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Keywords: charitable giving; altruism; intermediation; charitable institutions; moral judgment reasoning; experiment

JEL Classification: C91, D64, L31

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Donations are often made through charitable intermediaries that can fund themselves from these same donations. After intermediation, only a fraction of the amount donated may reach the intended beneficiary. The price of charitable output is therefore higher after intermediation than if donors donated directly toward the end cause. At the same time, this price is *hidden* from donors since they cannot verify how much intermediaries pass on. We show that while donors reduce their donation in intermediation itself and also reduce their donation because they expect the price of charitable output to increase, both reactions are either fully or partly compensated by their ethical preferences for the recipient's rights. Charitable output, therefore, can be a Giffen-good.

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1. Introduction

Donations to charitable causes are often made through intermediaries (Marshall 1978; Hansmann 1987, Coffman 2016). A donor who entrusts a donation to an intermediary has little or no ability to determine whether the intermediary has performed the service well, or whether she has performed any service at all. Donors who give to intermediaries in order to support a philanthropic cause are effectively purchasing charitable output at *hidden*, i.e., unobservable, prices: donors do not know how much of their donation reaches the intended beneficiary, and therefore, donors do not know how much charitable output their donation eventually purchases.[1] While intermediaries provide revenue reports and voluntary feedback on their activities, this information is essentially unregulated in the field. Given this lack of regulation, feedback and filings are adjusted to the needs of the intermediary: actual efficiency grossly differs from reported efficiency, costs are misreported, and revenue filings manipulated. To illustrate the extent of the problem, more than 50% of all revenue filings report maximal efficiency with zero fundraising costs. Charity watchdogs condense these erroneous filings into charity rankings which provide intermediaries with additional incentives to appear as efficient as their competitors. Because the actual price of charitable output is hidden, competition does not reduce this price (Wing and Hager 2004, Baird et al. 2013) and instead, results in more manipulation.[2]

Our goal in this paper is to study how donors react to this *hidden price* problem, which is central to intermediation. To do so, one must access donors' beliefs about the price at which they

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[1] Donors in the field are aware of this. A recent survey conducted by the Charity commission for England and Wales, reports that money reaching end beneficiaries is considered to be the most important factor to the public while making giving decisions, but perceived performance of charitable intermediaries on this measure is only mediocre (Charity Commission, 2020). Indeed, investigative reports have found that charities who spend as much as 35% of all donations on fundraising are often classified as *good charities* (Hundley and Taggart 2013) and even the most cost-effective large charities spend an additional 15% on administrative costs (Kane 2010).

[2] An investigative study of the non-profit sector (Baird et al. 2013) revealed that the fifty worst US charities transferred less than four per cent of their raised funds to philanthropic causes. Worst is defined by the amount diverted away from the intended beneficiaries and towards the founders of the charity or towards fundraising activities contracted to friends and family. In an attempt to infer how charities *actually* use their donations and how large the disparity between revenue filings and charities' actual use of donations is, Baird et al. 2013 document frequent incomplete and faulty internal revenue service filings (only 0.7% of which are officially verified and hence, manipulations are relatively safe from discovery). By requesting and merging records of regulatory actions from different U.S. states, Baird et al. 2013 document that charities misreport and actively lie about their activities and efficiency. Wing and Hager 2004 document charities' response to competition: 50 per cent of IRS filings report zero fundraising cost. In response to pressure from funders or to match competitors' numbers, the authors document that charities simply change the costs they report in their filings; conglomerates of charitable entities report all costs in one entity such that all other charities in the conglomerate appear to be particularly efficient.

expect to purchase charitable output. If charitable output were a standard economic good and donors believed that intermediation increases the price of that good, donors would decrease their consumption, and intermediation should reduce donations.

Charitable output -- the amount of a donation which reaches the intended beneficiary -- however, is a commodity with ethical dimensions. Consider a donation towards the building of schools. The charitable output from this donation does not merely improve the beneficiaries' material circumstances or her living standard, it provides the beneficiary with some degree of education and empowers her to look after her own interest through participation in the labor market and the political arena. In this example, charitable output secures a civil right; in cases where the donation purchases infrastructure such as the access to clean water, charitable output preserves life and health and secures the recipients' human rights. If donors hold preferences over these ethical dimensions of charitable output, their donations may not decrease with intermediation. Indeed, we show that for a given preference, donors can maximize their utility by donating the same or more when they expect intermediaries to reduce donors' donation toward the end cause. The idea is that a certain critical amount of charitable output is needed to secure the recipient's inalienable rights. If the amount intermediaries pass on falls short of this amount, donors increase their donation to maintain a critical output.

In order to understand the effect of intermediation, we therefore need, first, to control donors' beliefs about the price of charitable output with and without intermediation, second, donors' ethical preferences and third, the length of the intermediation chain. Since these requirements are hard to meet using observational data, we conduct an experiment in collaboration with small local communities of disadvantaged Indigenous Australians. We design an intermediated donation game, in which individuals can donate towards health and education programs in these local communities via another participant. This intermediary may take any amount of the donation for herself, ostensibly to remunerate herself for the task, and then decide to pass on the remaining amount to the end cause. All aspects of the situation are commonly known to donors and intermediaries, with the exception of the amount passed on by the intermediary. Next to the intermediated game, donors also donate in a standard real donation task (Eckel and Grossman 1996) where, since we control the intermediation chain outside the laboratory, donors give directly to the same communities of disadvantaged Indigenous Australians. In the intermediated task, we elicit donors' beliefs about the price of charitable output. In the standard

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(non-intermediated) donation task, each Dollar donated also reaches the end cause and the price of charitable output is therefore known.

To observe how different sets of ethical preferences give rise to different responses to intermediation, we design a within-subject experiment and vary the order of the donation tasks to examine the robustness of our main results. The choice of the local charitable initiatives, which fund health and education programs, helps control the length of the intermediation chain outside the laboratory and ensures that any amount passed on by the intermediary reaches the intended beneficiary as directly as possible. This information is disclosed to donors in the laboratory at the time of the experiment and is therefore common knowledge.

