

Bluffing in Charitable Giving – An Experiment on Indirect Signalling

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December 15, 2023

Abstract

Today’s society allows individuals to send many signals about their personality, from expressive lifestyles to posts on social media. With multiple actions, however, the efficacy of the signals depends on what others observe. In this study, we examine how individuals respond to different levels of observability when they make two decisions: (i) how much to donate to charity, and (ii) what charities to donate to. In an experiment, we mimic charitable giving in the field by imposing costs on spreading donations among many charities. We find that donors respond to such costs by reducing the number of charities they give to. Yet, when donors are observed and evaluated only regarding the number of charities they give to, they (correctly) anticipate that spectators infer larger donations from more charities. Some donors use this strategically by making numerous small donations, whereby they indirectly signal that they are altruistic. However, this wasteful “altruistic bluff” disappears once spectators also observe the amounts donated to each charity. In this way, our study shows that strategic perception management can lead to large efficiency losses, and it highlights that signalling should be understood jointly for all actions relevant to a situation.

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The study is pre-registered on OSF (<https://osf.io/jdz7n>). The project was approved by the Institutional Review Board at Hamburg University on February 13th 2023. We especially thank Alexander Koch and Daniele Nosenzo for extensive discussions and valuable feedback. Also, we thank seminar participants at Aarhus University, Hamburg University, and the Berlin Behavioral Economics Group for helpful comments. We gratefully acknowledge the financial support of the German Research Foundation (DFG) within the Program Collective Decision-Making at University of Hamburg.

Keywords: Multidimensional Signalling, Observability, Charitable Giving, Altruism

JEL: C91, D01, D61, D64, D91, L31,

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 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 usually focus on only one action and its related character trait (e.g., donated amounts and altruism). Far less attention has been paid to the empirically relevant case where individuals engage in more than one behaviour and care about their image along more than one dimension. If in those cases only one action is observed, it can be an indirect signal for another behavior that is invisible, yet related to the visible one. Anticipating this inter-dependency, people can signal something about themselves regarding a character trait by engaging publicly in a certain behavior. For example, employees might frequently be seen at their desk, working late, to signal dedication and hard work to their superiors. Yet what is not directly visible is their productivity which might be rather low during those hours. Or students who intentionally carry textbooks and highlighters, to appear studious without anybody directly observing their actual diligence in their studies. We can also think of people who choose to show their social engagement through charity sticker on cars or license plates (e.g. “voluntary firefighter” license plate). Yet their actual intentions of frequently taking up calls or devoting much time are not visible.

In this paper, we study indirect signaling through the case of charitable giving because previous research has demonstrated that social motivation greatly influences donations to charity (e.g., Agerström et al., 2016; Krupka and Croson, 2016; House, 2018). And as we see in this paper, even though donors like to be viewed as “smart” and efficient, they might give to charity in inefficient ways if this leads others to think of them as more altruistic. These examples illustrate the importance of investigating how observability influences behaviour when individuals care about their image along multiple dimensions. In this study, we therefore

aim to answer the following questions: How do individuals adapt their giving behaviour to different levels of observability? How do individuals consider efficiency losses from spreading their donations to many charities?

To address these research question, we build a conceptual framework and provide experimental evidence on how social motivation can have negative effects when individuals seek to manipulate their public image. Subjects decide under different levels of observability (i) how much to donate to charity and (ii) how many charities to give to. We find that people engage in wasteful indirect signaling in order to manipulate what others think about their unobserved actions. Yet, when everything is observable, we do not find any change in the giving behaviour.

Guided by a conceptual framework, we conduct an online experiment in which subjects choose how much they want to donate and how many charities they want to give to. As is common in the field, subjects incur a fixed processing cost for each additional charity they give to, and it therefore leads to large efficiency losses if donors decide to divide their donations among a wide range of charities.¹ To test for indirect signalling, we vary observability across three treatments. In the *Private* treatment, subjects are not observed. In *PublicN*, subjects are informed that a spectator will judge them based on their decision about how many charities they give to and that the spectator will assign them (non-monetary) feedback points. This treatment allows subjects to engage in indirect signaling as people might. Finally, in *PublicNAmount* subjects are informed that the spectator will learn also the total amount donated to charity.

We derive three key results from our study: first, we find that efficiency matters. We observe that subjects decrease the number of charities they give to when each donation comes with a fixed transaction cost. This effect is driven by the intensive margin rather than the extensive margin. That is, fixed transaction costs do not dissuade subjects from donating, but conditional on giving, they decrease the number of charities they give to in order to reduce inefficiency caused by transaction costs. Second, we find that the extent to which donors are observed matters for their donation behaviour. Concretely, subjects engage in wasteful, indirect signalling when only the number of charities is observed. They do so because they

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). Depending on the method of payment, the fixed costs typically range between USD 0.2 and 3.6 with donations via traditional channels (mail, cheque, etc.) being more costly than online payment (see e.g. Give Lively and The Big Give). 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, 2022). Giving to multiple charities is particularly prevalent among affluent households, who give to an average of seven organisations (Osili et al., 2021).

(correctly) anticipate that observers assume that, on average, a larger numbers of charities is associated with greater total donations. This indirect signal of a presumably altruistic behaviour is used by a small but substantial fraction of people who engage in such “wasteful” donation behaviour when being partially observed. This effect is driven by the extensive margin and suggests a bluffing behaviour that is not used by people who are intrinsically motivated to give. Thirdly, we find that under full observability (the number of charities and the total amount), subjects do not adapt their donation behaviour. This suggests that the willingness to engage in manipulating one’s image is price-sensitive. Given the possibility to make many small donations and appearing altruistic is rather cheap in the partial observability treatment, manipulating one’s imagine in the full observability treatment is much more expensive. We discuss potential reasons, such as online disinhibition and the decreasing effect of donations on evaluations, that possibly explain the result of a lacking behavioural change in the full observability treatment.

This study makes two important contributions to the literature. First, we are (to the best of our knowledge) the first to show empirically that social motivation can have negative consequences when image concerns are multidimensional.² Previous studies show that image concerns can make individuals behave more prosocially (Freeman, 1997; Batson, 1998), and informing individuals about social norms (descriptive or injunctive) can e.g. increase charitable giving (Bicchieri and Xiao, 2009; Krupka and Weber, 2013; Raihani and McAuliffe, 2014; Nook et al., 2016; Drouvelis and Marx, 2021). Some researchers have noted that social motivation can have negative consequences if the existing social norms are harmful or oppressive (Taylor, 2016; Barr et al., 2018; Koudenburg et al., 2021).³ In this study, we demonstrate that the multidimensionality of image concerns can lead social motivation to have negative consequences for society even in situations where people receive social esteem from prosocial behaviour such as giving to charity.⁴

²Relatedly, theoretical studies have examined multidimensional signalling games (e.g., Quinzii and Rochet, 1985; Engers, 1987). For instance, Kim (2007) builds a model of multidimensional signalling in the labour market, which shows that, under certain assumptions, it may be optimal for workers to underinvest in education if this signals that they have greater personal networks that firms can benefit from. Our paper is distinct from this literature as (i) we take an experimental approach to examine empirically how image concerns influence behaviour when image concerns are multidimensional, and (ii) signalling in this paper is purely reputational as it does not involve any monetary rewards (e.g., being hired by a firm).

³On a personal level, social motivation can be important for providing individuals with a sense of identity and purpose (Tajfel et al., 1971; Tajfel and Turner, 1979; Tajfel, 1986; Crocker and Luhtanen, 1990). But individuals who are overly concerned about their public image are more likely to have low self-esteem, experience anxiety and depression, and engage in risky or unhealthy behaviours to conform with a group (Geen, 1991; Leary et al., 1994; Canevello and Crocker, 2015; Crocker et al., 2017).

