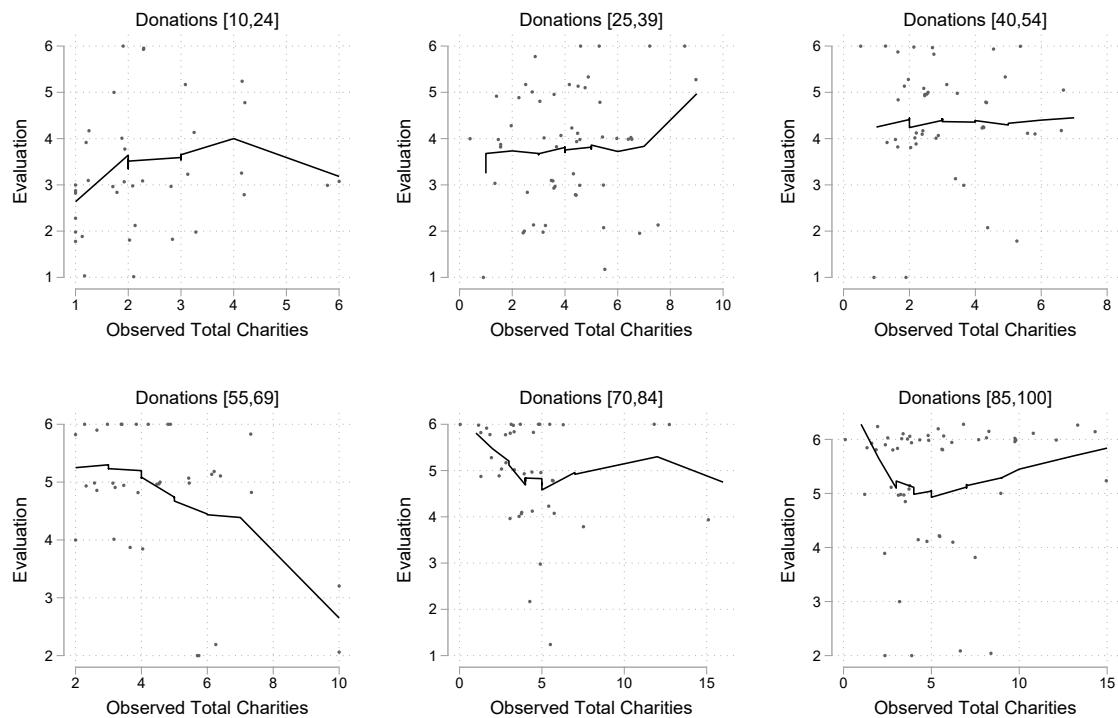
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure S.5: Evaluations and Total Donations



Notes: locally weighted regression, using Cleveland's (1979) tricube weighting function and bandwidth 0.8.

Figure S.6: Evaluations and Total Charities



Notes: locally weighted regression, using Cleveland's (1979) tricube weighting function and bandwidth 0.8.

Table S.19: Spectator Evaluations, PublicN

	(1)	(2)	(3)	(4)	(5)	(6)
Observed Charities	0.14*** (0.05)	0.15*** (0.05)	0.15*** (0.05)	0.03 (0.04)	0.02 (0.05)	0.01 (0.04)
FirstOrderBeliefs				0.02*** (0.00)	0.03*** (0.00)	0.03*** (0.00)
Age		0.01 (0.02)	0.00 (0.02)		0.01 (0.02)	0.01 (0.02)
Male		-0.09 (0.22)	-0.10 (0.23)		0.08 (0.19)	0.10 (0.22)
Social Sciences		0.03 (0.32)	-0.05 (0.31)		-0.22 (0.31)	-0.33 (0.35)
Humanities		0.54** (0.26)	0.46 (0.33)		0.53** (0.24)	0.45 (0.29)
Economics		-0.09 (0.27)	-0.13 (0.28)		0.21 (0.28)	0.22 (0.29)
Medicine		-0.02 (0.32)	-0.13 (0.44)		-0.37 (0.26)	-0.60 (0.47)
Law		-0.26 (0.22)	-0.30 (0.22)		0.00 (0.28)	0.01 (0.22)
Other Field of Study		0.10 (0.28)	0.03 (0.31)		0.13 (0.31)	0.10 (0.37)
1-5 Hours, Volunteering		-0.17 (0.24)	-0.18 (0.25)		-0.35 (0.25)	-0.38 (0.24)
5-10 Hours, Volunteering		-0.54** (0.26)	-0.47* (0.28)		-0.53** (0.21)	-0.40* (0.23)
10-20 Hours, Volunteering		-0.47 (0.34)	-0.49 (0.35)		-0.87*** (0.20)	-0.84*** (0.18)
20-30 Hours, Volunteering		0.24 (0.69)	0.20 (0.71)		-0.22 (0.51)	-0.23 (0.52)
More Than 30 Hours, Volunteering		-0.49 (0.38)	-0.43 (0.47)		-0.64* (0.32)	-0.54* (0.31)
Spread Donations for Equality			-0.26 (0.47)			-0.09 (0.42)
Spread Donations for Efficiency			0.12 (0.41)			0.23 (0.36)
Internalisation (SIMI)			0.71 (1.08)			2.03* (1.19)
Symbolisation (SIMI)			-0.13 (0.61)			-0.77 (0.58)
Constant	3.90*** (0.24)	3.88*** (0.66)	3.50*** (0.87)	3.27*** (0.23)	3.09*** (0.65)	1.64 (1.05)
Observations	321	321	321	321	321	321

Notes: OLS regressions with spectator evaluations as the dependent variable. The baseline is a person who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

Table S.20: Nonlinearity in Spectator Evaluations, PublicN

	(1)	(2)	(3)
ObservedCharities	0.6487*** (0.1105)	0.6464*** (0.1139)	0.6574*** (0.1169)
(Observed Charities) ²	-0.0437*** (0.0087)	-0.0436*** (0.0089)	-0.0446*** (0.0090)
Age		0.0024 (0.0163)	-0.0081 (0.0216)
Male		0.0128 (0.2111)	0.0005 (0.2166)
Social Sciences		0.0367 (0.3028)	-0.1395 (0.2758)
Humanities		0.5645** (0.2510)	0.4745 (0.3210)
Economics		-0.2111 (0.2347)	-0.3290 (0.2420)
Medicine		-0.1484 (0.2728)	-0.2616 (0.3881)
Law		-0.2256 (0.2409)	-0.3079 (0.2333)
Other Field of Study		0.0472 (0.2864)	-0.0648 (0.2913)
1-5 Hours, Volunteering		-0.2469 (0.2278)	-0.2551 (0.2221)
5-10 Hours, Volunteering		-0.4282* (0.2254)	-0.3437 (0.2339)
10-20 Hours, Volunteering		-0.3477 (0.3234)	-0.4883 (0.3547)
20-30 Hours, Volunteering		0.2286 (0.7532)	0.2147 (0.7850)
More Than 30 Hours, Volunteering		-0.2982 (0.3402)	-0.2300 (0.4204)
Spread Donations for Equality			-0.4383 (0.4710)
Spread Donations for Efficiency			0.4529 (0.3587)
Internalisation (SIMI)			0.6984 (0.9707)
Symbolisation (SIMI)			-0.0201 (0.5824)
Constant	3.0077*** (0.2861)	3.0661*** (0.6795)	2.8173*** (0.8518)
Observations	321	321	321

Notes: OLS regressions with spectator evaluations as the dependent variable. The baseline is a person who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

Table S.21: Spectator Evaluations, PublicNAmount, Ordered Logit Regression

	(1)	(2)	(3)
ObservedDonation	0.05*** (0.01)	0.05*** (0.01)	0.05*** (0.01)
ObservedCharities	0.09 (0.08)	0.08 (0.07)	0.07 (0.07)
Age		0.07 (0.05)	0.07 (0.05)
Male		-0.58 (0.37)	-0.57 (0.41)
Social Sciences		-0.76* (0.41)	-0.87* (0.52)
Humanities		-1.42* (0.81)	-1.50* (0.81)
Economics		-0.65 (0.44)	-0.55 (0.43)
Medicine		-0.74 (0.69)	-1.08 (0.93)
Law		0.14 (0.60)	0.11 (0.69)
Other Field of Study		-0.58 (0.46)	-0.64 (0.47)
1-5 Hours, Volunteering		-0.46 (0.52)	-0.41 (0.54)
5-10 Hours, Volunteering		0.03 (0.44)	0.06 (0.45)
10-20 Hours, Volunteering		0.21 (0.46)	0.24 (0.45)
20-30 Hours, Volunteering		1.52** (0.61)	1.57** (0.63)
More Than 30 Hours, Volunteering		-0.57 (0.60)	-0.63 (0.63)
Spread Donations for Equality			-0.64 (0.65)
Spread Donations for Efficiency			-0.33 (0.72)
Internalisation (SIMI)			1.07 (1.86)
Symbolisation (SIMI)			-0.15 (0.92)
Observations	330	330	330

Notes: ordered logit regressions with spectator evaluations as the dependent variable. The baseline is a person who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

Table S.22: Spectator Evaluations, PublicNAmount, Marginal Effects From Ordered Logit Regression

	(1)	(2)	(3)
ObservedDonation			
Evaluation=1	-0.0048*** (0.0009)	-0.0050*** (0.0008)	-0.0051*** (0.0008)
Evaluation=2	-0.0015*** (0.0004)	-0.0015*** (0.0004)	-0.0016*** (0.0004)
Evaluation=3	-0.0008*** (0.0002)	-0.0009*** (0.0002)	-0.0009*** (0.0003)
Evaluation=4	-0.0001 (0.0002)	-0.0001 (0.0002)	-0.0001 (0.0002)
Evaluation=5	0.0012*** (0.0002)	0.0014*** (0.0003)	0.0014*** (0.0002)
Evaluation=6	0.0061*** (0.0006)	0.0062*** (0.0006)	0.0062*** (0.0006)
ObservedCharities			
Evaluation=1	-0.0097 (0.0076)	-0.0075 (0.0068)	-0.0070 (0.0067)
Evaluation=2	-0.0029 (0.0024)	-0.0023 (0.0021)	-0.0022 (0.0021)
Evaluation=3	-0.0017 (0.0017)	-0.0014 (0.0014)	-0.0013 (0.0014)
Evaluation=4	-0.0003 (0.0007)	-0.0002 (0.0005)	-0.0001 (0.0004)
Evaluation=5	0.0023 (0.0020)	0.0020 (0.0020)	0.0019 (0.0019)
Evaluation=6	0.0123 (0.0102)	0.0093 (0.0086)	0.0087 (0.0085)
Demographics	No	Yes	Yes
Attitudes	No	No	Yes
Observations	330	330	330

Notes: marginal effects from ordered logit regressions with spectator evaluations as the dependent variable. The demographic controls are age, gender, field of study, and volunteering. The attitudinal controls are preferences for spreading donations (two questions) and the two subscales of the Self-Importance of Moral Identity scale. Standard errors are clustered at the level of pairs of spectators.