We elicit donors' ethical preferences, which we expect govern their reaction to intermediation, by means of a standardized psychological moral judgement test. Donors may apply ethical criteria to derive the right course of action which, in our study, is their reaction to the introduction of the intermediary. In the 20th century, Lawrence Kohlberg (see, for instance, Kohlberg (1969, 1984)) conducted extensive empirical research to identify which ethical criteria people actually use to guide their own actions. The psychological test (Lind 1978, 2008) we use in the experiment elicits donors' preferences over the criteria described in this body of research. The test elicits whether donors refer to each ethical criterion at all to derive the right course of action, and to what extent they are influenced by it. Donors may, for example, consult their social image, others' expectations or a social norm to determine the right course of action; they may ask whether that course of action helps maintaining the social order and is in line with the law, whether it protects individual civil rights as stipulated by the social contract, or some universal standard such as human rights, individuals' freedom of choice, their will, and dignity.[3] Donors may simultaneously consider all criteria by various degrees, or none at all.

Our key findings are as follows. Average donations decline in intermediation itself, by roughly 16.5%. Donors' ethical preferences to guide their actions by universal standards such as human rights, individuals' freedom of choice, will and dignity counterbalance this decline, and in 63% of all cases, are strong enough to fully compensate for it. Since this mechanism limits the decline of charitable output with intermediation and refers to inalienable rights of the intended beneficiary, we call it *output-orientation.* Next to intermediation itself, donations also decrease

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[3] These ethical preferences have been documented to have a connection with purely prodecural decision making (Chlaß et al. 2019), dictator game giving (Chlaß and Moffatt 2017) and lie and sabotage aversion (Chlaß and Riener 2015).

in the amount of money donors expect intermediaries to divert from the recipient, that is, in the price of charitable output, a mechanism which we call *price-orientation*. This effect is counterbalanced by a second channel of *output-orientation.* Donors' ethical preferences to guide their actions by civil rights and the democratic social contract limit the decline of their donations in the expected price of charitable output by an average of 26%. Finally, we also investigate a mechanism related to *donation-orientation.* Donors may not care about charitable output, only derive utility from their own donation (Andreoni 1990) and may therefore not respond to intermediation at all. These donors would be likely to guide their actions by ethical criteria such as their own social image, social norms and others' expectations. While we observe donors who retain their donation in the face of intermediation, we do not observe them being influenced by these ethical criteria. In fact, we observe that the ethical criteria which we expected would bring about *donation-orientation*, instead magnify donors' sensitivity to the price of charitable output.

We thus present the first study of intermediation in charitable giving with hidden prices and show that donors' reaction to intermediation depends on their ethical preferences. To date, intermediation has been conceptualized as a simple increase in the (known) price of charitable output (Coffman 2016, Gneezy et al. 2014) or, for instance, as a transaction cost (Huck and Rasul 2010). In these studies, donors are assumed to hold no beliefs about how intermediation affects the price of charitable output. Donors are asked to assume some (hypothetical) price while they are, at the same time, being correctly informed that any donation they make is merely fed into the intermediation chain outside the laboratory. The price of charitable output stipulated in these studies is the price the next intermediary outside the laboratory promises. Donors' beliefs about this price remain uncontrolled as do their ethical preferences. These studies, understandably, report that charitable giving decreases as the hypothetical price of charitable output increases. There are also several insightful studies of intermediated giving in dictator games (such as, Bartling and Fischbacher 2012, Coffman 2011 and DiFalco et al. 2020), however these do not have charitable real-world end causes and do not control for the price of charitable output, or donors' ethical preferences.

Our study is organized as follows: section 2 introduces a framework to formally describe the different reactions to intermediation which may emanate from different ethical criteria. Section 3 describes the experimental design and presents our research questions. Section 4 reports our

experimental results and analyzes their robustness across different frames, roles, demographics, and different orders of the experimental tasks. Section 5 concludes.

2. Donor responses to the presence of an intermediary

Suppose that a donor who donates to an intermediary, derives utility from her own wealth, w, and from her donation, d. If the donor also derives utility from the amount which actually reaches the intended beneficiary -- the intermediary's charitable output Z --, her utility is:

$$Utility = U(w - d, Z(d, x)).$$

The intermediary's charitable output Z depends on the amount donated d, and on the intermediary's productivity, x, of converting donations into charitable output. The more productive the intermediary, the higher her output Z, i.e., $Z'(x) > 0$. Any amount the intermediary does not pass on to the intended beneficiary decreases the intermediary's productivity since she converts donations into lesser output. As intermediary productivity decreases, each dollar of donation purchases lesser charitable output and donors' consumption of charitable output becomes more expensive relative to their non-charitable consumption. If charitable output is a normal good, donors reduce their charitable consumption in response to this relative price increase. We denote a donor's optimal bundle of non-charitable and charitable consumption before a price increase $(w - d)^*$, $Z(d, x)^*$, and after the price increase $(w - d)^{**}$, $Z(d, x)^{**}$. For a normal good, we have $(w - d)^{**} > (w - d)^*$ and $Z(d, x)^{**} < Z(d, x)^*$: i.e., donors increase their non-charitable consumption, and decrease their consumption of charitable output. We describe donors whose donation decreases in their expectation about how much intermediation increases the price of charitable output, as being *price-oriented*.

Yet, the price of charitable output may not be a donor's foremost concern in the face of intermediation. Consider a donor who seeks to secure some minimally acceptable living standard (such that donations should *at least* finance access to clean water), or some minimally acceptable degree of education (by financing a school such that recipients learn *at least* to read and write, for instance). Her main concern is an ethical goal, and where charitable output fails to secure that goal, she receives Zero utility from her donation. Suppose that, before intermediation, donations could purchase that minimally acceptable amount of charitable output which we denote by Q such that $Z(d, x)^* > Q$. If intermediation increases the price of

charitable output such that the donation can no longer purchase Q, the donor's utility from the current donation drops to Zero and she has an incentive to increase her donation until the donation purchases Q again. The donor reduces her non-charitable consumption $(w - d)^{**} < (w - d)^*$ to keep the quantity of charitable output constant, i.e., $Z(d, x)^{**} = Z(d, x)^*$. Within the environment of Q, charitable output shows Giffen-behavior. We refer to the mechanism by which donations, driven by donors' ethical preferences for civil or human rights, increase in intermediation *output-orientation*. The donor's reaction to intermediation will also depend on others' behavior. Where the donor expects that overall donations exceed the minimally acceptable amount Q, she free-rides and her donation decreases in the amount she expects to reach the intended beneficiary, again driven by her ethical preferences for civil or human rights.