⁴Related to our study, Butera and Horn (2020) study the effect of providing public information about the

Second, our study contributes 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 an efficiency loss (in the form of processing costs). Recent years have seen an increased focus on the efficiency of charities (cf. effective altruism, [Singer, 2009](#)). Yet, other factors than charitable output can lead people to donate. One powerful motivator is feeling good about giving ([Andreoni, 1989, 1990](#); [Bekkers and Wiepking, 2011](#)), and there can be a conflict between *feeling* good and *doing* good ([Null, 2011](#)). For example, paying for a charity’s administration costs does not feel as good as supporting a particular cause. Thus, many donors display an aversion to paying for a charity’s overhead costs ([Caviola et al., 2014](#); [Charles et al., 2020](#)), and this aversion may for some people even overshadow the actual outcomes of the charity ([Gregory and Howard, 2009](#); [Gneezy et al., 2018](#); [Metzger and Günther, 2019](#)). In this paper, we address a major source of efficiency loss that real-world charities face but which has received little attention in the literature (see Footnote 1). To do so, we study people’s decision about how many charities to give to, which is a new dimension of the giving decision compared to the previous research, which tends to focus solely on choices among fixed sets of possible charities.⁵

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 effectiveness of the charities that individuals donate to. 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 about donation amounts and efficiency, and we elicit first-order and second-order beliefs to obtain more direct measures of subjects’ intentions to manipulate their public image.

⁵Previous studies on charitable giving have primarily focused on the amounts people give as the main outcome ([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](#)). The effect of the number of recipients depends to some extent on other factors such as moral fatigue ([Butts et al., 2019](#)), the identifiability of the recipients ([Kogut and Ritov, 2005a,b](#)), and the donor’s perceived efficacy of giving ([Sharma and Morwitz, 2016](#)). Other studies examine competition between charities and whether giving to one charity crowds out donations to other charities (e.g., [Reinstein, 2011](#); [Lange and Stocking, 2012](#); [Corazzini et al., 2015](#); [Krieg and Samek, 2017](#); [Meer, 2017](#); [Scharf et al., 2017](#); [Deck and Murphy, 2019](#); [Gee and Meer, 2019](#)). One exception to the fixed set of recipients is [Fehérová et al. \(2022\)](#), who allow some subjects 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.

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 how much one donates to charity, and b is the number of charities one donates to. 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 . Giving to charity reduces one's own payoff ($x'_a \leq 0, x'_b \leq 0$; $x''_{aa} = 0, x''_{bb} = 0$). We let $C(a, b)$ be the psychological costs associated with the actions. For charitable giving, such costs could e.g. be the cognitive costs of deciding what charities to give to ([Huck and Rasul, 2010](#); [Knowles and Servátka, 2015](#)), suggesting that $C'_a, C'_b > 0$. We assume that the psychological costs are convex ($C''_{aa} > 0, C''_{bb} > 0$) and separable ($C''_{ab} = 0$).

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 actions, drawn independently from a continuous and bounded distribution f . Individuals know their own sensitivities, but they need to infer sensitivities of others from their actions (as explained below). We assume that individual i receives 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](#); [Crumpler and Grossman, 2008](#)) and from giving to more charities ([Sharps and Schroeder, 2019](#); [Schmitz, 2021](#)).

Finally, individual i may care about her reputation $R(a, b)$, which we model as the beliefs an audience has about α and β . Specifically, the audience infers 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 $\gamma_a, \gamma_b \geq 0$ 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 Benchmark: No Observability ($\Omega = \{\emptyset\}$)

When a and b are unobserved, we assume behaviour does not influence reputation ($r_a = r_b = 0$), which implies that the optimal actions are implicitly defined $g'_a = C'_a - x'_a$ and $g'_b = C'_b - x'_b$. Due to the concavity of g and convexity of $C - x$, an increase in α (β) leads to an increase in a (b). Yet, the interplay between α (β) and b (a) is less straight-forward, as it 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 ($g''_{ab} > 0$). 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).

2.3 Signalling and Indirect Signalling

With observability, we allow $r_a \neq 0$ and $r_b \neq 0$. 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 audience, as beliefs are accurate in equilibrium (i.e. $\frac{\partial E[\alpha|a \in \Omega]}{\partial a} > 0$, $\frac{\partial E[\beta|b \in \Omega]}{\partial b} > 0$).⁶ 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 are more concerned about spreading donations between charities give to more charities.

In the case of full observability ($\Omega = \{a, b\}$), a and b both influence the reputation of individual i by their positive relations to α and β , respectively. In addition, there may be

⁶For comprehensive models of multidimensional signalling, we refer the reader to the work of Quinzii and Rochet (1985) and Engers (1987).

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 $\frac{\partial E[\beta|\Omega=\{a,b\}]}{\partial a} < 0$).⁷ 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, $r_a > 0$, while the sign of r_b is ambiguous and may even be negative if $\gamma_a > -\gamma_b \frac{\partial E[\beta|\Omega=\{a,b\}]}{\partial b} \cdot \left(\frac{\partial E[\alpha|\Omega=\{a,b\}]}{\partial b} \right)^{-1}$.

In the case of partial observability ($\Omega = \{a\}$ or $\Omega = \{b\}$), we shall say that there is both *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 . Such indirect signalling is not present with full observability, as the audience here sees a . Here, 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 $g''_{ab} < 0$). 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 ($\frac{\partial E[\alpha|\Omega=\{b\}]}{\partial b} > 0$), which would suggest that $r_b > 0$ 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 audience cares 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 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 audience (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 consider efficiency losses from spreading their donations to many charities, and (ii) how individuals adapt their giving behaviour to different levels of observability. The experiment consists of five parts (see 1). First, one group of subjects ('dictators') make decisions about how much to donate and how many charities to donate to. In different treatments, dictators make their decisions with either

⁷The opposite holds for $g''_{ab} > 0$. If $g''_{ab} = 0$, we assume that $\frac{\partial E[\beta|\Omega=\{a,b\}]}{\partial a} = \frac{\partial E[\alpha|\Omega=\{a,b\}]}{\partial b} = 0$ (recall that α and β are drawn independently). In this case, $r_a > 0$ and $r_b > 0$ from the positive relation between α (β) and a (b).

no, partial, or full observability. Second, we measure social norms by eliciting normative and empirical expectations. Third, we elicit first- and second-order beliefs of subjects in the treatment with partial observability. Fourth, a second group of subjects (‘spectators’) provide non-monetary (dis)approval points to the dictators based on what they observe. Finally, subjects complete a survey.

3.1 Donation Decision

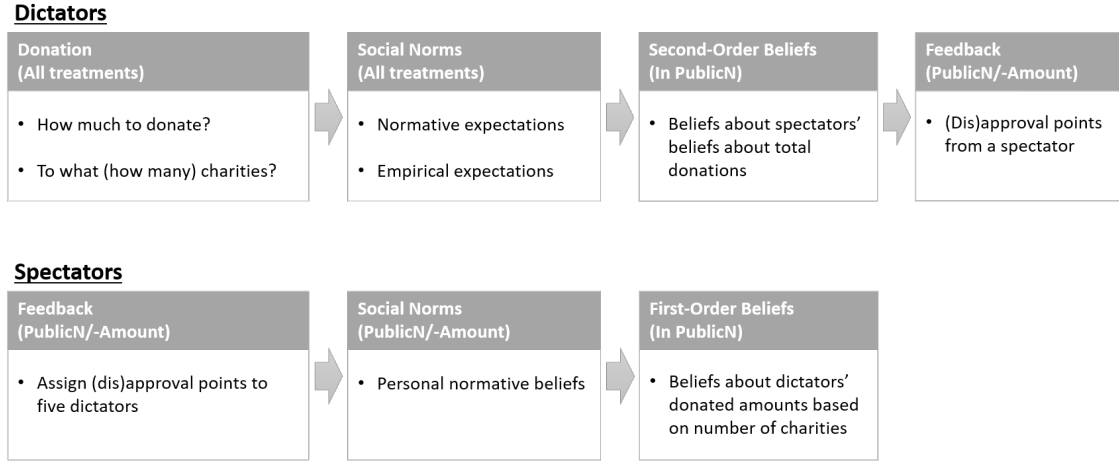
Setting. The main part of our experiment is a modified dictator game, in which dictators choose (i) how much of EUR 100 they want to donate to charities or keep for themselves and (ii) how many charities they want to give to. Here, we use the large nominal stakes of EUR 100 to make it meaningful for subjects to distribute to several causes. Subjects 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, subjects see a list of 49 charities divided into the following seven topics: Health, Rights, Environment, Development Aid, Youth and Children, Security, and Women Advocacy (for the list of all charities, see Figure A.2). Specifically, subjects see the list of seven topics, and clicking on any topic will show the seven charities within that topic. If subjects 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. We use the same picture for all charities within a topic to not induce any bias in what charity subjects give to within a topic. 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 subjects about this to mitigate that subjects give to multiple charities in order to reduce the risk of their donations being spent inefficiently.