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

Table S.23: Spectator Evaluations, PublicN, Ordered Logit Regression

	(1)	(2)	(3)	(4)	(5)	(6)
ObservedCharities	0.17** (0.08)	0.17** (0.08)	0.17** (0.08)	0.05 (0.07)	0.04 (0.08)	0.02 (0.08)
FirstOrderBeliefs				0.03*** (0.00)	0.03*** (0.01)	0.04*** (0.01)
Age	0.00 (0.02)	0.01 (0.03)		0.01 (0.03)	0.02 (0.03)	
Male	-0.18 (0.28)	-0.26 (0.31)		0.03 (0.28)	-0.02 (0.34)	
Social Sciences	0.01 (0.39)	-0.15 (0.39)		-0.37 (0.44)	-0.54 (0.52)	
Humanities	0.79** (0.40)	0.65 (0.48)		0.86** (0.40)	0.72 (0.45)	
Economics	-0.27 (0.35)	-0.33 (0.38)		0.10 (0.39)	0.15 (0.42)	
Medicine	-0.17 (0.39)	-0.41 (0.55)		-0.62 (0.44)	-1.07 (0.70)	
Law	-0.25 (0.30)	-0.31 (0.33)		0.14 (0.45)	0.16 (0.35)	
Other Field of Study	0.15 (0.43)	0.07 (0.45)		0.24 (0.48)	0.21 (0.58)	
1-5 Hours, Volunteering	-0.43 (0.34)	-0.46 (0.34)		-0.69* (0.39)	-0.75** (0.38)	
5-10 Hours, Volunteering	-0.71** (0.33)	-0.50 (0.37)		-0.78*** (0.28)	-0.54 (0.33)	
10-20 Hours, Volunteering	-0.63 (0.40)	-0.54 (0.46)		-1.20*** (0.35)	-1.04*** (0.28)	
20-30 Hours, Volunteering	0.39 (0.94)	0.43 (0.97)		-0.11 (0.79)	-0.04 (0.88)	
More Than 30 Hours, Volunteering	-0.52 (0.56)	-0.19 (0.66)		-0.81 (0.54)	-0.45 (0.55)	
Spread Donations for Equality		-0.67 (0.68)			-0.35 (0.68)	
Spread Donations for Efficiency		0.13 (0.59)			0.13 (0.58)	
Internalisation (SIMI)		1.69 (1.35)			3.60** (1.82)	
Symbolisation (SIMI)		-0.77 (0.80)			-1.73* (0.92)	
Observations	321	321	321	321	321	321

Notes: ordered logit regressions with spectator evaluations as the dependent variable. The baseline is a person who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

Table S.24: Spectator Evaluations, PublicN, Marginal Effects From Ordered Logit Regression

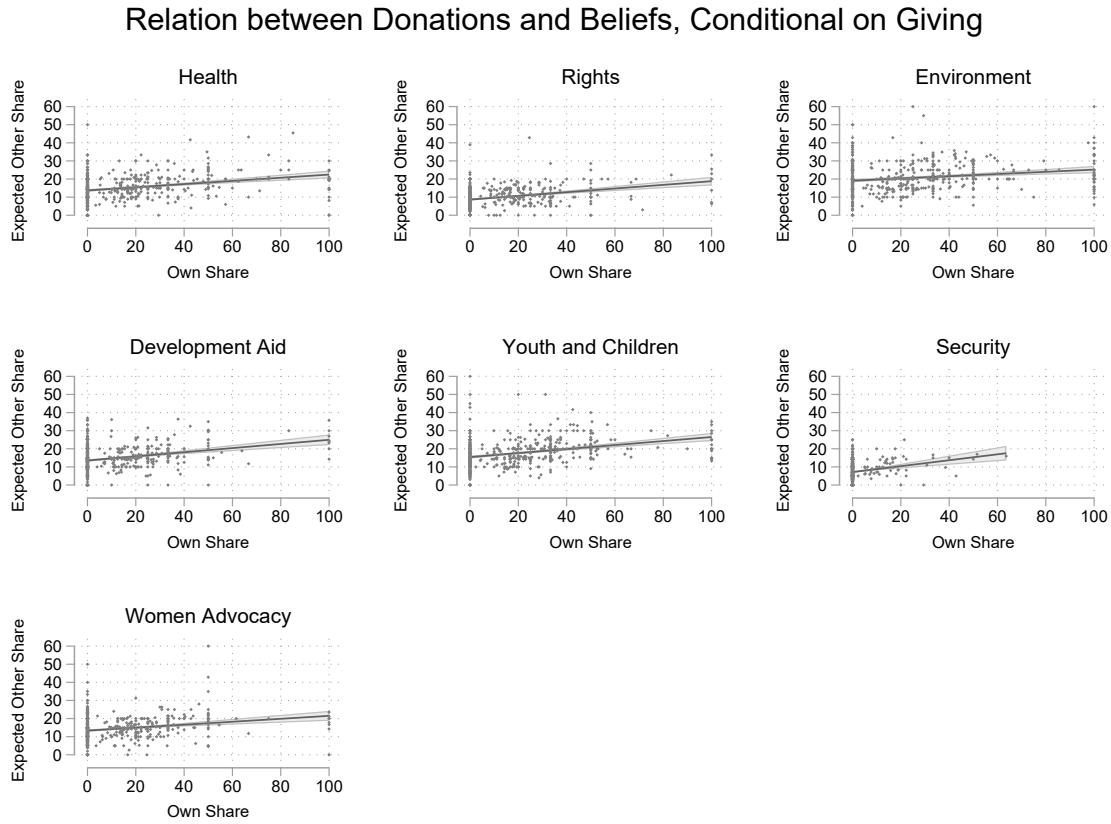
	(1)	(2)	(3)	(4)	(5)	(6)
ObservedCharities						
Evaluation=1	-0.0152*	-0.0151*	-0.0147*	-0.0040	-0.0032	-0.0013
	(0.0081)	(0.0083)	(0.0084)	(0.0065)	(0.0064)	(0.0062)
Evaluation=2	-0.0025*	-0.0024*	-0.0024*	-0.0007	-0.0005	-0.0002
	(0.0014)	(0.0013)	(0.0013)	(0.0011)	(0.0010)	(0.0010)
Evaluation=3	-0.0110**	-0.0105**	-0.0102**	-0.0027	-0.0020	-0.0008
	(0.0045)	(0.0045)	(0.0046)	(0.0042)	(0.0040)	(0.0039)
Evaluation=4	-0.0112***	-0.0107***	-0.0103**	-0.0022	-0.0018	-0.0007
	(0.0042)	(0.0040)	(0.0041)	(0.0036)	(0.0036)	(0.0034)
Evaluation=5	0.0064	0.0058	0.0056	0.0014	0.0010	0.0004
	(0.0041)	(0.0037)	(0.0037)	(0.0022)	(0.0019)	(0.0019)
Evaluation=6	0.0336**	0.0329**	0.0320**	0.0081	0.0065	0.0027
	(0.0141)	(0.0141)	(0.0143)	(0.0131)	(0.0131)	(0.0125)
FirstOrderBeliefs						
Evaluation=1				-0.0025***	-0.0027***	-0.0030***
				(0.0006)	(0.0006)	(0.0006)
Evaluation=2				-0.0004**	-0.0005**	-0.0005**
				(0.0002)	(0.0002)	(0.0002)
Evaluation=3				-0.0016***	-0.0018***	-0.0019***
				(0.0003)	(0.0003)	(0.0003)
Evaluation=4				-0.0014***	-0.0015***	-0.0017***
				(0.0003)	(0.0003)	(0.0004)
Evaluation=5				0.0009**	0.0009**	0.0010**
				(0.0004)	(0.0004)	(0.0004)
Evaluation=6				0.0050***	0.0056***	0.0061***
				(0.0007)	(0.0007)	(0.0007)
Demographic Controls	No	Yes	Yes	No	Yes	Yes
Attitudinal Controls	No	No	Yes	No	No	Yes
Observations	321	321	321	321	321	321

Notes: marginal effects from ordered logit regressions with spectator evaluations as the dependent variable. The demographic controls are age, gender, field of study, and volunteering. The attitudinal controls are preferences for spreading donations (two questions) and the two subscales of the Self-Importance of Moral Identity scale. Standard errors are clustered at the level of pairs of spectators.

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

S.5.3 Preferences for Spreading Donations

Figure S.7: Evaluations and Total Charities



Notes: the figure shows for each of the seven topics the relation between the share of a dictator's donations is allocated to the topic and how much the dictator believes that others give on average to the topic. The grey bounds show 95 percent confidence intervals for a linear fit.

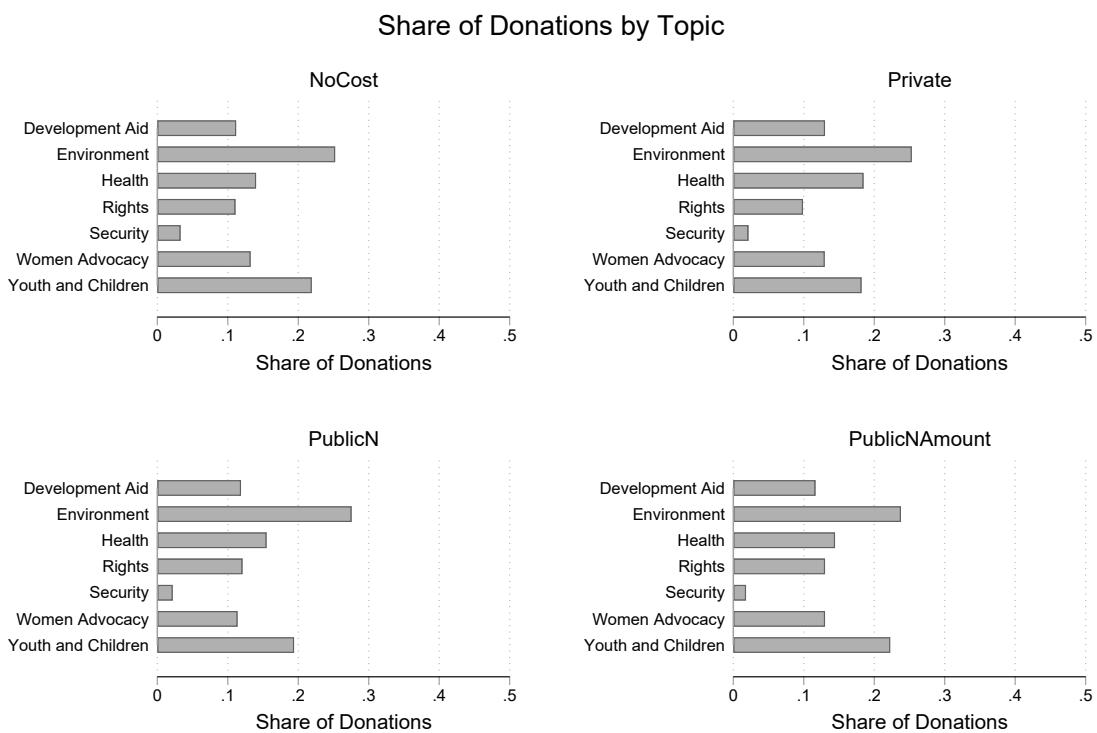
Table S.25: Preferences for Diversification and the Number of Charities

	NoCost	Private	PublicN	PublicNAmount	All
Spread Donations for Equality	2.28** (0.93)	2.01*** (0.52)	2.37*** (0.45)	2.85*** (0.59)	2.44*** (0.29)
Spread Donations for Efficiency	0.77 (0.26)	0.85 (0.22)	1.34 (0.25)	1.33 (0.26)	1.00 (0.12)
Age	1.01 (0.02)	0.96*** (0.01)	0.99 (0.01)	1.01 (0.01)	0.99 (0.01)
Male	0.68* (0.15)	0.96 (0.14)	1.04 (0.11)	0.90 (0.12)	0.95 (0.07)
Social Sciences	0.58 (0.19)	1.09 (0.26)	1.06 (0.18)	0.99 (0.23)	0.97 (0.11)
Humanities	0.75 (0.22)	1.03 (0.23)	0.95 (0.16)	1.10 (0.21)	0.97 (0.10)
Economics	0.76 (0.26)	1.04 (0.20)	1.07 (0.16)	0.92 (0.16)	0.96 (0.09)
Medicine	0.66 (0.55)	0.98 (0.35)	0.94 (0.27)	0.33 (0.35)	0.80 (0.17)
Law	0.81 (0.27)	1.37 (0.31)	0.80 (0.14)	1.24 (0.23)	1.09 (0.12)
Other Field of Study	1.01 (0.34)	0.90 (0.28)	0.99 (0.14)	1.07 (0.21)	1.04 (0.11)
1-5 Hours, Volunteering	1.41 (0.48)	1.17 (0.24)	0.69** (0.11)	0.90 (0.15)	0.96 (0.10)
5-10 Hours, Volunteering	0.76 (0.26)	1.17 (0.25)	0.91 (0.14)	0.80 (0.17)	0.94 (0.10)
10-20 Hours, Volunteering	0.77 (0.28)	0.96 (0.22)	0.73* (0.13)	0.70* (0.14)	0.77** (0.09)
20-30 Hours, Volunteering	0.74 (0.26)	1.08 (0.29)	0.69* (0.14)	0.90 (0.21)	0.86 (0.11)
More Than 30 Hours, Volunteering	0.82 (0.27)	1.28 (0.27)	0.76** (0.10)	0.88 (0.14)	0.91 (0.09)
Internalisation (SIMI)	7.42** (6.19)	1.21 (0.65)	0.81 (0.29)	1.72 (0.76)	1.53* (0.38)
Symbolisation (SIMI)	4.61*** (2.71)	2.00** (0.66)	2.02*** (0.54)	1.58 (0.45)	2.10*** (0.34)
NoCost					1.69*** (0.17)
PublicN					1.19** (0.10)
PublicNAmount					0.99 (0.08)
Observations	77	170	158	170	575

Notes: negative binomial regressions with the number of charities as the dependent variable. The baseline is a person who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are incidence rate ratios.