Finally, donors may not care about charitable output, its price, and intermediation at all, for instance, if they donate to maintain their social image by signaling their own kindness and generosity to others. These donors only derive utility from their own donation d (Andreoni 1990, Minardi and Evren 2017) because this donation itself affects their social image, is subject to a social norm, or to others' expectations. Such donors simply maintain their donation under intermediation, they neither react to their beliefs about the price of charitable output, nor to intermediation. We describe this mechanism in which donors donate because of social image concerns, social norms, or others' expectations, and therefore simply maintain their donation under intermediation as *donation-orientation*.[4]

Summing up, the three donor responses to intermediation can be obtained assuming that donors have a utility function as described at the outset and choosing a different level Q of charitable output below which, said utility takes a value of Zero. We obtain pure *price-orientation* if this Q is equal to Zero, pure *output- orientation* if this Q is some $Q > 0$ (in case of compensators who make up for the decrease in others' donations, we have Q equal to overall donations before intermediation, i.e. $Q = \sum_{i=1}^{n} Z_i(d, x_i)$), and we obtain pure *donation-orientation* if this Q is equal to the nominal value of the donation, i.e. $Q = p(Z(d, x)) \cdot Z(d, x)$: donors have utility Zero if they donate too little to maintain their social image; here, Q expresses nothing else than the nominal value of their optimal donation, that is, the price of charitable output times the quantity consumed.

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[4] In recent work, Drouvelis and Marx 2021 document a comprehensive characterisation of donation motives.

To identify *price-, output-, and donation-orientation* experimentally, in addition to donors' beliefs about how much charitable output the intermediary converts into donations, we must access donors' ethical preferences – that is, which ethical criteria donors prefer to apply to derive the right course of action. For this purpose, we draw upon an inventory of ethical criteria provided by Lawrence Kohlberg (1969, 1984), using extensive data from the field, which consists of six classes of moral argumentation. In *Kohlberg classes 1 and 2,* individuals consider an action right if it is not punished by some authority, or if it is rewarded by that authority. In *Kohlberg class 3,* individuals deem an action right if it complies with a social norm, with others' expectations, or if it assists the individual in maintaining her social image. In *Kohlberg class 4,* a course of action is right if it follows the law or helps to maintain the status quo and a fixed social order. By *Kohlberg class five*, a course of action is right if it derives from a democratic social contract, that is, if the action respects that all individuals hold equal civil rights. By *Kohlberg class 6,* an action is right if it is derived from some universal principle such as the notion of human rights, the respect for the individual human will, life, and human dignity. Importantly, in our context, this inventory is useful as it includes all ethical criteria relevant to charitable giving.

Lind (1978, 2008) provides a standardized moral judgement test to elicit donors' preferences over all six categories of ethical criteria. We do not assume that donors apply the criteria they prefer most. Instead, we use donors' complete set of preferences over all six categories to model how they react to intermediation, and to their own beliefs about the price of charitable output. Table A1 summarizes these motivations for ethical behavior.

Below we present how donors' ethical preferences allow us to discriminate between *price-*, *output-*, and *donation-orientation*. Note that our hypotheses do not make use of *Kohlberg class 1 and Kohlberg class 2* since our experiment does not include punishment or reward options. Empirically, however, we start out with donors' preferences over all six *Kohlberg classes* and test for their relevance in our context.

Price-, *donation*-, and *output-orientation* and their links to Kohlberg's field taxonomy of individual preferences for ethical criteria.

	reaction to an expected price increase of charitable output	reaction to expected price increase depends on	ethical criteria at play
price-orientation	reduce donation	no ethical concerns (Standard normal good)	**None** (Neither charitable output nor donation have ethical dimensions)
output-orientation	increase donation	*Kohlberg classes 5 or 6*	***Kohlberg classes 5 and 6:*** ***Class 5:*** preservation of *civil* rights as granted by the social contract. ***Class 6***: preservation of *human* rights, the individual will, and human dignity determine the right course of action.
donation- orientation	maintain donation	*Kohlberg classes 3 or 4*	***Kohlberg classes 3 and 4:*** ***Class 3:*** social image and social norm concerns, signaling of one's own intentions and complying with others' expectations. ***Class 4:*** deference to authority, law and duty to maintain a fixed social order or the status quo determine the right course of action.[5]

3. Experimental design

3.1 Overview: Main features, basic setup, general experimental procedure

To identify *price-*, *donation-* and *output-orientation* as described above, we need information about how much a donor donates with, and without intermediation, how much she expects the price of charitable output to change with intermediation, and how her set of ethical preferences determines her reaction to her belief about this price change. We therefore utilize a within-subjects design.[6]

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[5] Preferences for *Kohlberg class 4* may trigger *donation-orientation* if donors refer to a fixed social order, or status quo, and therefore do not change their donations in the presence of intermediation. However, it may also reinforce *price-orientation* if donors refer to the law and consider diverting money (for any reason) to be wrong, leading them to decrease their donation in response to intermediation.

[6] See Charness et al. 2012 for a discussion of within- and between-subject designs.