Treatments. We divide subjects into a total of 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). Comparing giving behaviour between *NoCost* and *Private* sheds light on the influence of transaction costs. Notably, if dictators do not adapt their behaviour to

Figure 1: Timeline of the experiment



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 a spectator will judge them based on the number of charities they give to and that the spectator 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). The spectator observes 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
1. NoCost	-	-
2. Private	1€ per charity	-
3. PublicN	1€ per charity	Charities
4. PublicNAmount	1€ per charity	Charities & Donated Amounts

In all treatments, we make sure that subjects understand the donation decision, the transaction costs, and the level of observability with a series of control questions. If subjects answer any question incorrectly, they are informed about this and asked to try again. Subjects are not allowed to continue before they answer the control questions correctly.

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 elicitor 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 responses among dictators are (empirical expectations).⁸ This belief elicitation is incentivised: we draw at random either the questions related to normative or empirical expectations, and subjects receive EUR 0.5 if they correctly guess the number of charities and the amount donated (\pm EUR 3).⁹

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.

⁸Prior to this page in the experiment, all subjects 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.

⁹Throughout 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 subjects 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 subjects.

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 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 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 spectator are. Again, this is incentivised as the dictator may earn EUR 0.5 if she correctly guesses the beliefs of the spectator (\pm EUR 3).¹⁰ 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.

This belief elicitation also serves as an additional control question, as it provides a test for whether dictators and spectators have understood what information is being shown. Specifically, if a spectator observes (no) donations to a charity, then believing that total donations are (not) zero would suggest that the spectator did not understand the task. Similarly for the dictators, giving to no charities and stating second-order beliefs greater than zero (and vice-versa) suggests a lack of understanding, and we exclude these subjects from the main analysis.

3.4 Feedback

After subjects 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.¹¹ To increase the statistical power for the main comparisons between dictators, we randomise fewer subjects into the role of spectators such that two spectators evaluate the decisions of five dic-

¹⁰Note that the elicitation of second-order beliefs comes as a surprise to the dictator, whereby this elicitation task cannot influence the donation decision. This feature of the design ensures that dictators do not change their giving decision to earn the additional EUR 0.5; e.g., by giving to zero charities to make it obvious to the spectator that the total amount given is zero.

¹¹We use the German high school grading system, which is a 6 point scale ranging from “insufficient” to “very good”. This is a grading system that is known to all subjects 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.

tators.¹² When dictators receive feedback, they are informed that the spectator also evaluated the decisions of four other dictators.

3.5 Survey

At the end of the experiment, subjects answer demographic questions about their gender, age, field of study, and how many hours of voluntary work they have done the past year. We then elicit several measures to explore factors beyond our conceptual framework that may influence the dictators’ decisions. First, subjects rate on a 5-point Likert scale how important they think supporting each of the seven topics is. Second, subjects answer two questions about their preferences for spreading donations.¹³ Third, subjects 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).

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 participants, 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, 10 dictators in *PublicN* fail to provide consistent answers to the questions about second-order beliefs, leaving us with a main sample of 794 subjects. In the main sample, 36 percent were male, and the mean age was 26 years.

For completing the study, dictators (social norm elicitors and spectators) received EUR 4.5

¹²Having two spectators evaluate each dictator decision serves two purposes: as we conduct the experiment online with real-time feedback, this is a precautionary measure against the case where one spectator drops out, whereby dictators in *PublicN* and *PublicNAmount* would not get feedback. In addition, this increases the sample size for spectators, thereby increasing our power to analyse how spectators reward or punish the two decisions (see Section 5.1).

¹³Specifically, subjects rate their agreement with the following statements on a 5-point Likert scale: “It is important to spread out one’s donations to reduce the risk that any specific charity misses out on funds” and “It is important to spread out one’s donations to reduce the risk that the donations are used inefficiently” (adapted from Lusardi and Mitchell, 2009).

(3) in addition to the payment for the incentivised belief elicitation questions and the payment to the 10 randomly selected dictators.¹⁴

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 paying too much for administration (Meer, 2014; Portillo and Stinn, 2018). 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 *Dictators on average give to more charities in NoCost than in Private.*

We then turn to the effects of observability. Importantly, as explained in our conceptual framework (see Section 2), we expect indirect signalling to influence behaviour differently depending on the (expected) correlation between the two decisions (i.e. the sign of g''_{ab}). 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 (Spearman's $\rho = .530$, $p < .001$), and dictators anticipate this relation (Spearman's $\rho = .404$, $p < .001$). 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 from the spectator inference that the dictator donated larger 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

¹⁴The experiment was somewhat longer than in the pilot, and we therefore increased the fixed payment from EUR 3 to EUR 4.5 after the first two sessions.

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*. Thus, we arrive at our second hypothesis:

- Hypothesis 2** 1. *The average number of charities subjects give to is greater in PublicN than in Private.*
2. *The average number of charities subjects 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** 1. *On average, subjects donate more in PublicNAmount than in PublicN.*
2. *On average, subjects donate more in PublicNAmount than in Private.*
3. *On average, subjects donate more in PublicN than in Private.*

4 Analysis

We now present the results on how subjects 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 “run 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).” 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.¹⁵ To test H3, we rely on tobit regressions, as the total donations are censored data

¹⁵In all treatments, we find evidence of overdispersion, meaning that the variance in the number of charities donated to is greater than the average number of charities donated to per person. This indicates that negative binomial regressions are indeed more fitting than e.g. Poisson regressions.

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 (Wilcoxon, 1945; Mann and Whitney, 1947) and the semiparametric Symmetrically Censored Least Squares estimator (Powell, 1986). Table 2 provides descriptive statistics, and Figures A.1 and A.2 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.

Table 2: 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
NE Donations	55.35	49.89	52.92	55.05	52.98
EE Donations	41.69	42.66	43.17	42.56	42.64
Charities					
Actual Charities	5.82	3.27	3.82	3.38	3.80
NE Charities	9.60	6.18	4.96	6.59	6.42
EE Charities	7.38	5.65	4.59	4.58	5.27

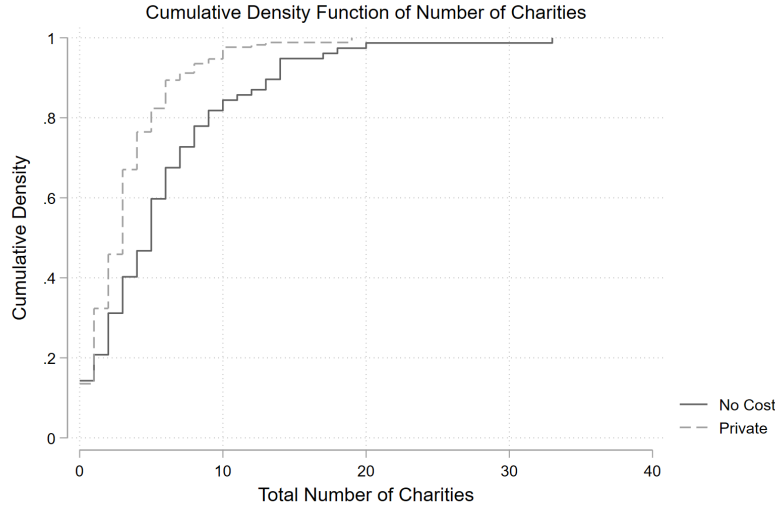
Notes: the table shows average values for each treatment and combining all treatments. Actual Donations and Actual Charities refer to the total donations and the total number of charities that dictators chose to give to. NE (EE) is the normative (empirical) expectations elicited by the dictators after 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.

4.1 H1: Donors Respond to Transaction Costs

The first hypothesis states that subjects should respond to transaction costs by reducing the number of charities they give to. Comparing *NoCost* and *Private*, this is what we see: subjects in *NoCost* on average give to 5.82 charities, whereas subjects in *Private* only give to 3.27 charities on average (see Figure 2). Table 3 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 for Specification

(3), which is our preferred specification due to the increased efficiency from adding control variables. An irr of .59 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 in our preferred Specification (3), the predicted number of charities donated to in *NoCost* is 5.19, and the predicted value for *Private* is 3.05.

Figure 2: 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*.

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 difference when adding control variables (logit regression, $p = .995$). Rather, we find a large difference in how many charities dictators give to conditional on them making positive donations. In negative binomial regressions using only the subjects who donate, we find a highly significant treatment difference for all levels of control (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 indi-*

Table 3: Transaction Costs and the Number of Charities (H1)

	(1)	(2)	(3)
Private	0.56***	0.55***	0.59***
	(0.07)	(0.07)	(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 control variables is shown in Appendix A (Tables A.1). Coefficients are incidence rate ratios.