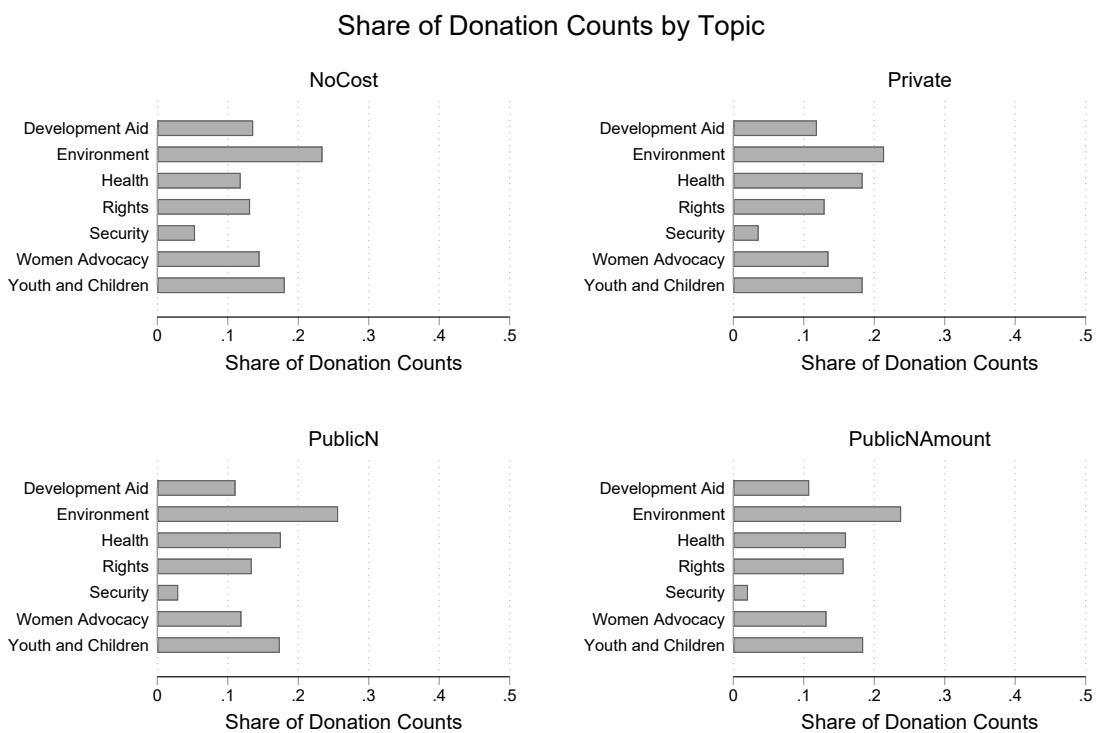
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure S.8: Distributions of Donations by Treatment



Notes: the figure shows for each treatment the share of total donations within that treatment that accrues to each of the seven topics.

Figure S.9: Distributions of Donation Counts by Treatment



Notes: the figure shows for each treatment the share of the number of donations within that treatment that accrues to each of the seven topics.

Table S.26: Number of Topics, Private vs. PublicN

	(1)	(2)	(3)
PublicN	1.25*** (0.09)	1.23*** (0.09)	1.24*** (0.09)
Age		0.98** (0.01)	0.98*** (0.01)
Male		0.95 (0.07)	1.03 (0.08)
Natural Sciences		1.00 (.)	1.00 (.)
Social Sciences		1.18 (0.15)	1.13 (0.14)
Humanities		1.14 (0.14)	1.08 (0.12)
Economics		1.00 (0.11)	0.98 (0.11)
Medicine		0.85 (0.19)	0.81 (0.17)
Law		1.09 (0.14)	1.01 (0.12)
Other Field of Study		1.19 (0.15)	1.15 (0.13)
0 Hours		1.00 (.)	1.00 (.)
1-5 Hours, Volunteering		0.99 (0.11)	0.93 (0.10)
5-10 Hours, Volunteering		1.10 (0.13)	0.97 (0.11)
10-20 Hours, Volunteering		1.01 (0.13)	0.88 (0.11)
20-30 Hours, Volunteering		0.89 (0.14)	0.75* (0.11)
More Than 30 Hours, Volunteering		1.01 (0.10)	0.94 (0.10)
Spread Donations for Equality			1.86*** (0.25)
Spread Donations for Efficiency			1.00 (0.14)
Internalisation (SIMI)			1.41 (0.39)
Symbolisation (SIMI)			1.70*** (0.31)
Observations	328	328	328

Notes: negative binomial regressions with the number of topics as the dependent variable. The baseline is a person in the *Private* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are incidence rate ratios.

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

Table S.27: Number of Topics, PublicN vs. PublicNAmount

	(1)	(2)	(3)
PublicN	1.11 (0.08)	1.11 (0.08)	1.13* (0.08)
Age		1.00 (0.01)	1.00 (0.01)
Male		0.90 (0.07)	1.00 (0.07)
Social Sciences		1.12 (0.14)	1.07 (0.13)
Humanities		1.23* (0.14)	1.18 (0.13)
Economics		1.02 (0.11)	0.97 (0.10)
Medicine		0.62 (0.19)	0.67 (0.20)
Law		0.98 (0.12)	1.00 (0.12)
Other Field of Study		1.21* (0.13)	1.19* (0.13)
1-5 Hours, Volunteering		0.95 (0.10)	0.85 (0.09)
5-10 Hours, Volunteering		1.07 (0.13)	0.88 (0.10)
10-20 Hours, Volunteering		1.02 (0.12)	0.88 (0.11)
20-30 Hours, Volunteering		1.11 (0.16)	0.93 (0.13)
More Than 30 Hours, Volunteering		0.98 (0.09)	0.88 (0.08)
Spread Donations for Equality			2.19*** (0.27)
Spread Donations for Efficiency			1.17 (0.14)
Internalisation (SIMI)			1.58* (0.42)
Symbolisation (SIMI)			1.52** (0.27)
Observations	328	328	328

Notes: negative binomial regressions with the number of topics as the dependent variable. The baseline is a person in the *PublicNAmount* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are incidence rate ratios.

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

S.5.4 Self-Importance of Moral Identity

Table S.28: Self-Importance of Moral Identity and Total Donations

	NoCost	Private	PublicN	PublicNAmount	All
High Internalisation	37.43*** (11.02)	7.77 (5.90)	13.51** (5.85)	12.09** (5.85)	12.81*** (3.18)
High Symbolisation	-5.99 (10.67)	5.97 (5.99)	-0.79 (5.82)	-0.19 (5.98)	1.40 (3.22)
Male	-22.24** (10.22)	-5.06 (5.93)	-5.42 (5.53)	-6.07 (6.22)	-6.68** (3.20)
Age	-0.11 (0.98)	-1.09** (0.44)	-1.01* (0.59)	0.43 (0.60)	-0.51* (0.28)
Social Sciences	-29.76* (15.25)	-2.54 (10.01)	10.48 (9.09)	5.68 (11.28)	-1.73 (5.34)
Humanities	1.96 (14.28)	4.06 (8.83)	3.38 (8.98)	6.88 (9.25)	1.93 (4.89)
Economics	-23.20 (14.11)	4.27 (7.85)	-14.49* (8.28)	4.33 (8.26)	-2.48 (4.36)
Medicine	-72.39* (40.15)	8.59 (13.73)	-21.10 (14.81)	-49.91* (29.00)	-13.41 (9.34)
Law	-35.59** (15.48)	5.33 (9.42)	-9.51 (8.51)	-7.20 (9.02)	-8.63* (4.97)
Other Field of Study	2.61 (16.25)	18.43 (12.07)	-2.06 (7.66)	1.70 (9.68)	5.03 (5.09)
1-5 Hours, Volunteering	-0.28 (14.89)	-1.53 (8.32)	-2.26 (8.18)	-10.56 (8.33)	-4.30 (4.54)
5-10 Hours, Volunteering	-37.75** (15.71)	-4.75 (8.81)	-7.17 (8.60)	-0.08 (10.73)	-7.13 (5.10)
10-20 Hours, Volunteering	10.10 (16.17)	3.10 (9.16)	-3.77 (9.41)	-3.55 (9.42)	-1.23 (5.14)
20-30 Hours, Volunteering	-14.85 (16.53)	-5.56 (10.75)	-3.76 (10.57)	3.14 (11.81)	-2.96 (6.06)
More Than 30 Hours, Volunteering	17.36 (15.23)	10.56 (8.44)	3.18 (6.99)	-1.01 (7.59)	3.21 (4.23)
Spread Donations for Equality	47.25** (19.36)	-0.97 (10.78)	20.75** (10.19)	38.88*** (10.28)	25.80*** (5.64)
Spread Donations for Efficiency	-25.30 (16.02)	-3.78 (10.95)	-7.64 (10.34)	-15.44 (9.65)	-13.76** (5.50)
NoCost					4.15 (4.85)
PublicN					4.90 (3.89)
PublicNAmount					2.71 (3.84)
Observations	77	170	158	170	575

Notes: tobit regressions with total donations as the dependent variable. High Internalisation (Symbolisation) is a dummy variable taking the value 1 if the participant has an above-median score on the Internalisation (Symbolisation) subscale. The baseline is a person who scores in the bottom half of the Internalisation and Symbolisation subscales of the Self-Importance of Moral Identity scale, who studies Natural Sciences, and who does not volunteer (0 Hours). Coefficients are incidence rate ratios.

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

Table S.29: Self-Importance of Moral Identity and the Number of Charities

	NoCost	Private	PublicN	PublicNAmount	All
High Internalisation	1.48*	0.97	1.00	1.14	1.09
	(0.34)	(0.14)	(0.11)	(0.14)	(0.08)
High Symbolisation	1.59*	1.18	1.30**	1.11	1.25***
	(0.40)	(0.16)	(0.14)	(0.14)	(0.09)
Male	0.63**	0.92	1.03	0.88	0.93
	(0.15)	(0.14)	(0.11)	(0.12)	(0.07)
Age	1.02	0.96***	0.99	1.01	0.99
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Social Sciences	0.65	1.14	1.03	1.00	0.97
	(0.22)	(0.28)	(0.17)	(0.23)	(0.11)
Humanities	0.72	1.08	0.93	1.04	0.95
	(0.22)	(0.24)	(0.15)	(0.20)	(0.10)
Economics	0.78	1.10	1.07	0.91	0.97
	(0.27)	(0.22)	(0.16)	(0.16)	(0.09)
Medicine	0.57	1.07	0.95	0.29	0.81
	(0.50)	(0.39)	(0.28)	(0.30)	(0.18)
Law	0.82	1.44	0.76	1.20	1.09
	(0.28)	(0.33)	(0.13)	(0.22)	(0.12)
Other Field of Study	1.00	0.95	0.94	1.06	1.02
	(0.35)	(0.30)	(0.14)	(0.21)	(0.11)
1-5 Hours, Volunteering	1.40	1.20	0.71**	0.91	0.99
	(0.49)	(0.24)	(0.11)	(0.15)	(0.10)
5-10 Hours, Volunteering	0.70	1.22	0.95	0.80	0.96
	(0.25)	(0.26)	(0.15)	(0.17)	(0.11)
10-20 Hours, Volunteering	0.84	1.04	0.76	0.72*	0.81*
	(0.33)	(0.24)	(0.14)	(0.14)	(0.09)
20-30 Hours, Volunteering	0.83	1.22	0.70*	0.93	0.91
	(0.31)	(0.32)	(0.14)	(0.22)	(0.12)
More Than 30 Hours, Volunteering	1.03	1.38	0.78*	0.91	0.97
	(0.34)	(0.28)	(0.11)	(0.14)	(0.09)
Spread Donations for Equality	2.58**	2.12***	2.32***	2.88***	2.49***
	(1.12)	(0.55)	(0.44)	(0.60)	(0.30)
Spread Donations for Efficiency	0.75	0.87	1.43*	1.37	1.04
	(0.26)	(0.22)	(0.27)	(0.27)	(0.12)
NoCost					1.65***
					(0.17)
PublicN					1.18*
					(0.10)
PublicNAmount					0.98
					(0.09)
Observations	77	170	158	170	575

Notes: negative binomial regressions with the number of charities as the dependent variable. High Internalisation (Symbolisation) is a dummy variable taking the value 1 if the participant has an above-median score on the Internalisation (Symbolisation) subscale. The baseline is a person who scores in the bottom half of the Internalisation and Symbolisation subscales of the Self-Importance of Moral Identity scale, who studies Natural Sciences, and who does not volunteer (0 Hours). Coefficients are incidence rate ratios.