Subjects participate in four tasks. Instructions for each task were handed out at the beginning of each.[7] The first is a real effort task where subjects earn money which can be used in the following tasks. The second is a standard real-donation task in which donors donate directly to a local community of Indigenous Australians. The third is an intermediated donation task in which donors donate to the same local community of Indigenous Australians, but this time, through another subject in the laboratory called 'a charitable institution'. Subjects are informed that only one of the two donation tasks will be paid out. We next elicit subjects' incentivized beliefs about the amount intermediaries pass on. Finally, subjects complete a pen-and-paper standardized psychological moral judgement test and an exit survey collecting a wide range of demographic information. All tasks are further detailed below. In addition to the setup described above, we compare two frames of the intermediation task between-subjects; one frame describing the amount the intermediary can take as remuneration and to cover administrative cost, the other as acting corruptly.[8] In additional sessions, we vary the sequence of tasks, first introducing the intermediated donation task and afterwards, the standard donation task to examine robustness to order effects.[9]

Experiments were conducted with university students at the MonLEE lab at Monash University, Australia. Subjects were invited to participate in the experiment using ORSEE, an opt-in web-based recruitment system (Greiner 2015). Subjects were only invited if they had not previously participated in any similar experiment but were otherwise randomly chosen from all fields of study for all sessions. In each session, subjects were randomly seated at visually isolated cabins. Subjects were asked to leave no information which could be used to identify them and to make no contact with any other participant in the experiment. Thirteen sessions were run with a total of 178 participants. Sessions ran for approximately an hour and were conducted on computer using z-Tree software (Fischbacher 2007). Subjects were given a $5 payment as a show-up fee, $5 for completing the moral judgement test, plus their earnings from the experiment (consisting of the real effort task, either the standard or intermediated donation task, and the belief elicitation task). Subjects were paid their earnings in cash in

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[7] Instructions for all tasks can be found in Appendices B and C.

[8] The framing indicates that intermediaries can spend donations on inefficient administrations, or even embezzle money for their own personal gain (Abbink and Ellman 2010; Dyson 2013). Researchers have argued that framing of instructions can potentially have an effect on the actions of subjects (Park 2000; Cooper and Kagel 2003; Abbink and Hennig-Schmidt 2006; Barr and Serra 2009).

[9] The reverse sequence requires that participant roles be defined in terms of donors and intermediaries in the intermediation task. Once defined, this can prime behaviour in the real donation task, where all participants are in the role of donors. Therefore, we use data from these sessions only as a robustness check to ascertain if the three mechanisms of *price-, output-, and donation-orientation* remain.

Australian Dollars at the end of the experiment.[10] Average earnings from the experiment were $27 and ranged from $17 to $36.

3.2 Task 1: The Real Effort task

In the real effort task, subjects are randomly assigned either Role A or Role B. These roles later translate into the donor and the intermediary role. Each subject completes a simple task counting the frequency of Ones or Fives in a box of numbers. The tasks are similar across both roles but different in terms of the box of numbers subjects see. Subjects are informed that each role faces a different set of questions and that they will be allocated a payment for answering the questions, which they can use for decision making in tasks 2 and 3 of the experiment. All subjects receive $10 compensation for completing the real-effort task and are only informed of their own earnings. All subjects successfully completed the task.

The real-effort task serves two purposes: it allows donors an opportunity to give money they have earned and mimics a real-life income from which donations are made. It also compensates intermediaries for performing their role – as they would be in real life applications, e.g., through payments to CEOs and employees. In absence of any compensation, intermediaries may justify taking money from the donor's donation as payment for their task.

3.3 Task 2: The Real Donation task

After completing the real-effort task, all subjects are given instructions for the standard real-donation task in which they can choose to allocate whole dollar portions of their real effort task earnings between themselves and a disadvantaged recipient (Eckel & Grossman 1996), in this case, local communities of disadvantaged Indigenous Australians. In the standard real donation task, the price of charitable output is known: each dollar donated reaches the intended recipient, and therefore, each dollar is converted into one dollar of charitable output. Participants' donations are anonymous.

3.4 Task 3: The Intermediation task

In the intermediated donation task, illustrated in Figure 1, subjects learn whether they are donors or intermediaries. Role A from the real effort task 1 translates into the donor role, Role B into the intermediary role. For ease of understanding, intermediaries were referred to as

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[10] At the time of the experiments, 1 Australian dollar was equivalent to around 0.90- 1 US dollar.

'Charitable Institutions'. Each donor is randomly matched with one intermediary. The donor decides how much of her earnings from the real effort task to donate, i.e., d, to the disadvantaged recipient through the intermediary. The intermediary decides what percentage of the donor's donation to keep for herself, i.e., s, and what portion to pass on to the recipient, i.e. $(d-s/100*d)$. Our setting therefore studies an intermediary who solely provides access to a recipient that the donor cannot reach directly. The recipient are the same local communities of Indigenous Australians as before. Both donors and intermediaries make their decisions simultaneously. Intermediaries do not know the amount donated by their matched donors prior to making their decisions. Donors receive no information about what amount is taken by the intermediary before or after making their donation decision. Since subjects also have no information about the possible earnings of the other role in the real effort task, neither donors nor intermediaries know the earnings of the other players when making their decision. Otherwise, donors might expect intermediaries to equalize payoffs between both roles which would affect donors' beliefs about how much of their donation ultimately reaches the recipients.

The intermediation task was presented in one of two different frames: either the amount taken by the intermediary was framed as corrupt behavior (cheating), or as the intermediary charging administrative cost. We expected that *output-orientation* might depend on the reason why donors expect intermediation to increase the price of charitable output, and that each frame might cause a different set of beliefs. There is, however, no variation in beliefs or donations across the frames described. We therefore pool the data.

3.5 Task 4: Belief elicitation task and Moral Judgement Task

After the intermediation task, beliefs are elicited. Donors are asked what average percentage of the donors' donations intermediaries passed on to the recipient, and what average percentage of their earnings the other donors in the room donated. Intermediaries are asked what percentage of their earnings the donor they are matched with donated and what average percentage the other intermediaries in the room chose to pass on. The closer these revealed beliefs are to the actual average percentage from each session, the higher subjects' payoffs from the belief elicitation task (see, for instance, Selten 1998).