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

viduals who give (intensive margin) and not by the number of individuals who give (extensive margin).

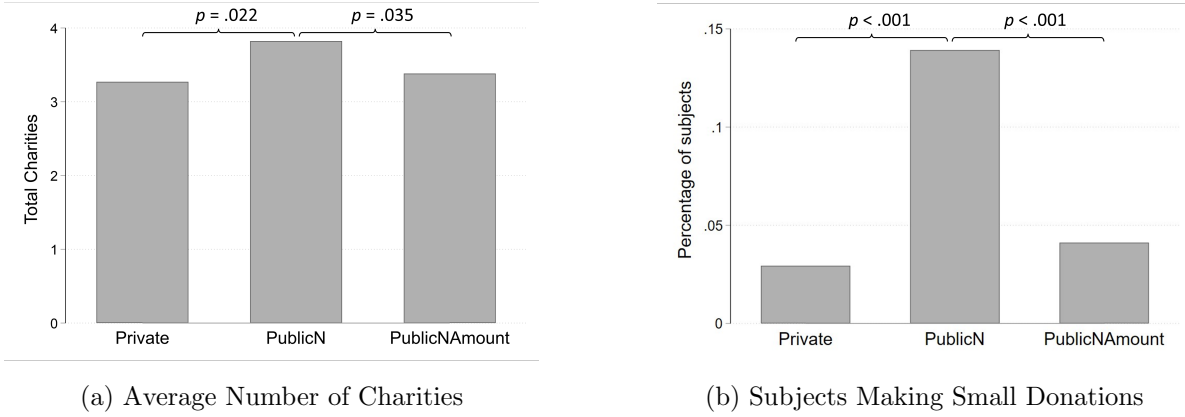
4.2 H2: Partial Observability Affects the Number of Charities

The second hypothesis states that subjects should give to more charities when spectators only observe what charities they give to. This hypothesis consists of comparisons with (i) the *Private* (no observability) treatment and (ii) the *PublicNAmount* (full observability) treatment. In the following, we present the two comparisons in turn and discuss the results.

PublicN vs. Private. Comparing *PublicN* and *Private*, we indeed find that subjects tend to give to more charities when spectators observe what charities subjects give to (3.82, *PublicN*) than when there is no observation (3.27, *Private*), cf. Figure 3a. Looking at negative binomial regressions, this effect is statistically significant ($p = .022$, cf. Table 4). The coefficient (irr) in our preferred Specification (3) 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*.

The treatment difference is driven by a change in the extensive rather than the intensive

Figure 3: 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 subjects who make donations that are smaller than EUR 3 by treatment. p -values are obtained from logit regressions with all control variables.

margin. That is, adding partial observability leads more subjects to donate to charity, but it does not change the average number of charities subjects give to conditional on positive donations. Thus, we find that while 86 percent of subjects donate 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 subjects give to conditional on positive donations (negative binomial regressions, all p 's > .339).

PublicN vs. PublicNAmount. The data also suggest that subjects give to more charities in *PublicN* (3.82) than in *PublicNAmount* (3.38), cf. Figure 3a. 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 4). The irr in our preferred Specification (6) 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*.

Again, the treatment difference is driven by a change in the extensive rather than the intensive margin. Whereas 85 percent of subjects 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 subjects 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. This effect is driven by a difference in how many subjects donate to charity (extensive margin) rather than a difference in giving behaviour conditional on positive donations (intensive margin).*

Table 4: 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 control variables is shown in Appendix A (Tables A.2). Coefficients are incidence rate ratios.

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

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 that introducing reputational concerns, $R(a, b)$, is important for changing the behaviour of subjects 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 3b, 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 $< .001$).¹⁶ The 22 subjects (14

¹⁶As 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*

percent) 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 observe the number of charities that receive donations but not the donated amounts (partial observability), some individuals use this strategically by donating many small amounts.*

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 very 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 5). 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*. We do find that dictators donate more in *PublicNAmount* (EUR 45.23) than in *Private* (EUR 40.22). Yet, this effect is not statistically significant for any level of control (tobit, all p 's $> .219$, cf. Table 5), nor does it reach significance in any robustness test (MWU: $p = .180$, SCLS: $p = .146$).

PublicN vs. Private. Finally, H3.3 states that dictators should donate more on average in *PublicN* than in *Private*. While subjects do 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 5, 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 by the spectators.*

vs. *PublicNAmount* comparison, it is significant for cut-offs in the range (0,11).

Table 5: 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. Corresponding tables with all control variables are shown in Appendix A (Tables A.3-A.5). Coefficients are average partial effects, robust standard errors in parentheses.

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

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 be more likely to donate 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. 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 the vocabulary from psychology, in which inhibition 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 \(1998\)](#) 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.

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 subjects 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 Online Supplement 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 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 small 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 in that a larger number of charities improves the evaluations awarded by spectators. Second, we show that dictators who give to multiple charities tend to do so out of a preference for donating to different topics, and that the dictators do behave as if they perceive the giving situation as a coordination problem. 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.

5.1 Bluffing Works – Spectator Responses

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. In doing so, we first 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.

We examine spectator evaluations using OLS regressions. In doing so, we take into account that the observations are not all independent. Specifically, each spectator observes five dictators, and pairs of spectators evaluate the same five dictators. To account for this interdependence, we run OLS regressions with clustering on the level of the pair of spectators evaluating the same five dictators. Our results are robust to instead clustering on the level of the individual spectator, and all results are robust to adding spectator-fixed effects.

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 statistically nonsignificant ($\beta = .048$, $p = .229$). The magnitudes and significance are unaffected by the level of control (cf. Table S.1). The result has the

interpretation of the effect of donations is that going from no donations to the maximum possible donations improves evaluations by 3.24 on a 6-point scale.

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.1). To formally test for such nonlinearity, we include (total donations)² and (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.2), and the linear term remains highly significant with a larger partial effect ($\beta = .080$, 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*. Correlating the two yields a Pearson's r of .530 ($p < .001$, Spearman's $\rho = .580$, $p < .001$), 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 each of the two variables in turn. We first compute Spearman's ρ between total donations and spectator evaluations, holding the number of charities within the intervals [1, 2], [3, 4], and [5, 6], respectively. Here, we find an average Spearman's ρ of .483 that is statistically significant for all intervals (see Figure S.2). Second, we compute Spearman's ρ between total charities and spectator evaluations, holding the total donations within the intervals [10, 24], [25, 39], [40, 54], [55, 69], [70, 84], and [85, 100], respectively.¹⁷ Confirming that spectators do not respond to the number of charities that dictators donate to, we find an average Spearman's ρ of $-.043$, and there is no significant, positive relation in any interval (see Figure S.3).

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

¹⁷We here use rather wide intervals for the total donations to ensure that we have enough observations within each interval to detect any (positive) relation. The downside to increasing the width of the interval is that it increases the scope for a positive relation between charities and donations, such that subjects who give to more charities are also giving larger amounts within the interval. For showing that there is no relation between charities and evaluations, it is therefore a conservative decision to make the intervals wide.

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 ($\beta = .154$, $p = .007$), and this is unaffected by the level of control (cf. Table S.3). 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.4), and allowing for the nonlinearity increases the coefficient on observed charities to $\beta = .676$ (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 .986, whereas increasing the number of charities from e.g. 1 to 3 is only associated with an improved evaluation of .255.

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 (Pearson's $r = .442$, Spearman's $\rho = .445$, both p 's $< .001$). When we add the spectator's first-order beliefs to the regression, we see that the effect of observed charities diminishes substantially and loses its statistical significance ($\beta = .028$, $p = .590$), whereas the effect of first-order beliefs is highly significant ($\beta = .026$, $p < .001$, cf. Table S.3). This result confirms the finding above 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 2), and we see this also in the *Private* treatment, which includes transaction costs but no observation by spectators. This leads to the question of what else explains donors' preference for donating to more than one charity, and we explore these preferences in this section.

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 Szyman-

ska, 2011), we also find that the tendency to diversify donations correlates with self-reported preferences for diversification. Specifically, we ask all subjects 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”.¹⁸ 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.5). 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. Oppositely, agreement with the statement that spreading reduces the risk of inefficiency is always insignificant (all p ’s $> .115$).¹⁹

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.