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

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S.6 Instructions

On the next pages, we include the instructions for a participant who is randomly assigned to the *PublicNAmount* treatment. As this study features three different roles, we will display the instructions for all three roles within the *PublicNAmount* treatment in the following order: dictators, spectators, and social norm elicitors. Note that the survey is identical for all three roles and is therefore only shown in the version for the dictator.

Importantly, one interactive design feature requires further explanation: on the ‘Decision’ page for the dictators, participants are presented with a list of seven general topics from which they can choose charities for donation. To open the list of the seven charities that belong to each topic, participants click on the plus sign next to the topic. To receive further information about a specific charity and to make a donation, participants then need to click on any specific charity name so that a window pops up with a short description of the charity and a blank field to enter a donation amount to the charity. The order of the seven topics and the order of the seven charities within each topic was randomized for each participant. To illustrate how this pop-up was shown to participants, we add at the end of the english instructions of each role, one set of screenshots of the original experiment in German (role: dictator; S.6). The list of all topics, charities, and their respective explanations can be found in Online Supplement S.7.

Role: DICTATORS

Introduction & Game

Welcome to the experiment. You are invited to participate in a research study of the University of Hamburg's experimental laboratory, which explores decision making. Following the experiment, we ask you to answer a survey that asks, for example, about your background (gender, age, etc.) and other social attitudes.

Your participation should take about 15-25 minutes, which should be done in one go. If you complete the study to the end, you will receive the following compensation:

1. A fixed remuneration of 4.50€ for your participation.
2. A potential payout of up to 1.50€, depending on the accuracy of your estimate information.
3. A potential payout of up to 100€, depending on your donation decision and the random principle.
→ A total of 10 people will be drawn for the allowances from (3).

Please note that this study contains several questions that relate directly to your understanding of the choices you are making. In accordance with laboratory research, you must answer these control questions correctly in order to participate in the study.

If you have any questions about this research study or your participation, please contact Juliane Koch, University of Hamburg, by email at juliane.koch@uni-hamburg.de. Thank you very much for your participation!

Rules

You have been randomly selected for the role of donation decision-maker. For your decision-making task, you will be presented with a long list of charities that have **all** received a **TOP efficiency rating*** according to **CharityWatch**. We will show you these as examples in the next step. The charities cover the following areas:

1. Topic: Health
2. Topic: Justice (Legal) Aid
3. Topic: Environment and Animals
4. Topic: International Development Relief
5. Topic: Youth and Children
6. Topic: Security
7. Topic: Women Advocacy

You will receive a **starting amount of 100€**** and must decide whether or not you want to make a donation, and if so, to which charities you want to donate what amount. Your total donation amount will be deducted from your 100€ and thus not paid out to you, but donated to your selected charities).

*A TOP efficiency rating means, among other things, that the charity has low administrative and marketing costs so that almost all donations go to its actual purpose, that the charity has a high transparency status, etc.

**At the end of the game, 10 participants will be randomly drawn for whom the decision made will come into effect, i.e. the additional payment of the 100€ to the participants themselves and/or a partial/complete payment to the charities chosen by the 10 people.

Rules

Important Notes: Please note the following two points:

1. Per charity you want to donate to, you pay a **transaction cost of 1€!** This means that the more charities are selected, the higher the transaction costs and therefore the lower the total amount that can be donated.

Example calculations:

Example 1: You

- donate 5€ to charity X → donation that charity X receives: 5€.
→ Transaction costs generated: 1€
→ Remaining in your private account: 94€ (100€-5€-1€)

Example 2: You

- donate 5€ to charity X → donation that charity X receives: 5€,
 - donate 10€ to charity Y → donation that charity Y receives: 10€,
 - donate 25€ to charity Z → donation that charity Z receives: 25€.
-
- Transaction costs generated: 3€
→ Remaining in your private account: 57€ (100€-5€-10€-25€-3€)

2. Two other people in this study learn to which charity you donate, as well as what amounts. **Together with the information to which charities you donated what amounts, the two observers learn your name and assess your behavior.** However, this assessment has no influence on your payout.

Charity list – example

Health	+
Environment	+
World Resource Institute	-
Conservation International Foundation	
Center for Biological Diversity	
Wildlife Conservation Society	
Waterkeeper Alliance	
Earth Island Institute	
Amazon Conservation Team	
Rights	+
Development Aid	+
Youth and Children	+
Security	+
Women Advocacy	+

Topic: Environment

Donation to Charity

Waterkeeper Alliance: 5€



Evaluation of your decision - example

After your donation you will still have the following amount in your private account: $100\text{€} - x - y = Z\text{€}$



The following information was displayed to the observers: J. Koch donates to the following charities the following amounts:

- i. Charity XY: _____ €
- ii. Charity XYZ: _____ €

The observers evaluated your decision as follows (rating based on German school grades; 1: very good, 2: good, 3: satisfactory, 4: sufficient, 5: insufficient, 6: poor):

Observer 1 evaluates your decision as follows: _____

Observer 2 evaluates your decision as follows: _____

Control questions

Question 1: Suppose you donate 10€ to charity X and 10€ to charity Y, how much transaction costs do you pay?

- O 1€
- O 2€
- O 5€
- O 20€

Question 2: Suppose you donate 5€ to charity X, how much will remain in your private account?

- O 95€
- O 94€
- O 100€
- O 0€

Question 3: Suppose you donate 2€ to charity X, 15€ to charity Y, 23€ to charity Z, how much will remain in your private account?

- O 57€
- O 60€
- O 85€
- O 0€

Question 4: Which information of your decision do two observing players of this study see and evaluate?

- O Observers see and evaluate which charities you have donated to, as well as what amounts.
- O Observers see and evaluate which charities you donated to, but not what amounts.
- O Observers see and evaluate what amounts you have donated, but not to which charities.

Start of the experiment

Decision

We now ask you to make the following decision (100€ starting amount):

→ How much of the 100€ would you like to donate to which charity?

(Please enter any amount between 0 and 100 that you would like to donate to each charity. Click on the + to see the respective charity of the topics and click on them to learn more about each charity and make a donation).

Health	+
Rights	+
Environment	+
Development Aid	+
Youth and Children	+
Security	+
Women Advocacy	+

I do not wish to donate to any of the above charities.

After your donation you will still have the following amount in your private account: 100€ - x€ - y€ = _____ €

The following information is displayed to the observers:

J. Koch donates the following amounts to the following charities:

- 1) Charity XY: _____ €
 - 2) Charity XYZ: _____ €
- Generates transaction costs of: _____ €

Assessments

On the next page, we will ask you to estimate the answers of other participants, for which you can earn extra money. Here we will ask you for the median (central value) of other participants' answers. The median (central value) is the value that separates the lower half of the answers from the upper half of the answers. The following two examples illustrate this:

- 1) Consider the numbers {1, 3, 3, 6, 7, 8, 9}. Here, 6 is the median because there are exactly three numbers less than 6 and three numbers greater than 6.
- 2) Consider the numbers {2, 7, 5, 3, 1}. Here, 3 is the median because there are exactly two numbers smaller than 3 (1, 2) and two numbers larger than 3 (5, 7). This is easily seen by sorting the numbers from small to large: {1, 2, 3, 5, 7}

We ask you the following control question to make sure you understand what the median is:

Consider the numbers {20, 1, 6, 4, 2}.

What is the median of these numbers? _____

Assessments

- 1) An additional group of people was recruited and familiarized with your decision-making task. They were asked how much one **ought** to donate and among how many charities one **ought** to divide the donation. What do you think was the answer of this group of people to the following questions? You can earn extra money for your correct assessment*:
 - a) What do you think was the (median) response of the additional group of people to the question: How much **ought** each decision-maker donate in total?
 € (Please indicate a number between 0-100€).
 - b) What do you think was the (median) response of the additional group of people to the question: Among how many charities **ought** each decision-maker divide their donation amount?
 € (Please indicate a number between 0-49 charities).
- 2) Consider all the decision-makers in this game who have to decide how many charities to divide their donation among. What do you think the **actual** values are? You can earn extra money for your correct guess*:
 - d) How much does each decision-maker donate in total (median, transaction costs included)?
 € (Please indicate a number between 0-100€).
 - e) Among how many charities do decision-makers divide their donation amount (median)?
 € (Please indicate a number between 0-49 charities).

*One of your guess answers from each 1) and 2) will be randomly drawn for the payout. If you guess the actual values correctly (+/-3€), you will be paid an additional 0.50€ each.

Assessments

- 3) Consider all the people who faced the same decision task as you did, whether and how to donate 100 euros. In your estimation, how much did they donate on average (0-100€) to [topic]? (For example, on average, the other participants donated 10€ to 'International Development Relief'). For your correct estimation you can earn extra money*.

	Average total donation of other participants for this topic in €
Environment	_____ €
Health	_____ €
Security	_____ €
Development Aid	_____ €
Rights	_____ €
Women Advocacy	_____ €
Youth and Children	_____ €
Total	_____ €

*One of your guess answers will be randomly drawn for the payout. If you correctly guess the actual value at this value (+/-3€), you will be paid an additional 0.50€.

Please wait until the observers have submitted their evaluations.
Please note that observers evaluate the decisions of several participants.

Evaluation of your decision

After your donation you will still have the following amount in your private account: 100€ - 0€ - 0€ = 100€

The following information was displayed to the observers: J. Koch donates the following amounts to the following charities:

None (J.Koch keeps the whole amount)

→J.Koch generates transaction costs of **0€**

The observers rated your decision as follows (rating based on German school grades; 1: very good, 2: good, 3: satisfactory, 4: sufficient, 5: insufficient, 6: poor):

Observer 1 rates your decision as follows: **4**

Observer 2 evaluates your decision as follows: **5**

Survey

Finally, we will ask you a few questions. We would like to ask you to answer them carefully.

1. Please specify your gender.

- Male
- Female
- Diverse

2. Please indicate your year of birth: _____

3. Please indicate your field of study.

- Natural sciences
- Social sciences
- Humanities
- Business and Economics
- Medicine
- Law
- Other

4. How many hours did you volunteer last year approximately?

- 0 hours
- 1-5 hours
- 5-10 hours
- 10-20 hours
- 20-30 hours
- More than 30 hours

5. Please tell us how willing or unwilling you are to take risks in general.

Please use the scale from 0 to 10, where 0 means "not at all willing to take risks" and 10 means "very willing to take risks". You can use the values between 0 and 10 to grade your assessment.

Not at all willing to take risks											Very willing to take risks
0	1	2	3	4	5	6	7	8	9	10	

6. How important do you consider the following seven topics to be?

Again, please indicate your answer on a scale of 1 to 5, where 1 means you find the topic "not at all important" and a 5 means you find the topic "very important".

	Not important at all					Very important
	1	2	3	4	5	
Environment and Animals						
Health						
Security						
International Development Relief						
Justice (Legal) Aid						
Women Advocacy						
Youth and Children						

7. How much do you agree with the following statement: "It is important to spread out your donations to reduce the risk that a particular charity will miss out."

Please indicate your assessment on a scale from 1 ("I strongly disagree") to 5 ("I strongly agree").

I do not agree at all					I agree completely
0	1	2	3	4	5

8. How much do you agree with the following statement: "It is important to spread your donation to reduce the risk of donations being spent inefficiently."

Please indicate your assessment on a scale from 1 ("I strongly disagree") to 5 ("I strongly agree").