Finally, subjects complete a *Moral Judgement Test* (Lind 1978, Lind 2008) to elicit their preferences over Kohlberg's taxonomy of ethical criteria described in section 2.[11] The test introduces two vignettes. The first portrays workers who break into a factory in order to steal evidence that their management was listening in on them; the other a doctor who assists a terminally ill patient to commit suicide upon that patient's request. Subjects first submit their opinion on whether they deem the respective protagonist's behavior to be right or wrong. Afterwards, the test lists an inventory of 24 arguments (12 after each vignette, two arguments per vignette pertaining to the same Kohlberg class from table A1) and asks subjects on a 9-point scale how much they would agree/disagree to use each argument in order to judge whether the protagonist's behavior was right (six of twelve arguments per vignette) or wrong (another six arguments per vignette). Thereby, each argument refers to an ethical criterion belonging to one Kohlberg class from Table A1 such that four test items refer to the same class. We obtain subjects' preference over each Kohlberg class as the average rank given over the four arguments pertaining to this class, adjusted for subjects' personal use of the ranking scale (divided by the difference between the maximal and minimal rank a subject ever ticks in the entire test). The test purposely does not refer to the donation experiment and is designed such that in a sample of subjects who do not necessarily give their real opinions in the test but try, for instance, to answer in what they deem a socially acceptable or appropriate way, the distribution of the scores obtained is not biased (Wasel 1994, Lind 2008).[12]

Finally, subjects complete an exit survey to collect relevant demographics which might affect donations, beliefs, and moral judgement, the payoff-relevant task was randomly selected with equal probability, and donations from the entire session in this task were donated to small local groups of Indigenous Australians which provide health and education programs in disadvantaged Indigenous communities.[13] A volunteer from the participants was asked to help make the aggregate donation to the association by website in front of all subjects.

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[11] The test is freely available for research purposes from G. Lind upon request, visit http://moralcompetence.net.

[12] Subjects who do not answer truthfully add noise to their scores. Any effect their true score would have had on their donations, can therefore disappear, but these subjects do not produce effects their true score did not have.

[13] The groups receiving donations were local associations of Indigenous Australians (Red Dust Role Models and Wunan Foundation). These associations have programs that include teaching children and young adults about hygiene and diet, reduce alcohol consumption, how to brush their teeth, how to swim (health and survival programs), and provide access to schools and improve their skills (education programs). Subjects were informed about the nature of the association but not the name of the actual association when making decisions to ensure that the reputation, institutional aspects, or personal attitudes towards a particular association do not affect decision making. The receiving association was the same irrespective of which task (the real donation task or the intermediation task) was paid out, helping to ensure that beliefs about the groups would be the same across tasks.

Our goal is to investigate how donors react to intermediation when the price of charitable output is hidden and how this reaction depends on donors' ethical preferences. We stipulate that there are three mechanisms at work. First, a mechanism of *price-orientation* whereby donors consult their own beliefs about how intermediation affects the price of charitable output. The higher the price they expect (the less they believe intermediaries to pass on), the less charitable output they purchase and the lower therefore their donation. Second, we stipulate a mechanism of *output-orientation* driven by donors' preferences to derive the right course of action from the intended beneficiary's inalienable civic and human rights. These preferences soften, intercept, or compensate the negative effect of a price increase such that donations may even increase in the price of charitable output. The higher the expected price of charitable output, the less do donations decrease in this price in order to maintain a critical quantity of charitable output which ensures the intended recipient comes into her rights. Finally, a mechanism of *donation-orientation* whereby donors consider the donation itself, how this abides with the social order and status quo, how generous this donation makes them appear to others, whether the donation is sufficient in their peers' opinions, whether they donate as much as they are expected to and as much as most other donors would ('social norm'). By this third mechanism, donors tend to maintain their donation under intermediation.

In summary, we investigate whether donors' reactions to intermediation are:

- *price-oriented* in that donations significantly decrease in the price of charitable output per se, that is, in the share donors expect intermediaries to pass on.

- *output-oriented* in that donations decrease significantly less in the intermediation task and/or in the price of charitable output, the stronger donors' preferences to derive the right course of action from the social contract, civic and human rights (*Kohlberg classes 5 and 6*).

- *donation-oriented* in that donations significantly increase in donors' preference to derive the right course of action from their social image, others' expectations, a social norm or a fixed social order (*Kohlberg classes 3 and 4*), regardless of whether there is intermediation or not.

4. Experimental results

4.1 Descriptives: donations, beliefs, and ethical preferences

In the standard real donation task, the average donation by all 150 participants is $2.73 out of $10 (27%). Forty participants (27%) give zero. This is consistent with the existing literature such as Eckel and Grossman 1996 who find that subjects in the laboratory give on average 31% of the pie in a real donation experiment, while 27% of subjects give zero. Using an interval regression of the amount donated, we find no significant difference between donors (Role A) and intermediaries (Role B) in terms of the average donation in the real donation task, suggesting that subjects were effectively randomized into roles (p-value[14] = 0.67).

Table 1 summarizes the number of subjects who give (and the average donation amount) in each task by role. The average amount donated by the 75 donors in the intermediation task is $2.25. This is significantly less (p-value = 0.02) than the average of $2.83 these same donors donated in the real donation task. Figure 2a uses violin plots (Hintze and Nelson 1998) to compare the distribution of donations across both tasks, expressed in terms of shares of the pie. Shares donated in the intermediation task are indeed smaller than in the real donation task. Table 2 disaggregates the data and shows that amongst 61 donors who donate in at least one of the two tasks, 16.4% give more in the intermediation task (an average of $2.80 compared to $1.20 in the real donation task), 42.6% give less ($1.85 compared to $4.12) and 41% give the same positive amount.

These differences in donors' reactions to intermediation are not due to different beliefs about how much intermediaries pass on to the intended recipient. Donors who give more, the same, or less hold similar beliefs about how much intermediaries pass on and therefore expect the same price increase for charitable output under intermediation. To be precise, donors expect intermediaries to pass on, an average half of their donation (51.44 %) and expect their average donation of $2.25 to purchase an average charitable output[15] of $1.16 in the intermediation task.

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[14] Subjects made donations in whole numbers so each dollar donation is interval-censored in that only its lower and upper bound are known. A subject who donates $1 wants to give $1 at least but not more than, say $1.99. Interval regressions account for this feature of the data. All p-values reported are from interval regressions of Dollar amounts donated on the respective explanatory variables, with robust standard errors clustered at the individual level.