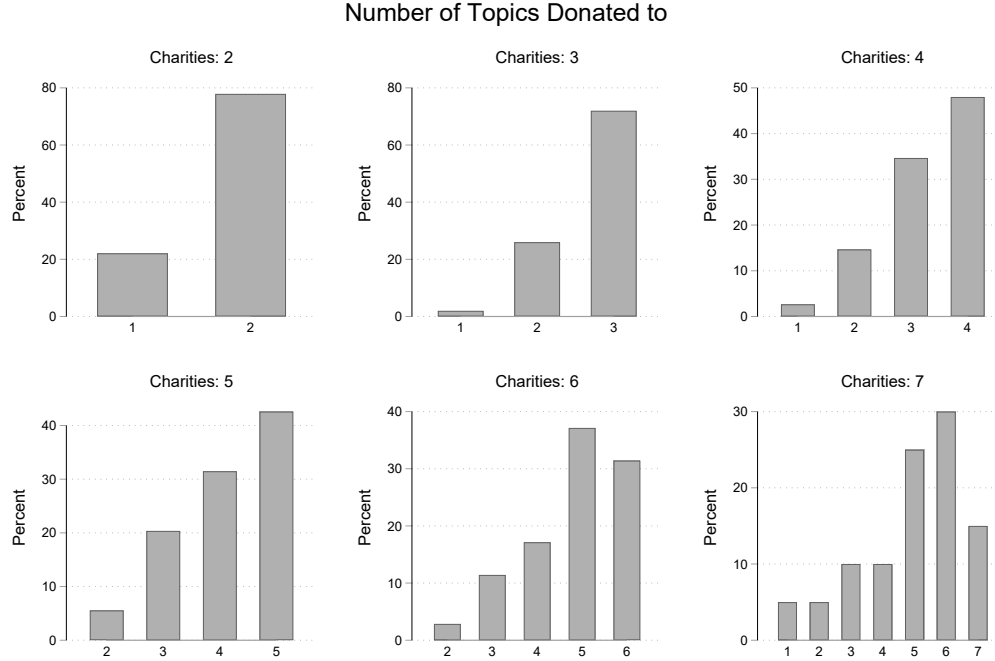
A Preference for Multiple Topics. Another possible reason for giving to multiple charities is that it enables donors to support different topics. Specifically, charities that operate under similar causes are closer to being substitutes, and one may speculate that donors would be less willing to pay additional 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 subjects who give to more charities choose these from different rather than the same topic. Looking at Figure 4, this is the general pattern in our data. The figure 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

¹⁸As noted in Section 3, we sought to make it clear to all subjects that giving to multiple charities is inefficient in our setting, so we informed subjects that all charities had been picked from a list of highly efficient charities. Yet, we included this question in case subjects may e.g. doubt the validity of such charity ratings.

¹⁹One problem with correlating the number of charities that dictators give to with responses to the two statements is that agreement with the two statements is highly correlated (Pearson’s $r = .455$, $p < .001$). Yet, if we regress the total number of charities on agreement with the two statements 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, $p < .001$).

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 subjects who give to more charities tend to choose these from different topics.

Figure 4: 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.

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 subjects' beliefs about the mean donations to each of the seven topics. Specifically, if subjects seek to give to topics that others do not give to, we should see a negative relation between the share a dictator 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.4). 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.

5.3 Behaviour Correlates with Self-Importance of Moral Identity

In the survey, subjects 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.6). The size of the effect is such that having an above-median Internalisation score predicts an increase in total donations of EUR 13. Oppositely, we find no significant correlation between Symbolisation and total donations ($p = .664$). Looking at the number of charities subjects give to, the pattern is reversed: we find no significant correlation with scores on Internalisation (negative binomial regression, $p = .196$, cf. Table S.7), 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 have provided 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 transaction costs: they reduce the number of charities they give to when each donation comes with a transaction cost, implying that donors realise that indirect signalling is costly. Yet, when donors are observed and evaluated only on what charities they give to, they (correctly) anticipate that spectators will infer larger donations from more charities. Some donors use this strategically as they make numerous small donations to signal that they are altruistic. Such “altruistic bluff” is wasteful: compared to decisions made without observation, transaction costs are 14.4 percent greater under partial observability, with no significant effect on amounts donated.

Thus, our study shows that a proper understanding of reputation-seeking behaviour requires that one takes a more comprehensive look at actions in a given situation: also in situations where what is being observed is not important for a person’s public image, reputation-seeking may play a role if the observed action correlates with an unobserved action that is important to the public image. This insight is not only important for understanding social motivation; it also suggests that organisations that seek to discourage manipulative behaviours (e.g. in performance monitoring) need to take a broader look at how actions may be manipulative in an indirect manner.

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 multidimensional signalling, populations may differ not only due to different preferences for a certain behaviour; all behaviours and their intercorrelations could play a role.

Second, our study uses an online lab setting, in which the subjects are signalling 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 subjects. 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.

Future research could also examine how indirect signalling influences the extent to which people can influence others by undertaking certain actions (cf. role-model effects). In the current paper, spectators were only observing the donors and not engaging in any behaviour themselves. This limits the scope for role-model effects. In many field domains, however, people act as both observers and decision-makers, thereby introducing another motivation for signalling. An interesting, yet open question is whether role-model effects motivate indirect signalling and whether indirect signalling is effective in changing other people's behaviour.

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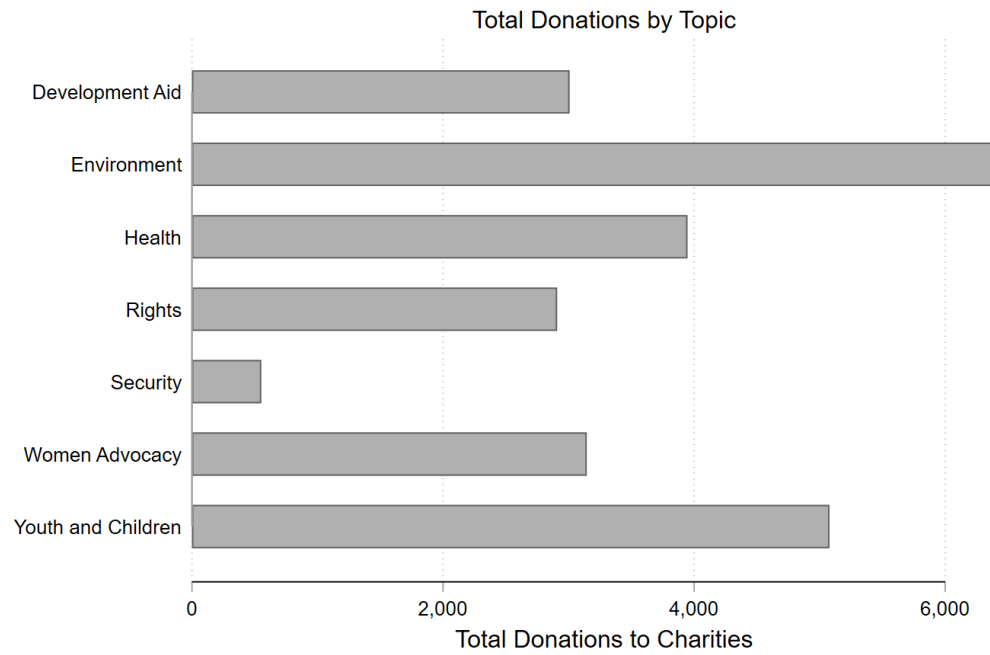
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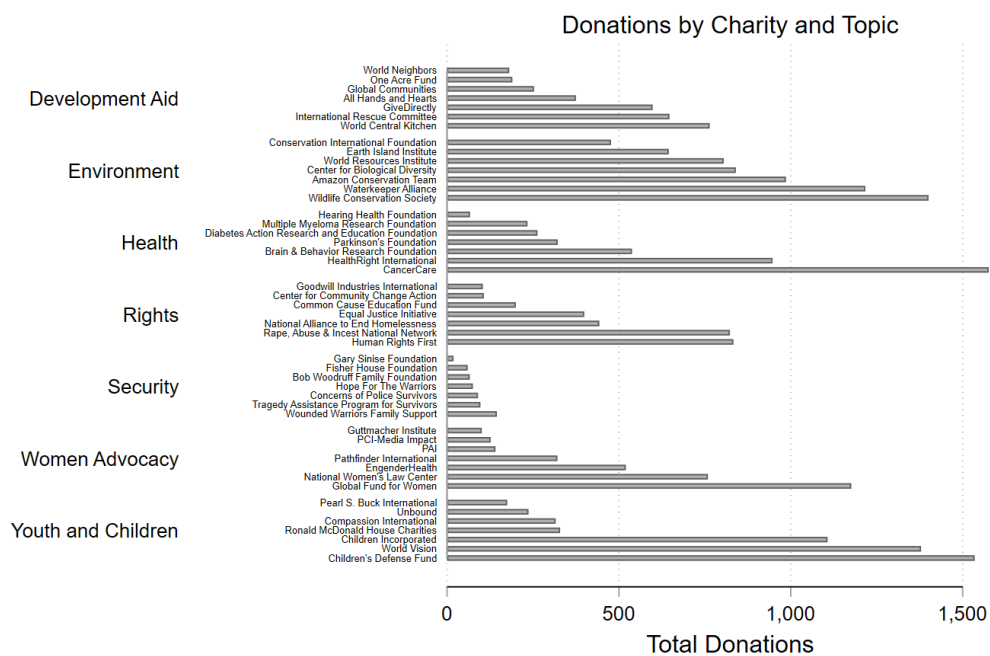
A Appendix

Figure A.1: Total Donations Across Topics



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

Figure A.2: 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.