I do not agree at all					I agree completely
0	1	2	3	4	5

9. The following characteristics can be used to describe a person:

caring, compassionate, fair, kind, generous, helpful, hardworking, honest and friendly.

The person with these characteristics could be you or someone else. Imagine what a person with such characteristics might think, feel, and do. Once you have a clear picture of such a person, answer the following questions on the scale from 1 ("strongly disagree") to 5 ("strongly agree")

Statements	Do not agree at all					Fully agree
	0	1	2	3	4	5
I would feel good if I were a person who had these qualities.						
Being someone who has these qualities is an important part of who I am.						
I would be ashamed to be a person who has these qualities.						
Having these qualities is not really important to me.						
I very much wish to have these qualities.						
I often wear clothes that identify me as a person with these characteristics.						
The things I do in my free time (e.g., hobbies) clearly identify me as a person with these characteristics.						
The types of books and magazines I read identify me as having these characteristics.						
The fact that I have these qualities is communicated to others through my membership in certain organizations.						
I am actively involved in activities that communicate to others that I have these qualities.						

Thank you for your participation. Your Payout:

- You will receive 4,50€ as a fixed payout for your participation
- Once all participants in this study have completed the experiment, it will be evaluated whether you will receive the additional payout of €1.50 for your accurate estimates during the experiment and survey;
- Furthermore, at this time we will also draw lots to determine whether or not your decision of splitting the €100 between you and the potential charities will take effect.

Your preliminary payout for the experiment is = 4,50€, for your estimation tasks you can earn up to 1,50€ additionally, and your total payout can be more depending on your donation decision (e.g. a person who donates 50€ can earn a total of 50€ + 4,50€ + 1,50€ = 55,00€). We will inform you about this as soon as all participants have completed the experiment.

Thank you for your participation!

You will receive your fixed payout within the next 15 labor days, the potential additional payout can take up to a month.

Role: SPECTATORS

Introduction & Game

Welcome to the experiment. You are invited to participate in a research study of the University of Hamburg's experimental laboratory, which explores decision making. Following the experiment, we ask you to answer a survey that asks, for example, about your background (gender, age, etc.) and other social attitudes. Your participation should take about 15-25 minutes, which should be done in one go. If you complete the study to the end, you will receive a fixed remuneration of 4.50€ for your participation.

Please note that this study contains several questions that relate directly to your understanding of the choices you make. In accordance with laboratory research, you must answer these control questions correctly in order to participate in the study.

If you have any questions about this research study or your participation, please contact Juliane Koch, University of Hamburg, by email at juliane.koch@uni-hamburg.de. Thank you very much for your participation!

Rules

You have been randomly selected for the role of observer and evaluator of the decision-makers.

For the donation task, the decision-makers are presented with a long list of charities that have **all** received a **TOP efficiency rating*** according to **CharityWatch**. We show you these as examples in the next step. The charities cover the following areas:

1. Topic: Health
2. Topic: Rights
3. Topic: Environment
4. Topic: Development Aid
5. Topic: Youth and Children
6. Topic: Security
7. Topic: Women Advocacy

The decision-makers receive a **starting amount of 100€**** and must decide whether or not they want to make a donation, and if so, to which charities they want to donate what amount. Their total donation amount will be deducted from their 100€ and thus not paid out to them, but donated to their selected charities.

*A TOP efficiency rating means, among other things, that the charity has low administrative and marketing costs, so that almost all donations benefit its actual purpose, that the charity has a high transparency status, etc.

**At the end of the game, 10 of these participants will be randomly drawn for which the decision made will come into effect, i.e. the additional payment of the 100€ to the participants themselves and/or a partial/complete payment to the charities chosen by the 10 people.

Rules

Important Notes: Please note the following two points:

1. Per charity to which the decision-makers want to donate, they pay **transaction costs of 1€!**

Example calculations:

Example 1: The decision-maker donates

- 5€ to charity X → donation that charity X receives: 5€.

→ Transaction costs: 1€

→ Remaining in the private account of the decision-maker: **94€** (100€-5€-1€)

Example 2: The decision-maker donates

- 5€ to charity X → donation that charity X receives: 5€,
- 10€ to charity Y → donation that charity Y receives: 10€,
- 25€ to charity Z → donation that charity Z receives: 25€.

→ Transaction costs: 3€

→ Remaining in the private account of the decision-maker: **57€** (100€-5€-10€-25€-3€)

2. The decision-makers you evaluate know that you will learn to which charities they donate as well as what amounts. **Together with the information to which charities the decision-makers donated what amounts, you learn the decision-makers' last names and evaluate their behavior.** However, this assessment has no influence on the final payout of the decision-makers.

Charity list - example

Health	+
Environment	+
World Resource Institute	-
Conservation International Foundation	
Center for Biological Diversity	
Wildlife Conservation Society	
Waterkeeper Alliance	
Earth Island Institute	
Amazon Conservation Team	
Rights	+
Development Aid	+
Youth and Children	+
Security	+
Women Advocacy	+

Topic: Environment

Donation to Charity

Waterkeeper Alliance: 5€



Control questions

Question 1: Suppose the decision-maker you are evaluating donates 10€ to charity X and 10€ to charity Y, how much transaction costs does this player pay?

- O 1€
- O 2€
- O 5€
- O 20€

Question 2: Assume that the decision-maker you are evaluating donates 5€ to charity X, how much will remain in this player's private account?

- O 95€
- O 94€
- O 100€
- O 0€

Question 3: Suppose the decision-maker you are evaluating donates 2€ to charity X, 15€ to charity Y, 23€ to charity Z, how much will remain in this player's private account?

- O 57€
- O 60€
- O 85€
- O 0€

Question 4: Which information of the decision of the player you are evaluating do you see and evaluate?

- O You can see and evaluate to which charities the player has donated, as well as what amounts.
- O You can see and evaluate which charities the player has donated to, but not what amounts.
- O You can see and evaluate what amounts the player has donated, but not to which charities.

Assessment

1) Consider all the decision-makers in this game who have to decide among how many charities to divide their donation.

a) In your opinion, how much ought each decision-maker to donate in total?

€ (Please enter a value between 0-100€).

b) In your opinion, among how many charities ought the decision-makers to divide their donation amount?

charities (Please enter a value between 0-49 charities).

Start of the experiment

Please wait until the players make
their donation decision.

Your evaluation decision

Please evaluate the donation behavior of the following five people using the German school grades (1: very good, 2: good, 3: satisfactory, 4: sufficient, 5: insufficient, 6: poor):

1. J. Koch donates to the following charities the following amounts:

- 1) **Charity XY:** _____ €
- 2) **Charity XYZ:** _____ €

→ Generates transaction costs of 2€

Your Evaluation of Player 1's Giving Behavior, J. Koch:

____ (evaluation in school grade rating, 1-6).

2. J. Kaiser donates to the following charities the following amounts:

- 1) **Charity XY:** _____ €
- 2) **Charity XYZ:** _____ €
- 3) **Charity XYZW:** _____ €

→ Generates transaction costs of 3€

Your Evaluation of Player 2's Giving Behavior, J. Kaiser:

____ (evaluation in school grade rating, 1-6).

3. Etc.

Survey

Please see version 'Role: DICTATORS'

Thank you for your participation. Your payout:

You will receive 4.50€ as a fixed payout for your participation

Thank you for your participation!

You will receive your fixed payout within the next 15 business days.

Role: SOCIAL NORM ELICITORS

Introduction & Game

Welcome to the experiment. You are invited to participate in a research study of the University of Hamburg's experimental laboratory, which explores decision making. Following the experiment, we ask you to answer a survey that asks, for example, about your background (gender, age, etc.) and other social attitudes.

Your participation should take about 15 minutes, which should be done in one go. If you complete the study to the end, you will receive a fixed payment of 3€ for your participation.

Please note that this study contains several questions that relate directly to your understanding of the choices you are making. In accordance with laboratory research, you must answer these control questions correctly in order to participate in the study.

If you have any questions about this research study or your participation, please contact Juliane Koch, University of Hamburg, by email at juliane.koch@uni-hamburg.de.

Thank you very much for your participation!

Rules

You have been selected for a role in which we are interested to know how you evaluate certain decisions by other people. Before we ask you which donation behavior you think should be chosen, we would like to introduce you to the situation of the decision-makers.

For the donation task, the decision-makers are presented with a long list of charities that have **all** received a **TOP efficiency rating*** according to **CharityWatch**. We show you these as examples in the next step. The charities cover the following areas:

1. Topic: Health
2. Topic: Rights
3. Topic: Environment
4. Topic: Development Aid
5. Topic: Youth and Children
6. Topic: Security
7. Topic: Women Advocacy

The decision-makers receive a **starting amount of 100€**** and must decide whether or not they want to make a donation, and if so, to which charities they want to donate what amount. Their total donation amount will be deducted from their 100€ and thus not paid out to them, but donated to their selected charities.

*A TOP efficiency rating means, among other things, that the charity has low administrative and marketing costs, so that almost all donations benefit its actual purpose, that the charity has a high transparency status, etc.

**At the end of the game, 10 of these participants will be randomly drawn, for which the decision made will come into effect, i.e. the additional payment of the 100€ to the participants themselves and/or a partial/complete payment to the charities chosen by the 10 people.

Rules

Important Notes: Please note the following two points:

1. Per charity to which the decision-makers want to donate, they pay **transaction costs of 1€!** This means that the more charities are selected, the higher the transaction costs and therefore the lower the total amount that can be donated.

Example calculations:

Example 1: The decision-maker

- donates 5€ to charity X → donation that charity X receives: 5€
→ Transaction costs: 1€
→ Remaining in the private account of the decision-maker: **94€** (100€-5€-1€)

Example 2: The decision-maker

- donates 5€ to charity X → donation that charity X receives: 5€
 - donates 10€ to charity Y → donation that charity Y receives: 10€
 - donates 25€ to charity Z → donation that charity Z receives: 25€
- Transaction costs: 3€
→ Remaining in the private account of the decision-maker: **57€** (100€-5€-10€-25€-3€)

2. The decision-makers are knowingly evaluated by observers for their behavior. Observers learn which charities the decision-makers donate to, as well as what amounts. Together with the information to which charities the decision-makers donated what amounts, the observers learn the decision-makers' last names and evaluate their behavior. However, this assessment has no influence on the final payout of the decision-makers.

Charity list - example

Health	+
Environment	+
World Resource Institute	-
Conservation International Foundation	
Center for Biological Diversity	
Wildlife Conservation Society	
Waterkeeper Alliance	
Earth Island Institute	
Amazon Conservation Team	
Rights	+
Development Aid	+
Youth and Children	+
Security	+
Women Advocacy	+

Topic: Environment

Donation to Charity

Waterkeeper Alliance: 5€



Control questions

Question 1: Suppose the decision-maker donates 10€ to charity X and 10€ to charity Y, how many transaction costs does he pay?

- O 1€
- O 2€
- O 5€
- O 20€

Question 2: Suppose the decision-maker donates 5€ to charity X, how much will remain in his private account

- O 95€
- O 94€
- O 100€
- O 0€

Question 3: Suppose the decision-maker donates 2€ to charity X, 15€ to charity Y, 23€ to charity Z, how much will remain in his private account?

- O 57€
- O 60€
- O 85€
- O 0€

Question 4: What information of the decision-maker's decision does the observer see and evaluate?

- O The observer sees and evaluates which charities the decision-makers have donated to, as well as what amounts.
- O The observer sees and evaluates which charities the decision-makers donated to, but not what amounts.
- O The observer sees and evaluates what amounts the decision-makers have donated, but not to which charities.

Assessment

1. Consider all the decision-makers in this game who have to decide how many charities to divide their donation among.
- a) In your opinion, how much **ought** each decision-maker to donate in total?
____ € (Please enter a value between 0-100€).
 - b) In your opinion, among how many charities **ought** the decision-makers to divide their donation amount?
____ charities (Please enter a value between 0-49 charities).

Survey

Please see version 'Role: DICTATORS'

Thank you for your participation. Your payout:

You will receive 3€ as a fixed payout for your participation.

Thank you for your participation!

You will receive your fixed payout within the next 15 business days.