[15] The expected charitable output in the intermediation task was calculated by multiplying a donor's actual donation in the intermediation task with the proportion the donor believed the intermediary would pass on.

Donors who give *more* in the intermediation task expect the same amount of charitable output with and without intermediation (interval regression of expected whole Dollar amounts reaching the intended recipient on an intermediation task Dummy, p-value=0.94), suggesting they may have aimed at keeping that output constant. Donors who give less or the same amount with intermediation, also expected to purchase lesser output. Descriptive statistics therefore suggest that donors show genuinely different reactions to the introduction of an intermediary; that mechanisms of *price-, output-*, and *donation-orientation* might indeed be at work, outweighing each other differently for each donor.

Turning to donors' ethical preferences, Figure 3a plots donors' donations in the intermediation task against their beliefs about the share intermediaries pass on, along with a blue kernel regression line. Bubbles represent donors and are sized according to donors' *Kohlberg class 5* scores*:* the larger the score, the larger the bubble and lighter its color. We observe a strong increase of donations in the share donors believe intermediaries to pass on and observe that in particular lighter shaded large bubbles fall below the kernel regression line. That is, donors with stronger preferences for *Kohlberg class 5* seem to increase their donations less as the price of charitable output decreases and vice versa, to decrease them less as this price increases. Figure 3b shows that such a link does not exist for *Kohlberg class 6:* light shaded large and dark shaded small bubbles seem to fall to an equal extent below and above the regression line, preferences for *Kohlberg class 6* do not seem to interact with donor beliefs.

4.2 Price-orientation

Appending the data from the real donation and the intermediation task, we construct a panel data set which includes two observations for each donor. Donations being interval-censored, we perform interval regressions of donations on the key determinants of *price-orientation*: i) a dummy for the intermediation task, and ii) the share donors expect intermediaries to pass on to the intended recipients. To account for the correlation structure of the data, we cluster errors at the individual level and include session fixed effects. We also control for demographics including age, gender, religion, religiosity, nationality, fields of study, ethnicity and social economic status. In order to avoid omitted variable bias and at the same time, keep the estimator as precise (efficient) as possible, all regression specifications are tested downwards, removing variables which are insignificant and without impact on the goodness of fit, unless they are of theoretical interest. Columns three and four in Table 3a show the results of our two final specifications, with and without additional controls. Donations decrease in the expected price

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of charitable output - donors donate more, the more they believe intermediaries will pass on (the lower the expected price of charitable output). The effect is highly significant (5.279, p-value = 0.001) and robust to the inclusion of demographics (4.547, p-value = 0.001). Table 3b shows that the price of charitable output continues to be highly significant after controlling for the complete set of donors' ethical preferences (*Kohlberg classes 1, 2, 3, 4, 5, 6* whereby *1* and *2 are insignificant and therefore dropped*) including their interactions with the intermediation task and the share intermediaries are expected to pass on.[16] Since the share intermediaries are expected to pass on has a robust stand-alone effect, we conclude that donations do indeed react to how intermediation changes the price of charitable output: we observe *price-orientation*.

It is noteworthy that in Table 3a, donations significantly decrease in the intermediation task dummy itself (-0.698, p-value = 0.016), even after controlling for donors' beliefs about the share intermediaries pass on in column three (-3.521, p-value = 0.000), and for donors' demographics in column four (-3.155, p - value = 0.000). This implies that intermediation itself makes charitable output costlier to the donor, beyond the share of the donation taken by the intermediary. This additional cost could be a notion of trust betrayal as in (Bohnet and Zeckhauser 2004) where individuals are more reluctant to take risks when a given outcome is due to another player being trustworthy or not, rather than due to chance.

4.3 Output-orientation

Next, we analyze whether donors' preferences to derive the right course of action by means of the social contract and the civil rights granted therein *(Kohlberg class five)* or by means of universal principles such as human rights, human dignity, and respect for the individual will *(Kohlberg class six),* moderate the (negative) effects of intermediation. In section 2, we hypothesized that these ethical preferences could reverse the link between donations and the price of charitable output. Table 3b details the corresponding interaction effects of *Kohlberg class five* and *Kohlberg class six* with the intermediation task, and the share intermediaries are expected to pass on.[17] We analyze the ethical preferences operating on the intermediation task

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[16] After testing the models down in Table 3b, we observe two significant interactions of donors' ethical preferences with the share intermediaries are expected to pass on (One minus the expected price of charitable output). *Kohlberg class 3* interacts with the share intermediaries are expected to pass on (2.036, p-value = 0.014) as does *Kohlberg class 5* (-1.917, p-value = 0.023), see column three in Table 3b. Despite these interactions, the price variable itself still has a significant stand-alone effect: donations increase in the share intermediaries are expected to pass on, before controlling for demographics (6.421, p - value = 0.000), and afterwards (5.736, p-value = 0.000).

[17] As before, all specifications have been tested down including all six Kohlberg classes at the outset, their interaction effects with the intermediation task, and their interaction effects with the share intermediaries are

(columns one and two in Table 3b) separately from those operating on donors' beliefs (columns three and four in Table 3b) to limit collinearity, especially since they will require different additional controls in section *4.5.4*.

Two effects moderate the decline of donations due to intermediation. First, *Kohlberg class 6* significantly interacts with the intermediation task dummy (1.370, p-value = 0.014), moderating the extent to which donations decrease in intermediation itself. The effect is robust to the inclusion of demographics (1.443, p-value = 0.011). In fact, there are 47 donors (63%) whose ethical preferences for *Kohlberg class six* are strong enough to overcompensate the negative main effect of the intermediation task. Figure 4a presents a histogram of the total interaction effect of *Kohlberg class 6* divided by the main effect for the intermediation task in our sample. This share ranges from 0 to a maximum of 4.37. Consider a donor for whom this share is 4.37. This donor's preferences for *Kohlberg class 6* can compensate 4.37 times the trust betrayal cost (i.e., it is 4.37 times as high as the coefficient of the intermediation task). To show the distribution of these compensatory shares in our sample, we superimpose a violin plot on the top right of the graph. The violin plot also shows the median share (1.16) and the interquartile range (thick black line whose lower end shows the first quartile of 0.68 and whose upper end depicts the third quartile of 1.53).