Table A.1: 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 A.2: 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 A.3: 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 *NoCost* 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 A.4: 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 *NoCost* 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 A.5: 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 *NoCost* treatment who studies Natural Sciences and does not volunteer (0 Hours). Coefficients are average partial effects, robust standard errors in parentheses.

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

Online Supplement

[TITLE]

Jonas Pilgaard Kaiser & Juliane Koch

December 15, 2023

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 subjects 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 subjects 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.

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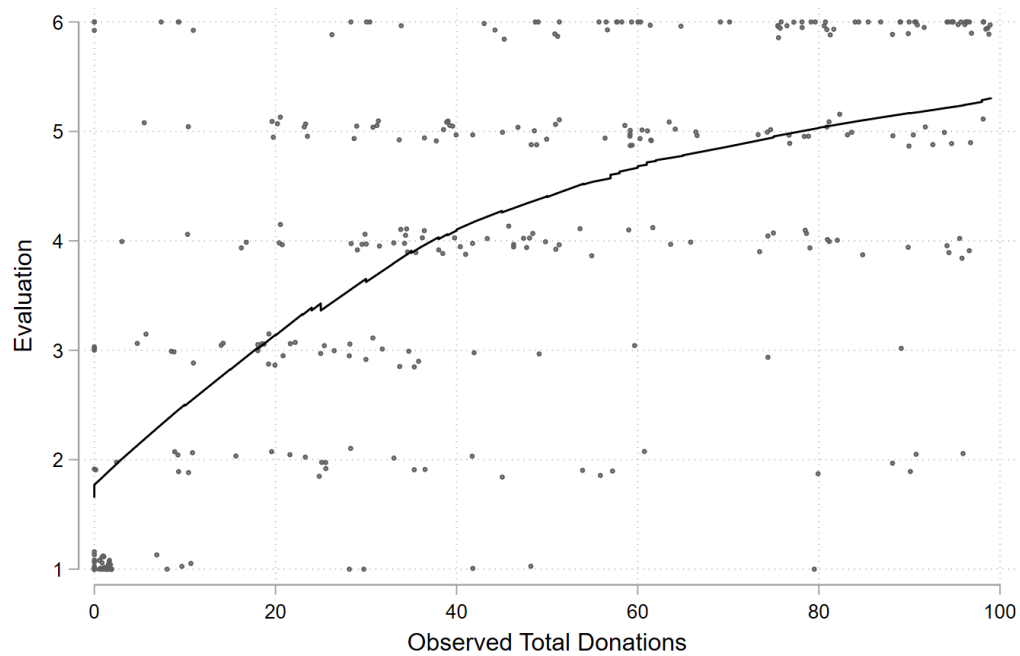
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The study is pre-registered on OSF (<https://osf.io/jdz7n>). The project was approved by the Institutional Review Board at Hamburg University on February 13th 2023. We especially thank Alexander Koch and Daniele Nosenzo for extensive discussions and valuable feedback. Also, we thank seminar participants at Aarhus University, Hamburg University, and the Berlin Behavioral Economics Group for helpful comments. We gratefully acknowledge the financial support of the German Research Foundation (DFG) within the Program Collective Decision-Making at University of Hamburg.

S.2 Further Tables and Figures

S.2.1 Spectator Evaluations

Figure S.1: Diminishing Effect From Total Donations



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

Table S.1: 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 in the *NoCost* treatment who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

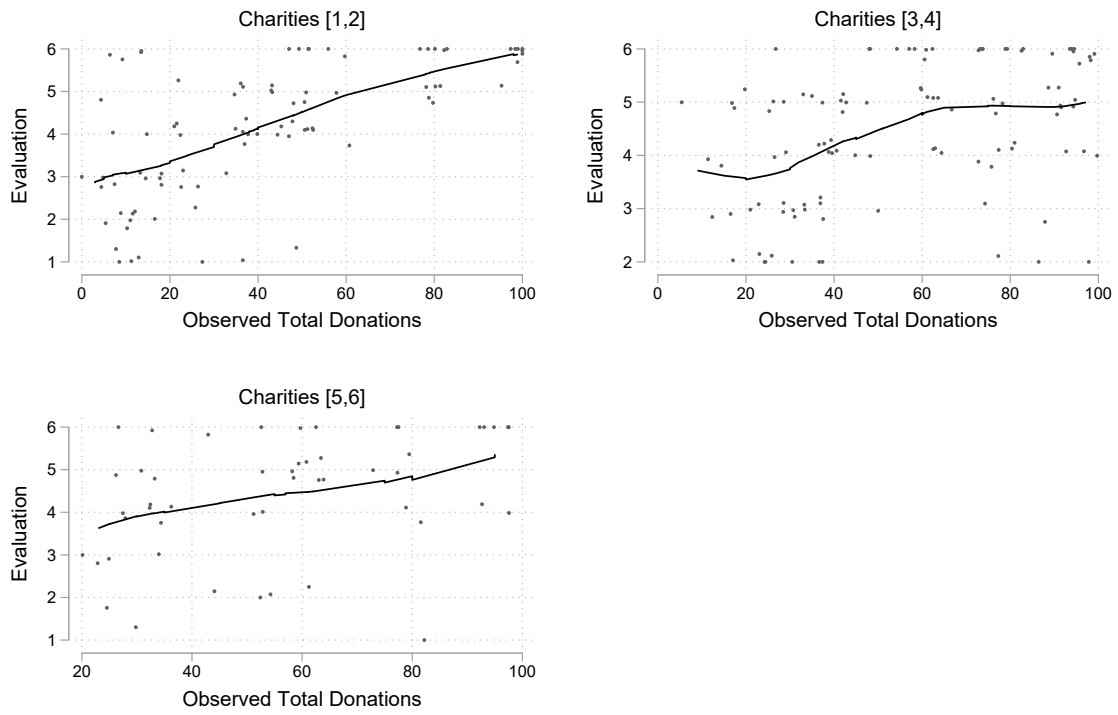
Table S.2: Nonlinearity in Spectator Evaluations, PublicNAmount

	(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 in the *NoCost* treatment who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