Screenshots; Role: Dictator

Einleitung & Spiel

Herzlich Willkommen zum Experiment. Sie sind eingeladen, an einer Forschungsstudie des Experimentalabors der Universität Hamburgs teilzunehmen, welche Entscheidungsfindung erforscht. Im Anschluss an das Experiment bitten wir Sie, eine Umfrage zu beantworten, die z. B. Ihren Hintergrund (Geschlecht, Alter, etc.) und weitere soziale Einstellungen erfragt.

Ihre Teilnahme sollte etwa 15-25 Minuten dauern, die in einem Zug durchgeführt werden sollte. Wenn Sie die Studie bis zum Ende durchführen, erhalten Sie die folgende Vergütung:

1. Eine feste Vergütung von 4,50€ für Ihre Teilnahme.
 2. Eine potentielle Auszahlung von bis zu 1,50€, abhängig von der Genauigkeit Ihrer Schätzungsangaben.
 3. Eine potentielle Auszahlung von bis zu 100€, abhängig von Ihrer Spendenentscheidung und dem Zufallsprinzip.
- Es werden insgesamt 10 Personen für die Vergütungen aus (3) ausgelost.

Bitte beachten Sie, dass diese Studie mehrere Fragen enthält, die sich direkt auf Ihr Verständnis der Entscheidungen beziehen, die Sie treffen. In Übereinstimmung mit der Laborforschung müssen Sie diese Kontrollfragen richtig beantworten, um an der Studie teilnehmen zu können.

Wenn Sie Fragen zu dieser Forschungsstudie oder Ihrer Teilnahme haben, wenden Sie sich bitte an Juliane Koch, Universität Hamburg, per E-Mail an juliane.koch@uni-hamburg.de.

Herzlichen Dank für Ihre Teilnahme!

Weiter



Regeln

Sie wurden zufällig für die Rolle der Spendenentscheider ausgewählt. Für Ihre Entscheidungsaufgabe wird Ihnen eine lange Liste an Wohltätigkeitsorganisationen vorgelegt, **die alle ein TOP-Effizienz-Rating* nach CharityWatch bekommen haben**. Diese zeigen wir Ihnen im nächsten Schritt beispielhaft. Die Wohltätigkeitsorganisationen decken folgende Bereiche ab:

1. Themenbereich: Gerechtigkeit und Rechtsbeistand
2. Themenbereich: Entwicklungshilfe
3. Themenbereich: Gesundheit
4. Themenbereich: Umwelt und Tiere
5. Themenbereich: Frauenrechte/-förderung
6. Themenbereich: Jugend und Kinder
7. Themenbereich: Sicherheit

Sie erhalten einen **Startbetrag von 100€**** und sollen dabei entscheiden, ob Sie einen Betrag spenden wollen und, wenn ja, an welche Wohltätigkeitsorganisationen Sie welchen Betrag spenden wollen. Ihr gesamter Spendenbetrag wird Ihnen von Ihren 100€ abgezogen und somit nicht an Sie ausgezahlt, sondern an Ihre ausgewählte(n) Spendenorganisation(en) gespendet.

*Ein TOP-Effizienz-Rating bedeutet u.a., dass die Organisation nur geringe Verwaltungs- und Marketingkosten hat, so dass fast alle Spenden ihrem eigentlichen Zweck zugute kommen, dass die Organisation einen hohen Transparenzstatus aufweist, etc.

**Am Ende des Spiels werden 10 Teilnehmenden ausgelost, für die die getroffene Entscheidung in Kraft tritt, d.h. die zusätzliche Auszahlung der 100€ an die Teilnehmenden selbst und/oder eine anteilige/komplette Auszahlung an die Wohltätigkeitsorganisationen, die von den 10 Personen ausgewählt wurden.

Zurück

Weiter



Regeln

Wichtige Hinweise: Bitte beachten Sie folgende zwei Hinweise:

1. Je Wohltätigkeitsorganisation, an die Sie spenden wollen, zahlen Sie **Transaktionskosten von 1€!** Das heißt, umso mehr Wohltätigkeitsorganisationen ausgewählt werden, desto höher die Transaktionskosten und somit desto geringer der Gesamtbetrag, der gespendet werden kann.

Beispielrechnungen:

Beispiel 1: Sie

- o spenden 5€ an Organisation X → Spende, die Organisation X erhält: 5€.
→ Erzeugt Transaktionskosten von 1€
→ Verbleib auf Ihrem Privatkonto: **94€** (100€-5€-1€)

Beispiel 2: Sie

- o spenden 5€ an Organisation X → Spende, die Organisation X erhält: 5€,
- o spenden 10€ an Organisation Y → Spende, die Organisation Y erhält: 10€,
- o spenden 25€ an Organisation Z → Spende, die Organisation Z erhält: 25€.
→ Erzeugt Transaktionskosten von 3€
→ Verbleib auf Ihrem Privatkonto: **57€** (100€-5€-10€-25€-3€)

2. Zwei weiteren Personen dieser Studie erfahren, an welche Organisationen Sie spenden, sowie welche Beträge. Zusammen mit den Informationen, an welche Wohltätigkeitsorganisationen Sie wie viel gespendet haben, erfahren die beiden Beobachter Ihren Namen und beurteilen Ihr Verhalten. Diese Beurteilung hat jedoch keinen Einfluss auf Ihre Auszahlung.

Zurück

Weiter



Wohltätigkeitsorganisationsliste - Beispiel

Gesundheit	+
Umwelt und Tiere	-
World Resources Institute	
Conservation International Foundation	
Center for Biological Diversity	
Wildlife Conservation Society	
Waterkeeper Alliance	
Earth Island Institute	
Amazon Conservation Team	
Gerechtigkeit und Rechtsbeistand	+
Jugend und Kinder	+
Entwicklungshilfe	+
Frauenrechte/-förderung	+
Sicherheit	+

Thema:

Umwelt und Tiere

Spende an Organisation

Waterkeeper Alliance:

5€



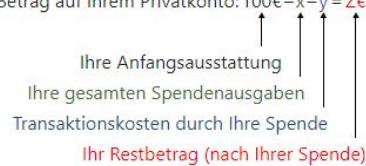
Zurück

Weiter



Evaluierung Ihrer Entscheidung - Beispiel

Nach Ihrer Spende bleibt Ihnen noch folgender Betrag auf Ihrem Privatkonto: $100\text{€} - x - y = z\text{€}$



Den Beobachtern wurde folgende Information angezeigt: ??? spendet an folgende Wohltätigkeitsorganisationen folgende Beträge:

- 1) Organisation X: _____ €
- 2) Organisation Y: _____ €

Die Beobachter haben Ihre Entscheidung wie folgt bewertet (Bewertung beruht auf deutschen Schulnoten; 1: sehr gut, 2: gut, 3: befriedigend, 4: ausreichend, 5: ungenügend, 6: mangelhaft):

Beobachter 1 bewertet Ihre Entscheidung wie folgt: _____

Beobachter 2 bewertet Ihre Entscheidung wie folgt: _____

Zurück

Weiter



Kontrollfragen

Frage 1: Nehmen Sie an, Sie spenden 10€ an Organisation X und 10€ an Organisation Y, wie viel Transaktionskosten zahlen Sie?

- 1€ 2€ 5€ 20€

Frage 2: Nehmen Sie an, Sie spenden 5€ an Organisation X, wie viel verbleibt dann auf Ihrem Privatkonto?

- 95€ 94€ 100€ 0€

Frage 3: Nehmen Sie an, Sie spenden 2€ an Organisation X, 15€ an Organisation Y, 23€ an Organisation Z, wie viel verbleibt dann auf Ihrem Privatkonto?

- 57€ 60€ 85€ 0€

Frage 4: Welche Information Ihrer Entscheidung sehen und bewerten zwei beobachtende Spieler dieser Studie?

- Die Beobachter sehen und bewerten, an welche Organisationen Sie gespendet haben, sowie welche Beträge.
- Die Beobachter sehen und bewerten, an welche Organisationen Sie gespendet haben, nicht jedoch welche Beträge.
- Die Beobachter sehen und bewerten, welche Werte Sie gespendet haben, nicht jedoch an welche Organisationen.

Zurück

Weiter



Kontrollfragen

Frage 1: Nehmen Sie an, Sie spenden 10€ an Organisation X und 10€ an Organisation Y, wie viel Transaktionskosten zahlen Sie?

- 1€ 2€ 5€ 20€

Frage 2: Nehmen Sie an, Sie spenden 5€ an Organisation X, wie viel verbleibt dann auf Ihrem Privatkonto?

- 95€ 94€ 100€ 0€

Frage 3: Nehmen Sie an, Sie spenden 2€ an Organisation X, 15€ an Organisation Y, 23€ an Organisation Z, wie viel verbleibt dann auf Ihrem Privatkonto?

- 57€ 60€ 85€ 0€

Frage 4: Welche Information Ihrer Entscheidung sehen und bewerten zwei beobachtende Spieler dieser Studie?

- Die Beobachter sehen und bewerten, an welche Organisationen Sie gespendet haben, sowie welche Beträge.
 Die Beobachter sehen und bewerten, an welche Organisationen Sie gespendet haben, nicht jedoch welche Beträge.
 Die Beobachter sehen und bewerten, welche Werte Sie gespendet haben, nicht jedoch an welche Organisationen.

Zurück

Weiter



Entscheidung

Wir bitten Sie nun, folgende Entscheidung zu treffen (100€ Startbetrag):

Wie viel von den 100€ möchten Sie an welche Wohltätigkeitsorganisation spenden?

(Bitte geben Sie einen beliebigen Betrag zwischen 0 und 100 an, den Sie an die jeweilige Wohltätigkeitsorganisation spenden wollen. Klicken Sie auf das +, um die jeweiligen Organisationen der Themen zu sehen und klicken sie diese an, um mehr über die jeweilige Organisation zu erfahren und eine Spende zu machen.)

Gerechtigkeit und Rechtsbeistand	+
Entwicklungshilfe	+
Gesundheit	+
Umwelt und Tiere	+
Frauenrechte/-förderung	+
Jugend und Kinder	+
Sicherheit	+

Ich möchte an keine der genannten Organisationen spenden.

Nach Ihrer Spende bleibt Ihnen noch folgender Betrag auf Ihrem Privatkonto: 100€ – 0€ – 0€ = **100€**

Beobachter

Den Beobachtern wird folgende Information angezeigt: ??? spendet an folgende Wohltätigkeitsorganisationen folgende Beträge:

Keine. (??? behält den gesamten Betrag für sich.)

→ ??? erzeugt Transaktionskosten von **0€**

Weiter



Entscheidung

Wir bitten Sie nun, folgende Entscheidung zu treffen (100€ Startbetrag):

Wie viel von den 100€ möchten Sie an welche Wohltätigkeitsorganisation spenden?

(Bitte geben Sie einen beliebigen Betrag zwischen 0 und 100 an, den Sie an die jeweilige Wohltätigkeitsorganisation spenden wollen. Klicken Sie auf das **+**, um die jeweiligen Organisationen der Themen zu sehen und klicken Sie diese an, um mehr über die jeweilige Organisation zu erfahren und eine Spende zu machen.)

Gerechtigkeit und Rechtsbeistand	+
Entwicklungshilfe	-
International Rescue Committee	
One Acre Fund	
World Central Kitchen	
GiveDirectly	
Global Communities	
All Hands and Hearts	
World Neighbors	
Gesundheit	+
Umwelt und Tiere	+
Frauenrechte/-förderung	+
Jugend und Kinder	+
Sicherheit	+

Ich möchte an keine der genannten Organisationen spenden.

Nach Ihrer Spende bleibt Ihnen noch folgender Betrag auf Ihrem Privatkonto: 100€ – 0€ – 0€ = **100€**

Beobachter

Den Beobachtern wird folgende Information angezeigt: ??? spendet an folgende Wohltätigkeitsorganisationen folgende Beträge:

Keine. (???) behält den gesamten Betrag für sich.)

→ ??? erzeugt Transaktionskosten von **0€**

Weiter



Entscheidung

Wir bitten Sie nun, folgende Entscheidung zu treffen (100€ Startbetrag):

Wie viel von den 100€ möchten Sie an welche Wohltätigkeitsorganisation spenden?

(Bitte geben Sie einen beliebigen Betrag zwischen 0 und 100 an, den Sie an die jeweilige Wohltätigkeitsorganisation spenden wollen. Klicken Sie auf das + um die jeweiligen Organisationen der Themen zu sehen und klicken Sie diese an, um mehr über die jeweilige Organisation zu erfahren und eine Spende zu machen.)