Second, *Kohlberg class 5* significantly interacts with the share donors expect intermediaries to pass on (-1.917, p-value = 0.023), the effect being robust to the inclusion of demographics (-1.899, p-value = 0.019). That is, the lower the expected price of charitable output, the more do donations decrease in this price. Vice versa, the *higher* the expected price, the *smaller* the decline of donations in the price of charitable output. In fact, the interaction reduces the total decline of donations in the expected price of charitable output by an average of 26%. Figure 4b shows a histogram of the total interaction effect of *Kohlberg class 5* divided by the total effect of the share intermediaries are expected to pass on. This share ranges from 0 to 1.39. Consider the donor whose compensatory share is 1.39. Her preferences for *Kohlberg class 5* can compensate 1.39 times the total effect of her belief about the share intermediaries pass on. The superimposed violin plot again shows the median share (0.20) and the interquartile range (first quartile of 0.10 and third quartile of 0.40). Note that neither *Kohlberg class 5* nor *6* have a stand-alone effect on donations: donors seem to consult these ethical criteria solely to

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expected to pass on. The (significant) results for *Kohlberg classes 3, 4, 5* and *6* can therefore not be due to a latent correlation, for instance, with *Kohlberg classes 1* and *2*, since in this case, the latter would have shown a significant impact themselves.

determine the reaction to intermediation but not to decide on the donation itself. To conclude, we observe two channels which work against the effect of intermediation on the price of charitable output: two channels of *output-orientation* which moderate donors' *price-orientation*.

4.4 Donation-orientation

Finally, we analyze whether there are donors who are only concerned with the donation itself, and do not consider charitable output at all. These donors would refer to ethical criteria which imply the same donation with, and without intermediation and would apply to the donation itself rather than to charitable output. The relevant ethical criteria should therefore have a significant stand-alone effect in our specifications. Classical examples for such ethical criteria are social image concerns, social norms, and others' expectations: donors donate to signal their own generosity, because they are expected to, and in order to be taken for a good person *(Kohlberg class three).* Interestingly, we find that *Kohlberg class three* has no significant stand-alone effect on donations (-0.121, p-value = 0.789) before, or after controlling for demographics (-0.258, p-value = 0.566). We therefore do not observe pure *donation-orientation*. Instead, donors' preferences to consult these criteria make donations even more sensitive to what intermediaries are expected to pass on, that is, more sensitive to the price of charitable output. The respective interaction effect is significant (2.036, p-value = 0.014) and robust to the inclusion of demographics (2.019, p-value = 0.014). Donors who do not respond to intermediation do so out of pure *output-orientation* (in which case charitable output is a borderline Giffen-good), or out of a mixture of *price-* and *output-orientation*.[18]

4.5 Robustness of price-, output-, and donation-orientation

In this section, we explore whether *price-, output-, and donation-orientation* exist across different contexts within our experiment, in particular, across the respective frames of

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[18] It is possible, however, that two donation situations in which the intermediary is expected to pass on different shares, are also situations where the social norm about giving differs. In this case, the price of charitable output would convey two different norms about how much donors should give, and donors who would normally only consider their donation, look towards the price of charitable output to infer the relevant social norm, others' expectations, etc. If the price is low, one might be expected to give a lot and not be greedy. In this case, Kohlberg class 3 would increase the extent to which the price of charitable output matters. In section 2, we also hypothesized that preferences for *Kohlberg class 4* could link to *donation-orientation*, that is, donors who refer to a fixed social order, the status quo, or the law should not donate in the first place and should not care about whether there is intermediation or not. Yet, *Kohlberg class 4* has no stand-alone effect on donations either (-0.261, p-value = 0.611). Instead, we observe a weak interaction with the intermediation task dummy (-0.708, p-value = 0.063) which we interpret such that donors think it is against the law that intermediaries can divert money for any reason.

corruption and inefficiency in the intermediation task, the order of the two donation tasks and the behavior of subjects in the role of intermediaries. We also investigate whether the effects of donors' ethical preferences can be attributed to omitted demographic information.

4.5.1 Framing

Effects of the intermediation task and donor beliefs are robust to the frames we use. We expose 41 donors to a corruption frame and 34 to an inefficiency frame. Table 3c adds a respective corruption frame dummy along with its interactions to the baseline specifications in Table 3a. The intermediation task does not significantly interact with this frame dummy (-0.150, p-value = 0.789), see column one in Table 3c, nor do donor beliefs (4.323, p-value = 0.133), see column three. Interactions remain insignificant after controlling for demographics in columns two and four.

4.5.2 Order of donation tasks

To explore order effects, we conduct three sessions with a total of 28 observations in which we reverse the order of the donation tasks, introducing the intermediation task first, and the standard real donation task second. Table 3d pools the data across both orders and interacts all variables with a Dummy for the reversed order. The negative effect of intermediation on donations is robust. Donations can decrease even more strongly in the intermediation task for the reversed setup, the respective two-way interaction having an effect of -7.789 (p-value = 0.047) in column one which becomes smaller after controlling for demographics (-6.993, p-value = 0.031), and insignificant after also including the effect the reversed order has on donor beliefs. Donations in the reversed order might *decrease* rather than *increase* in the amount they expect intermediaries to pass on (6.279 - 14.034, p-value = 0.19, F-test). Thus, donations could *increase* in the price of charitable output, pointing at a stronger mechanism of *output-orientation*. We do, however, expect strong spillover effects of the framed intermediation task on the non-framed real donation task, especially on donors' beliefs about others' actions. The roles of intermediaries and donors need to be defined in the intermediation task and cannot be subsequently taken back for the real donation task, which implies the framing of the intermediation task will prime subjects for the real donation task. Such features of the reverse order mean that we should be cautious of interpreting this result. Instead, we use the treatment to examine whether the ethical mechanisms underneath *price-*, *output-*, and *donation* orientation remain intact after reversing the order of the tasks. This is indeed the case:

interacting the interaction terms from sections *4.2*, *4.3*, and *4.4* yet again with a Dummy for the reversed setup, we find similar effects of *Kohlberg classes 3*, *5* and *6*.[19]