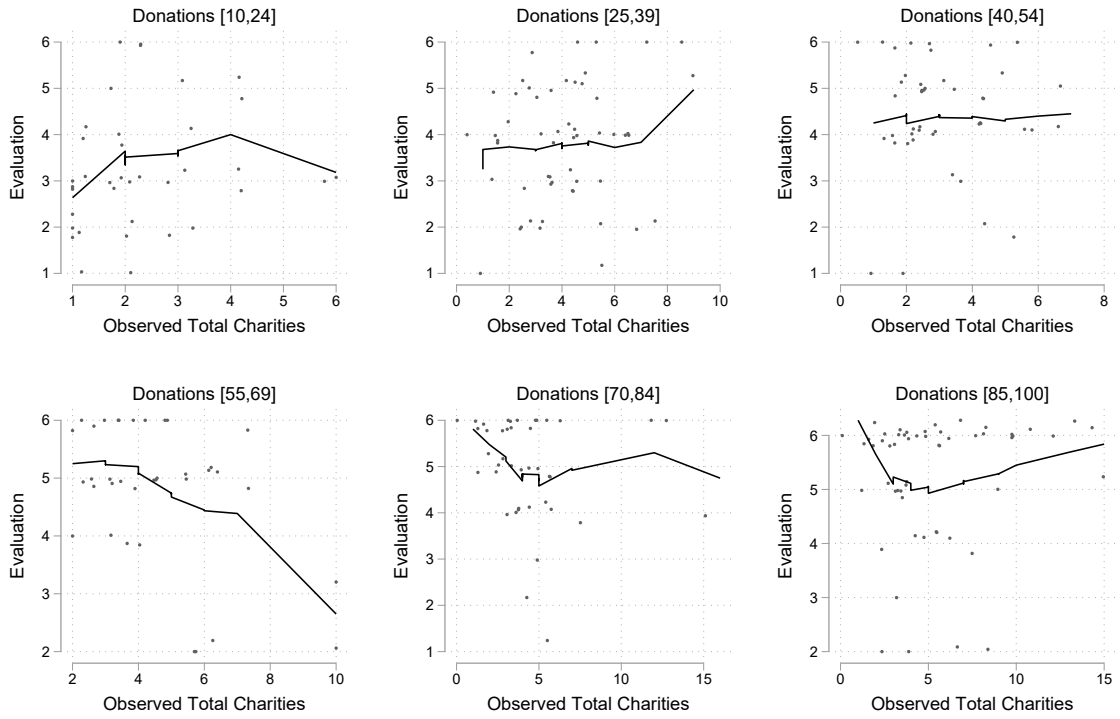
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure S.2: Evaluations and Total Donations



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

Figure S.3: Evaluations and Total Charities



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

Table S.3: Spectator Evaluations, PublicN

	(1)	(2)	(3)	(4)	(5)	(6)
Observed Charities	0.15*** (0.05)	0.16*** (0.05)	0.15*** (0.05)	0.05 (0.05)	0.04 (0.05)	0.03 (0.05)
FirstOrderBeliefs				0.02*** (0.00)	0.02*** (0.00)	0.03*** (0.00)
Age		0.00 (0.02)	0.00 (0.02)		0.01 (0.02)	0.00 (0.02)
Male		-0.07 (0.21)	-0.09 (0.23)		0.08 (0.19)	0.09 (0.22)
Social Sciences		0.02 (0.32)	-0.07 (0.30)		-0.22 (0.30)	-0.32 (0.34)
Humanities		0.56** (0.26)	0.46 (0.33)		0.54** (0.24)	0.45 (0.28)
Economics		-0.09 (0.27)	-0.13 (0.28)		0.20 (0.28)	0.21 (0.28)
Medicine		-0.00 (0.31)	-0.13 (0.44)		-0.34 (0.26)	-0.57 (0.46)
Law		-0.12 (0.22)	-0.19 (0.22)		0.05 (0.22)	0.01 (0.21)
Other Field of Study		0.10 (0.28)	0.03 (0.31)		0.12 (0.30)	0.09 (0.37)
0 Hours, Volunteering		0.00 (.)	0.00 (.)		0.00 (.)	0.00 (.)
1-5 Hours, Volunteering		-0.17 (0.25)	-0.18 (0.25)		-0.34 (0.25)	-0.37 (0.24)
5-10 Hours, Volunteering		-0.56** (0.26)	-0.48* (0.27)		-0.54** (0.21)	-0.42* (0.23)
10-20 Hours, Volunteering		-0.33 (0.30)	-0.36 (0.31)		-0.79*** (0.19)	-0.81*** (0.18)
20-30 Hours, Volunteering		0.25 (0.69)	0.21 (0.71)		-0.19 (0.52)	-0.20 (0.53)
More Than 30 Hours, Volunteering		-0.49 (0.37)	-0.41 (0.46)		-0.63* (0.32)	-0.54* (0.31)
Spread Donations for Equality			-0.28 (0.46)			-0.09 (0.41)
Spread Donations for Efficiency			0.10 (0.41)			0.22 (0.36)
Internalisation (SIMI)			0.79 (1.08)			1.97* (1.16)
Symbolisation (SIMI)			-0.16 (0.59)			-0.73 (0.58)
Constant	3.88*** (0.24)	3.88*** (0.66)	3.44*** (0.88)	3.27*** (0.23)	3.11*** (0.65)	1.70 (1.01)
Observations	326	326	326	326	326	326

Notes: OLS regressions with spectator evaluations as the dependent variable. The baseline is a person in the *NoCost* treatment 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.4: Nonlinearity in Spectator Evaluations, PublicN

	(1)	(2)	(3)
Observed Charities	0.6645*** (0.1114)	0.6653*** (0.1147)	0.6756*** (0.1178)
(Observed Charities) ²	-0.0447*** (0.0088)	-0.0448*** (0.0090)	-0.0457*** (0.0092)
Age		0.0012 (0.0163)	-0.0090 (0.0218)
Male		0.0236 (0.2067)	0.0081 (0.2149)
Natural Sciences		0.0000 (.)	0.0000 (.)
Social Sciences		0.0276 (0.2992)	-0.1514 (0.2699)
Humanities		0.5725** (0.2476)	0.4754 (0.3189)
Economics		-0.2133 (0.2365)	-0.3328 (0.2433)
Medicine		-0.1418 (0.2691)	-0.2644 (0.3862)
Law		-0.1468 (0.2131)	-0.2462 (0.2166)
Other Field of Study		0.0482 (0.2872)	-0.0684 (0.2928)
1-5 Hours, Volunteering		-0.2465 (0.2288)	-0.2564 (0.2219)
5-10 Hours, Volunteering		-0.4326* (0.2229)	-0.3422 (0.2319)
10-20 Hours, Volunteering		-0.2646 (0.2820)	-0.4188 (0.3151)
20-30 Hours, Volunteering		0.2357 (0.7568)	0.2174 (0.7885)
More Than 30 Hours, Volunteering		-0.2897 (0.3363)	-0.2170 (0.4130)
Spread Donations for Equality			-0.4570 (0.4672)
Spread Donations for Efficiency			0.4542 (0.3554)
Internalisation (SIMI)			0.7445 (0.9744)
Symbolisation (SIMI)			-0.0312 (0.5734)
Constant	2.9704*** (0.2857)	3.0426*** (0.6792)	2.7652*** (0.8536)
Observations	326	326	326

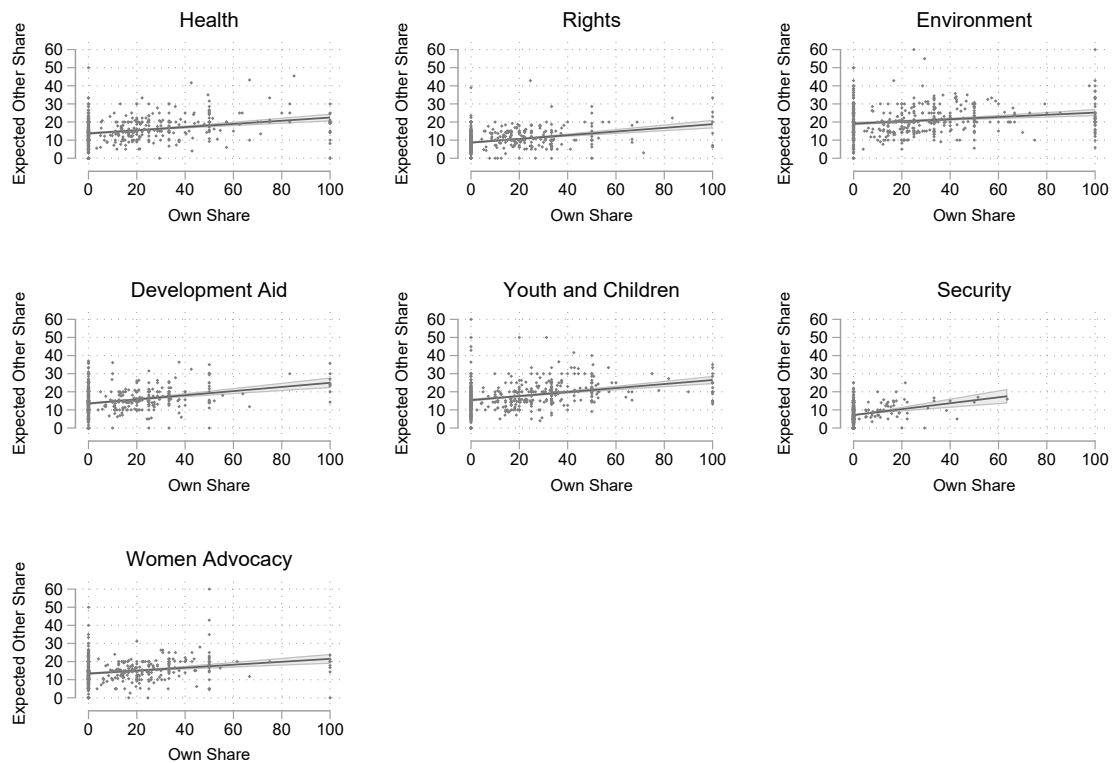
Notes: OLS regressions with spectator evaluations as the dependent variable. The baseline is a person in the *NoCost* treatment who studies Natural Sciences and does not volunteer (0 Hours). Standard errors are clustered at the level of pairs of spectators.