Jugend und Kinder	+
Sicherheit	+
Umwelt und Tiere	-
World Resources Institute	
Wildlife Conservation	
Earth Island Institute	
Amazon Conservation	
Conservation Internat	
Center for Biological	
Waterkeeper Alliance	
Gesundheit	
Frauenrechte/-förder	
Gerechtigkeit und	
Entwicklungshilfe	

Wildlife Conservation Society
Die Wildlife Conservation Society arbeitet daran, den Verlust von Arten und ihren Lebensräumen durch praktische Projekte und politische Lobbyarbeit zu verhindern. Sie setzen sich für eine Zukunft ein, in der Menschen und Wildtiere in Harmonisch und nachhaltig zusammenleben können.

Ihre Spende an diese Organisation: €

Spende eintragen

Ich möchte an keine der genannten Organisationen spenden.

Nach Ihrer Spende bleibt Ihnen noch folgender Betrag auf Ihrem Privatkonto: 100€ – 0€ – 0€ = 100€

Beobachter

Den Beobachtern wird folgende Information angezeigt:

??? spendet an folgende Wohltätigkeitsorganisationen:

Keine. (???) behält den gesamten Betrag für sich.)

→ ??? erzeugt Transaktionskosten von 0€

Weiter



Einschätzungen

Auf der nächsten Seite werden wir Sie bitten, die Antworten anderer Teilnehmer zu schätzen, wofür Sie zusätzliches Geld verdienen können. Hierbei werden wir Sie nach dem Median (Zentralwert) der Antworten anderer Teilnehmer fragen. Der Median (Zentralwert) ist der Wert, der die untere Hälfte der Antworten von der oberen Hälfte der Antworten trennt. Die folgenden beiden Beispiele veranschaulichen dies:

1. Betrachten Sie die Zahlen {1, 3, 3, 6, 7, 8, 9}. Hier ist 6 der Median, da es genau drei Zahlen gibt, die kleiner als 6 sind, und drei Zahlen, die größer als 6 sind.
2. Betrachten Sie die Zahlen {2, 7, 5, 3, 1}. Hier ist 3 der Median, da es genau zwei Zahlen gibt, die kleiner als 3 sind (1, 2) und zwei Zahlen, die größer als 3 sind (5, 7). Dies ist leicht zu erkennen, indem man die Zahlen von klein nach groß sortiert: {1, 2, 3, 5, 7}

Wir stellen Ihnen folgende Kontrollfrage, um sicherzustellen, dass Sie verstehen, was der Median ist:

Betrachten Sie die Zahlen {20, 1, 6, 4, 2}. Was ist der Median dieser Zahlen?

Weiter



Einschätzungen

Auf der nächsten Seite werden wir Sie bitten, die Antworten anderer Teilnehmer zu schätzen, wofür Sie zusätzliches Geld verdienen können. Hierbei werden wir Sie nach dem Median (Zentralwert) der Antworten anderer Teilnehmer fragen. Der Median (Zentralwert) ist der Wert, der die untere Hälfte der Antworten von der oberen Hälfte der Antworten trennt. Die folgenden beiden Beispiele veranschaulichen dies:

1. Betrachten Sie die Zahlen {1, 3, 3, 6, 7, 8, 9}. Hier ist 6 der Median, da es genau drei Zahlen gibt, die kleiner als 6 sind, und drei Zahlen, die größer als 6 sind.
2. Betrachten Sie die Zahlen {2, 7, 5, 3, 1}. Hier ist 3 der Median, da es genau zwei Zahlen gibt, die kleiner als 3 sind (1, 2) und zwei Zahlen, die größer als 3 sind (5, 7). Dies ist leicht zu erkennen, indem man die Zahlen von klein nach groß sortiert: {1, 2, 3, 5, 7}

Wir stellen Ihnen folgende Kontrollfrage, um sicherzustellen, dass Sie verstehen, was der Median ist:

Betrachten Sie die Zahlen {20, 1, 6, 4, 2}. Was ist der Median dieser Zahlen?

4

Weiter



Einschätzungen

1) Eine zusätzliche Personengruppe wurde rekrutiert und mit Ihrer Entscheidungssituation vertraut gemacht. Diese wurden gefragt, wie viel man spenden **sollte** und auf wie viele Organisationen man die Spenden aufteilen **sollte**. Was war Ihrer Meinung nach die Antwort dieser Personengruppe auf folgende Fragen? Für Ihre richtige Einschätzung können Sie zusätzliches Geld verdienen*:

- a) Was denken Sie war die (Median) Antwort der zusätzlichen Personengruppe auf die Frage: Wie viel **sollte** jeder Entscheider insgesamt spenden (Transaktionskosten mit einberechnet)?

€ (Bitte geben Sie einen Wert zwischen 0-100€ an).

- b) Was denken Sie war die (Median) Antwort der zusätzlichen Personengruppe auf die Frage: Auf wie viele Wohltätigkeitsorganisationen **sollten** die Entscheider ihren Spendenzwert aufteilen?

Wohltätigkeitsorganisationen (Bitte geben Sie einen Wert zwischen 0-49 Wohltätigkeitsorganisationen an).

2) Betrachten Sie alle Entscheider in diesem Spiel, die entscheiden müssen, auf wie viele Wohltätigkeitsorganisationen sie ihre Spende aufteilen. Was halten Sie für die **tatsächlichen** Werte? Für Ihre richtige Einschätzung können Sie zusätzliches Geld verdienen*:

- c) Wie viel spendet jeder Entscheider insgesamt (Median, Transaktionskosten mit einberechnet)?

€ (Bitte geben Sie einen Wert zwischen 0-100€ an).

- d) Auf wie viele Wohltätigkeitsorganisationen teilen die Entscheider ihren Spendenzwert auf (Median)?

Wohltätigkeitsorganisationen (Bitte geben Sie einen Wert zwischen 0-49 Wohltätigkeitsorganisationen an).

*Eine Ihrer Schätzantworten aus je 1) und 2) wird zufällig für die Auszahlung ausgelost. Wenn Sie bei diesen Werten die tatsächlichen Werte richtig schätzen (+/-3€), werden Ihnen zusätzlich je 0,50€ ausgezahlt.

Weiter



Einschätzungen

3) Betrachten Sie alle Personen, die vor der gleichen Entscheidung wie Sie standen, ob und wie sie 100€ spenden sollten. Nach Ihrer Einschätzung, wie viel haben die Probanden im Durchschnitt (0-100€) für [siehe jeweiliges Thema unten] gespendet? (Z.B. Durchschnittlich spenden die anderen Teilnehmenden 10€ an den Bereich ‚Entwicklungshilfe‘; Transaktionskosten mit einberechnet). Für Ihre richtige Einschätzung können Sie zusätzliches Geld verdienen*.

	Durchschnittliche Gesamtspende anderer Teilnehmer für dieses Thema in €
Gerechtigkeit und Rechtsbeistand	
Entwicklungshilfe	
Gesundheit	
Umwelt und Tiere	
Frauenrechte/-förderung	
Jugend und Kinder	
Sicherheit	
Gesamt:	0€

*Eine Ihrer Schätzantworten wird zufällig für die Auszahlung ausgelost. Wenn Sie bei diesem Wert den tatsächlichen Wert richtig schätzen (+/-3€), werden Ihnen zusätzlich 0,50€ ausgezahlt.

Weiter



Bitte warten

Bitte warten Sie bis die Beobachter ihre Bewertungen abgegeben haben.

Bitte beachten Sie, dass Beobachter die Entscheidungen mehrerer Teilnehmende bewerten.



Evaluierung Ihrer Entscheidung

Nach Ihrer Spende bleibt Ihnen noch folgender Betrag auf Ihrem Privatkonto: 100€ – 0€ – 0€ = 100€

Den Beobachtern wurde folgende Information angezeigt: ??? spendet an folgende Wohltätigkeitsorganisationen folgende Beträge:

Keine. (??? behält den gesamten Betrag für sich.)

→ ??? erzeugt Transaktionskosten von **0€**

Die Beobachter haben Ihre Entscheidung wie folgt bewertet (Bewertung beruht auf deutschen Schulnoten; 1: sehr gut, 2: gut, 3: befriedigend, 4: ausreichend, 5: ungenügend, 6: mangelhaft):

Beobachter 1 bewertet Ihre Entscheidung wie folgt: **4**

Beobachter 2 bewertet Ihre Entscheidung wie folgt: **5**

Weiter



Umfrage

Zum Abschluss stellen wir Ihnen noch einige Fragen. Wir möchten Sie bitten, diese sorgfältig zu beantworten.

1. Bitte geben Sie Ihr Geschlecht an.

- Männlich
- Weiblich
- Divers

2. Bitte geben Sie Ihr Geburtsjahr an:

3. Bitte geben Sie Ihre Studienrichtung an.

- Naturwissenschaften
- Sozialwissenschaften
- Geisteswissenschaften
- Wirtschaftswissenschaften
- Medizin
- Recht
- Anderes

4. Wie viele Stunden haben Sie im letzten Jahr ca. freiwillige Arbeit geleistet?

- 0 Stunden
- 1-5 Stunden
- 5-10 Stunden
- 10-20 Stunden
- 20-30 Stunden
- Mehr als 30 Stunden

Weiter



Umfrage

5. Bitte sagen Sie uns, wie risikobereit oder risikoscheu Sie im Allgemeinen sind. Bitte nutzen Sie die Skala von 0 bis 10, wobei 0 bedeutet: „gar nicht risikobereit“ und 10 „sehr risikobereit“. Mit den Werten zwischen 0 und 10 können Sie Ihre Einschätzung abstimmen.

Gar nicht risikobereit											Sehr risikobereit
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

6. Für wie wichtig halten Sie folgende 7 Bereiche? Bitte geben Sie Ihre Antwort wieder auf einer Skala von 1 bis 5 an, wobei 1 bedeutet, dass Sie das Thema "gar nicht wichtig" finden und eine 5 bedeutet, dass Sie das Thema "sehr wichtig" finden.

	Gar nicht wichtig					Sehr wichtig
	1	2	3	4	5	
Jugend und Kinder	<input type="radio"/>					
Entwicklungshilfe	<input type="radio"/>					
Gerechtigkeit und Rechtsbeistand	<input type="radio"/>					
Umwelt und Tiere	<input type="radio"/>					
Sicherheit	<input type="radio"/>					
Gesundheit	<input type="radio"/>					
Frauenrechte/-förderung	<input type="radio"/>					

Weiter



Umfrage

7. Wie sehr stimmen Sie der folgenden Aussage zu: "Es ist wichtig, seine Spenden zu streuen, um das Risiko zu verringern, dass eine bestimmte Organisation zu kurz kommt?" Bitte geben Sie Ihre Einschätzung auf einer Skala von 1 ("Ich stimme gar nicht zu") bis 5 ("Ich stimme vollkommen zu") an.

Ich stimme gar nicht zu					Ich stimme vollkommen zu				
1		2		3		4		5	
<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	

8. Wie sehr stimmen Sie der folgenden Aussage zu: "Es ist wichtig, seine Spenden zu streuen, um das Risiko zu verringern, dass die Spenden ineffizient ausgegeben werden?" Bitte geben Sie Ihre Einschätzung auf einer Skala von 1 ("Ich stimme gar nicht zu") bis 5 ("Ich stimme vollkommen zu") an.

Ich stimme gar nicht zu					Ich stimme vollkommen zu				
1		2		3		4		5	
<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>		<input type="radio"/>	

Weiter



Umfrage

9. Hier sind einige Merkmale, die zur Beschreibung einer Person verwendet werden können:
fürsorglich, mitfühlend, fair, freundlich, großzügig, hilfsbereit, fleißig, ehrlich und freundlich.

Die Person mit diesen Merkmalen könnte Sie oder jemand anderes sein. Stellen Sie sich vor, was eine Person mit solchen Eigenschaften denken, fühlen und tun könnte. Sobald Sie ein klares Bild von einer solchen Person haben, beantworten Sie die folgenden Fragen auf der Skala von 0 („stimme überhaupt nicht zu“) bis 5 („stimme voll und ganz zu“).

Aussagen	Stimme überhaupt nicht zu						Stimme voll und ganz zu
	0	1	2	3	4	5	
Ich würde mich gut fühlen, wenn ich eine Person wäre, die diese Eigenschaften hat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Jemand zu sein, der diese Eigenschaften hat, ist ein wichtiger Teil dessen, was ich bin.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Ich würde mich schämen, eine Person zu sein, die diese Eigenschaften hat.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Diese Eigenschaften zu haben, ist für mich nicht wirklich wichtig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Ich wünsche mir sehr, diese Eigenschaften zu haben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Ich trage oft Kleidung, die mich als Person mit diesen Eigenschaften ausweist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Die Dinge, die ich in meiner Freizeit mache (z. B. Hobbys), weisen mich eindeutig als Person mit diesen Eigenschaften aus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Die Art der Bücher und Zeitschriften, die ich lese, weisen mich als Person mit diesen Eigenschaften aus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Die Tatsache, dass ich diese Eigenschaften habe, wird anderen durch meine Mitgliedschaft in bestimmten Organisationen mitgeteilt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Ich bin aktiv an Aktivitäten beteiligt, die anderen vermitteln, dass ich diese Eigenschaften habe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Weiter



Vielen Dank für Ihre Teilnahme. Ihre Auszahlung:

- Sie erhalten 4,50€ als fixe Auszahlung für Ihre Teilnahme;
- Sobald alle Teilnehmenden dieser Studie das Experiment abgeschlossen haben, wird ausgewertet, ob Sie die zusätzliche Auszahlung von 0,50€ für Ihre genauen Schätzungen während des Experiments und der Umfrage bekommen;
- Des Weiteren wird zu diesem Zeitpunkt auch ausgelost, ob Ihre Entscheidung der Aufteilung der 100€ zwischen Ihnen und den potenziellen Wohltätigkeitsorganisationen in Kraft tritt oder nicht.

Ihre vorläufige Auszahlung für das Experiment beträgt = 4,50€, für Ihre Schätzaufgaben können Sie zusätzlich bis zu 1,50€ verdienen, wobei Ihre Gesamtauszahlung je nach Spendenentscheidung mehr betragen kann (z.B. eine Person, die 50€ spendet, kann insgesamt 50€ + 4,50€ + 1,50€ = 56€ verdienen). Hierüber informieren wir Sie, sobald alle Teilnehmenden das Experiment abgeschlossen haben.

Vielen Dank für Ihre Teilnahme!

Sie erhalten Ihre fixe Auszahlung innerhalb der nächsten 15 Werktagen, die potentielle zusätzliche Auszahlung kann bis zu einem Monat dauern.

Bitte prüfen Sie auf <https://hroot.wiso.uni-hamburg.de>, ob Ihre Kontodaten bei hroot hinterlegt sind. Falls nicht, tragen Sie diese bitte ein, damit Ihnen Ihr Auszahlungsbetrag überwiesen werden kann.



S.7 Charity Explanations

In the following, we provide the list of all 49 charities and the respective explanations that participants saw when clicking on their names.

1. Health

- CancerCare: CancerCare is a non-profit organization that provides financial, emotional and practical support to people with cancer and their families. The organization offers free counseling services, such as psychotherapy, as well as financial assistance for medical bills and other needs.
- Multiple Myeloma Research Foundation: The Multiple Myeloma Research Foundation is a non-profit organization dedicated to promoting research and education in the field of multiple myeloma disease. The organization works closely with scientists and physicians to find better treatment options and a cure for the disease.
- Brain & Behavior Research Foundation: The Brain & Behavior Research Foundation is a non-profit organization dedicated to advancing research and education in the field of neurological and mental disorders. The organization supports scientists and physicians who are working to develop new treatments and a better understanding of these disorders.
- Diabetes Action Research and Education Foundation: The Diabetes Action Research and Education Foundation is a non-profit organization dedicated to fighting diabetes and its complications through education, research and support for people with diabetes and their families. The organization provides education and resources for people with diabetes to help them manage their diabetes.
- Hearing Health Foundation: The Hearing Health Foundation is a non-profit organization dedicated to protecting and improving hearing health. The organization promotes research and education in the field of hearing health and works closely with professionals and those affected to develop better treatment methods and prevention strategies.
- Parkinson's Foundation: The Parkinson's Foundation is a non-profit organization dedicated to improving the lives of people with Parkinson's and their families through education, research and support. The organization works closely with scientists and physicians to find better treatments and a cure for the disease.
- HealthRight International: HealthRight International is a non-profit organization that aims to support people in developing countries with healthcare, human rights

and education. It works with local partners to develop and implement cost-effective solutions that provide the greatest possible benefit to the community.

2. Environment

- Amazon Conservation Team: The Amazon Conservation Team works to protect and conserve the Amazon rainforest and its inhabitants by strengthening the connection between nature and culture. It supports indigenous communities in managing their land and works with governments and other partners to protect the rainforest.
- Center for Biological Diversity: The Center for Biological Diversity is an environmental organization that works to protect endangered species and their habitats. It works to influence political decisions, change laws and regulations and raise awareness of the need to protect species and the climate.
- Conservation International Foundation: The Conservation International Foundation works worldwide to conserve biodiversity and find solutions to pressing environmental problems. It works with governments, communities, businesses and other partners to develop innovative solutions for a sustainable future.
- Earth Island Institute: The Earth Island Institute is an international organization dedicated to the protection of the environment and human rights. It supports environmental projects around the world and works to influence policy decisions and raise awareness of environmental issues.
- Waterkeeper Alliance: The Waterkeeper Alliance works to ensure clean water for all. It supports local communities in monitoring and defending their water resources and works with governments and other partners to strengthen the protection of water resources worldwide.
- World Resources Institute: The World Resources Institute is a global think tank working for a sustainable future. It works to influence policy decisions, develop innovative solutions to environmental and development problems and raise awareness of the need for a sustainable future.
- Wildlife Conservation Society: The Wildlife Conservation Society works to prevent the loss of species and their habitats through practical projects and political lobbying. They campaign for a future in which people and wildlife can live together in harmony and sustainability.

3. Development Aid

- All Hands and Hearts: All Hands and Hearts is committed to rebuilding and protecting communities after disasters. Volunteers work directly with affected communities to help them recover quickly.
- GiveDirectly: GiveDirectly transfers money directly to needy families in developing countries to enable them to determine and meet their own needs. This innovative method of poverty alleviation has proven to be effective, cost efficient and well managed through transparency and monitoring.
- Global Communities: Global Communities works with communities worldwide to help them improve their living conditions and circumstances. Global Communities is committed to sustainable development and a strong future for all.
- International Rescue Committee: International Rescue Committee (IRC) works in over 40 countries to provide humanitarian aid and support to people affected by war, conflict and natural disasters. They also work to bring refugees back to their homes and help them resume their lives.
- One Acre Fund: One Acre Fund works with poor farming families in Africa to help them improve their crop yields and increase their income. They provide financial services, training and local supplies to help farmers gain access to the resources and skills they need to improve their crops.
- World Central Kitchen: World Central Kitchen specializes in providing safe and healthy meals in crisis areas and after natural disasters. World Central Kitchen works with local communities to ensure that people in need are provided with hot meals.
- World Neighbors: World Neighbors is an international development organization focused on improving lives in rural communities. It works closely with local partners and communities to achieve sustainable improvements in health, nutrition and economic opportunities.

4. Women Advocacy

- Global Fund for Women: The Global Fund for Women is an international organization dedicated to promoting the rights and equality of women and girls worldwide. It supports local groups and initiatives to improve the living conditions and human rights of women.
- National Women's Law Center: The National Women's Law Center is an organization that advocates for the rights of women and girls. It fights against discrimination and for the improvement of the legal framework in order to promote gender equality.

- EngenderHealth: EngenderHealth is an international organization that advocates for the health and rights of women and girls in developing countries. It provides medical services and educational programs to improve reproductive health and well-being.
- Guttmacher Institute: The Guttmacher Institute is a research and education organization that focuses on sexual and reproductive health and rights. It collects and analyzes data to inform policy makers about women's needs and rights.
- PAI: PAI is an international organization that works to promote the reproductive rights and health of women and girls. It works with governments, civil society and other partners to support the implementation of laws and programs.
- Pathfinder International: Pathfinder International is an international organization dedicated to improving the reproductive health and rights of women and girls. It provides medical services, education and advocacy to promote gender equality.
- PCI-Media Impact: PCI-Media Impact works to promote the rights and well-being of women. It uses audiovisual media to disseminate information and stories that help promote women's rights and gender equality and empower women in leadership positions.

5. Rights

- Center for Community Change Action: Center for Community Change Action works to improve the lives of disadvantaged communities through advocacy and organizing. It is a nonprofit organization dedicated to social and economic justice.
- Equal Justice Initiative: The Equal Justice Initiative is a nonprofit organization that works for fair and just criminal justice and the protection of the rights of prisoners and convicts. They advocate for reforms that improve access to justice for all.
- Human Rights First: Human Rights First works to defend and promote human rights worldwide. The non-profit organization advocates for political refugees and the persecuted by using legal and political means.
- Rape, Abuse & Incest National Network: Rape, Abuse & Incest National Network (RAINN) is a non-profit organization that provides support to victims of sexual crimes and their families. They also operate a national hotline for victims of sex crimes and offer information and resource programs.

- Goodwill Industries International: Goodwill Industries International (National Office) is a non-profit organization dedicated to improving employment opportunities and economic self-sufficiency for people with barriers. They offer programs and services to increase the abilities of people with disabilities.
- Common Cause Education Fund: Common Cause Education Fund is a non-profit organization that advocates for political reform and transparent government. They work to improve political participation and transparency and advocate for political reforms that strengthen the understanding of democracy.
- National Alliance to End Homelessness: National Alliance to End Homelessness is a nonprofit organization that works to ensure that people who are homeless or at risk of becoming homeless have access to affordable housing and support services. They work on policy reforms and programs aimed at ending homelessness.

6. Youth and Children

- Children Incorporated: Children Incorporated supports children in poverty through educational programs and access to basic needs. They work in locations worldwide.
- Children's Defense Fund: The Child Defense Fund is an organization that advocates for the rights and well-being of children. It works to protect children from neglect, abuse and exploitation and to promote their development through education and family support programs.
- Compassion International: Compassion International works to lift children out of poverty by providing education, health care and spiritual nurturing. This is done through a network of local church partners in developing countries.
- Pearl S. Buck International: Pearl S. Buck International promotes understanding and cooperation between cultures through educational programs and projects to improve the lives of women and children in Asia.
- Ronald McDonald House Charities: The Ronald McDonald House Charities provide support and a temporary home for sick children and their families while they receive medical treatment. They operate houses in several countries worldwide.
- Unbound: Unbound empowers children in poverty to improve their lives through education, business opportunities and spiritual support. They work in countries in Latin America, Asia and Africa.
- World Vision: World Vision works to eradicate poverty and injustice by equipping communities with the resources and skills they need to build a better future. This

is done through education programs, healthcare and humanitarian aid worldwide, especially for children and young people.

7. Security

- Concerns of Police Survivors: Concerns of Police Survivors (COPS) supports survivors of police officers killed in the line of duty by providing financial and emotional support. The organization works to ensure that these survivors can lead a normal life again.
- Hope For The Warriors: Hope For The Warriors is a charity organization dedicated to supporting war veterans and their families. It offers special programs and services to support women in the armed forces and women veterans who are dealing with traumatic experiences and injuries.
- Bob Woodruff Family Foundation: The Bob Woodruff Family Foundation assists injured veterans and their families in readjusting to civilian life upon their return. It offers a variety of resources and services to ease the transition.
- Fisher House Foundation: The Fisher House Foundation supports war-injured soldiers and their families by providing them with free overnight accommodations near military hospitals and medical facilities.
- Gary Sinise Foundation: The Gary Sinise Foundation supports injured war veterans and their families by providing emotional and financial support and facilities for their reintegration into civil society.
- Tragedy Assistance Program for Survivors: Tragedy Assistance Program for Survivors (TAPS) provides a variety of resources and services to survivors of military service members killed in action to help them cope with their loss and reintegrate into civilian society.
- Wounded Warriors Family Support: Wounded Warriors Family Support assists wounded warriors and their families to lead fulfilling lives after their injury by providing financial and emotional support and facilities.