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

S.2.2 Preferences for Spreading Donations

Figure S.4: Evaluations and Total Charities

Relation between Donations and Beliefs, Conditional on Giving



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.5: 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.

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

S.2.3 Self-Importance of Moral Identity

Table S.6: 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 subject 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.7: 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 subject 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.

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

S.3 Instructions

On the next pages, we include the instructions for a subject who is randomly assigned to the *PublicNAmount* treatment. As this study design features three different roles, we will display all three roles within the *PublicNAmount* treatment in the following order: Dictators, spectators, social norm elicitors. Treatment *PublicNAmount* includes transaction costs of EUR 1 for each donation and has full observability, i.e. spectators of this treatment see to how many charities dictators have donated and also which amount in EUR they have donated to the charities. The *PublicNAmount* treatment differs from the other treatments in the following way: The *NoCost* treatment does not include any transaction costs, i.e. the amount given by the dictator and the amount received by the charity are the same. Moreover, the *NoCost* treatment does not feature any observability which means that all donation decisions of the dictators are made in private. Similarly, subjects in the *Private* treatment are also not observed, however they do face transaction costs for each donation made. The *PublicN* treatment also has transaction costs included and part of the dictators' decisions are observed. Different to the *PublicNAmount* treatment, in the *PublicN* treatment dictators are observed and evaluated only w.r.t. the number of charities they give to but not regarding the actual amount they give to the charities. Different to treatment *PublicNAmount*, spectators in treatment *PublicN* are also asked about their beliefs of total amounts donated. They can earn additional money if their answers fall within a close range of the actual value.

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S.3.1 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 are to decide which charities you want to donate which amount to. 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 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 pro-rata/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 cost 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 cost 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 and how much, 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	+

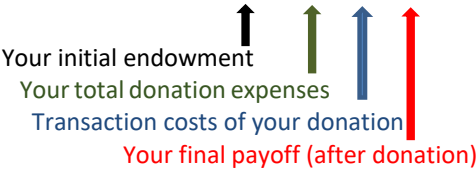
Topic: Environment

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 the following amounts to the following charities:

- i. Charity XY: _____€
- ii. Charity XYZ: _____€
→ Generates transaction costs of _____€

20

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?

- ☐ 1€ ☐ 2€ ☐ 5€ ☐ 20€

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

- ☐ 95€ ☐ 94€ ☐ 100€ ☐ 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?

- ☐ 57€ ☐ 60€ ☐ 85€ ☐ 0€

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

- ☐ Observers see and evaluate which charities you have donated to, as well as the amounts.
- ☐ Observers see and evaluate which charities you donated to, but not which amounts.
- ☐ Observers see and evaluate what values 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: $100\text{€} - x\text{€} - y\text{€} = \underline{\hspace{2cm}}\text{€}$

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 situation. 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 should 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: to how many charities should each decision maker divide their donation value?
_____€ (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) How many charities do decision makers divide their donation value among (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 as you, whether and how to donate 100 euros. In your estimation, how much did the subjects donate on average to [issue]? (E.g. 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 theme in €
Environment	
Health	
Security	
Development Aid	
Rights 26	
Women Advocacy	
Youth and Children	

*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: $100\text{€} - xy - z = \underline{\hspace{2cm}}$ €

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

- 1) Charity XY: $\underline{\hspace{2cm}}$ €
- 2) Charity XYZ: $\underline{\hspace{2cm}}$ €
- J. Koch generates transaction costs of $z\text{€}$

∞

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 : $\underline{\hspace{2cm}}$

Observer 2 evaluates your decision as follows : $\underline{\hspace{2cm}}$

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

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.

S.3.2 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.

35

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 are asked to decide which charities they want to donate which amount to. 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 drawn by lot, for which the decision made will come into effect, i.e. the additional payment of the 100€ to the participants themselves and/or a pro-rata/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 know that they are being observed and evaluated for their decision by you. You as observer will learn which charities the decision makers donate to, as well as the amounts. Together with the information to which charities the decision makers donated and how much, you learn the decision makers' last names and judge 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?

- ☐ 1€ ☐ 2€ ☐ 5€ ☐ 20€

Question 2: Assume that the decision maker you are evaluating donates 5€ to charity X, how much will remain in his private account:

- ☐ 95€ ☐ 94€ ☐ 100€ ☐ 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 his private account:

- ☐ 57€ ☐ 60€ ☐ 85€ ☐ 0€

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

- ☐ You can see and evaluate to which charities the players have donated, as well as the amounts.
- ☐ You can see and evaluate which charities players have donated to, but not the amounts.
- ☐ You can see and evaluate which values the players 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 **should** each decision maker donate in total? _____€ (Please enter a value between 1-100€).
 - b) In your opinion, how many charities **should** decision makers divide their donation value among? _____charities (Please enter a value between 1-49 charities).

Start of the experiment

Please wait until the players make
their donation decision.

Your evaluation decision

Please rate 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 the following amounts to the following charities:

1) Charity XY: _____ €

2) Charity XYZ: _____ €

→ *Generates transaction costs of 2€*

Your Evaluation of Player 1's Giving Behavior, J. Koch: _____ (school grade rating, 1-6).

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

1) Charity XY: _____ €

2) Charity XYZ: _____ €

3) Charity XYZW: _____ €

→ *Generates transaction costs of 3€*

Your Evaluation of Player 2's Giving Behavior, J. Kaiser: _____ (school grade rating, 1-6).

3. Etc.

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
- ☐ Divers

2. Please indicate your year of birth: _____

3. Please indicate your field of study.

- ☐ Natural sciences
- ☐ Social sciences
- ☐ Humanities
- ☐ 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 think are the following 7 areas?

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".

45	Not important at all				Very important
	1	2	3	4	5
Environment					
Health					
Security					
Development Aid					
Rights					
Women's Advocacy					
Youth and children					

7. How much do you agree with the following statement: "It is important to spread 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. If you already 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 qualities.						
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

Thank you for your participation!

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

S.3.3 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 the role of 'social norm elicitor'. 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 are asked to decide which charities they want to donate which amount to. 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 drawn by lot, for which the decision made will come into effect, i.e. the additional payment of the 100€ to the participants themselves and/or a pro-rata/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 are knowingly evaluated by observers for their behavior. Observers learn which charities the decision makers donate to, as well as the amounts. Together with the information to which charities the decision makers donated and how much, the observers learn the decision makers' last names and judge 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?

- ☐ 1€ ☐ 2€ ☐ 5€ ☐ 20€

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

- ☐ 95€ ☐ 94€ ☐ 100€ ☐ 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?

- ☐ 57€ ☐ 60€ ☐ 85€ ☐ 0€

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

- ☐ The observer sees and evaluates which charities the decision makers have donated to, as well as the amounts.
- ☐ The observer sees and evaluates which charities the decision makers donated to, but not which amounts.
- ☐ The observer sees and evaluates which values 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 **should** each decision maker donate in total? _____€ (Please enter a value between 1-100€).
 - b) In your opinion, how many charities **should** decision makers divide their donation value among? _____charities (Please enter a value between 1-49 charities).

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
- ☐ Divers

2. Please indicate your year of birth: _____

3. Please indicate your field of study.

- ☐ Natural sciences
- ☐ Social sciences
- ☐ Humanities
- ☐ 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 think are the following 7 areas?

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".

57	Not important at all				Very important
	1	2	3	4	5
Environment					
Health					
Security					
Development Aid					
Rights					
Women's 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. If participants in this study distribute their donations among many different charities, does the risk of donations being spent inefficiently increase/decrease? Please indicate your assessment on a scale from 1 ("decreases") to 10 ("increases").

[illegible]

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 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.