4.5.3 Intermediaries

Figure 2b illustrates the share intermediaries donate in the real donation task and the share they pass on in the intermediation task. Intermediaries pass on a higher share of their earnings in the intermediation task than they donate in the standard real donation task, the average share increasing from 26.3% to 54.3% (p-value[20] = 0.017).[21] In order to gain some insight into whether mechanisms of *price-, donation-, and output-orientation* are at play on the intermediary side, we construct a panel data set appending the data from the standard real donation task and the intermediation task. Two aspects differ from the donor analysis. First, intermediaries gave whole Dollars in the real donation task whereas they gave percentages of the donor's donation in the intermediation task. We convert donations from both tasks into shares. Second, the price of charitable output intermediaries face is One minus the share they expect donors to donate. We regress the shares intermediaries donate on a Dummy for the intermediation task, on the share they expect donors to donate, the six-dimensional set of intermediaries' ethical preferences, and the same set of demographics as for donors. As before, all specifications are tested downward (with an initial specification including all six Kohlberg classes and their respective interactions with the intermediation task and intermediary beliefs), so as to reduce omitted variable bias and report efficient estimates.[22]

Table 4a shows that similar to the results for donors, shares donated *decrease* in the expected price of charitable output: shares increase in intermediaries' beliefs about donors' donations (0.756, p-value = 0.044), see column three. The effect is, however, neither robust to the inclusion of demographics (0.498, p-value = 0.168) in column four, nor to the inclusion of

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[19] The three-way interactions of both *Kohlberg class 3 and 5* with donor beliefs about how much intermediaries pass on and reverse order, have the same sign as the original two-way interactions (5.306, p-value = 0.227 and -2.402, p = 0.381, respectively), see column 3 in Table 3d. They are not statistically significant; note, that the reverse order data are noisier and produce less precise coefficients. Only the three-way interaction of *Kohlberg class 6* with the intermediation task and the Reversed Dummy shows a different sign than the original two-way interaction, which is, again, not significant (-0.205, p-value = 0.828) and compared with all other three-way interactions has a very small z-statistic.

[20] Logit regression of shares donated/passed on, on an intermediation task dummy with robust standard errors clustered at the individual level.

[21] One might expect that charities in the field would pass on a larger share of donations. Yet, in the introduction we provide evidence that this is not necessarily the case (Hundley and Taggart 2013; Kane 2010).

[22] Logit models are tested down on the basis of their coefficients (not on the basis of average marginal effects). It is therefore possible that our final specifications include variables whose average marginal effects are not significant while their coefficients are and which – for the latter reason, have not been deleted from the model.

intermediaries' ethical preferences (0.340, p-value = 0.383), and does not re-emerge after controlling for intermediaries' ethical preferences as well as their demographics (0.031, p-value = 0.929), see columns three and four in Table 4b.

We also observe *output-orientation*: intermediaries' preferences to derive the right course of action by means of the social contract and the civil rights granted therein *(Kohlberg class five)* moderates the (insignificant) decline of donations in the price of charitable output (-0.034, p-value = 0.011), and continues to do so after controlling for demographics (-0.031, p-value = 0.019). The *higher* the expected price of charitable output (i.e., the less donors are expected to donate), the *less* do shares donated decrease in price.[23]

Interestingly, Table 4a shows that the shares intermediaries donate seem to *increase* in the intermediation task itself (0.132, p-value = 0.014), even after controlling for demographics (0.131, p-value = 0.012). Note, however, that the effect turns insignificant after also controlling for intermediary beliefs (-0.047, p-value = 0.650). It was to be expected that intermediary shares would not decline in intermediation since, differently from donors, they face no potential trust betrayal by another agent who can divert their donations. Columns 1 and 2 in Table 4b show that the increase in intermediaries' shares can be explained using the lens of *output-orientation*: controlling for *Kohlberg class 6*, the intermediation task dummy ceases to be significant (0.056, p-value = 0.645), and an interaction term between the intermediation task and *Kohlberg class 6* shows a significant impact (0.009, p-value = 0.018), robust to the inclusion of demographics (0.009, p-value=0.016). Intermediaries who refer to *Kohlberg class 6* might increase their donation to compensate for the potential trust betrayal effect of intermediation on the donor side and maintain the amount of charitable output to secure the recipient's inalienable human rights, dignity, and freedom to choose.[24]

Similarly, as for donors, the shares intermediaries donate do not increase in the extent to which intermediaries consult their social image, others' expectations, or social norms to derive the

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[23] In columns 2 and 4 of Table 4b, we report models which include interactions effects of intermediary beliefs while excluding the main effect of these beliefs. Note that this does not mis-specify the model but changes the meaning of the interaction effect (see for a brief illustration UCLA: Statistical Consulting Group, accessed September 2021). If we include the main effect, *Kohlberg class 5* still has an effect of (-0.055, p-value = 0.043), and has a linear interpretation.

[24] We also find an unexpected interaction of *Kohlberg class 6* with expected share donated. Note that *Kohlberg class 6* correlates with purely procedural preferences (Chlaß and Riener 2015). In this case, intermediaries would think that donors limit intermediaries' decision rights by donating too little and therefore donate less themselves when price increases.

right course of action (*Kohlberg class 3*). Rather, intermediary donations tend to decrease in *Kohlberg class 3* (-0.012, p-value = 0.059), also after controlling for demographics (-0.009, p-value = 0.065) as can be seen from columns three and four, third panel, in Table 4b. Analogous to the donor side, *Kohlberg class 3* interacts with the variable for the price of charitable output, i.e. the shares donors are believed to donate (0.054, p-value = 0.000), also after controlling for demographics (0.047, p-value = 0.006). Therefore, as for donors, we find no evidence for donation-orientation on the intermediary side.

4.5.4 Donors' ethical preferences and their demographics

The connection between donors' reaction to intermediation and their ethical preferences may ultimately be due to a third, omitted, variable. Donors' scores from the moral judgement test could, for instance, correlate with their demographic information. The online appendices to (Chlaß et al. 2019) and (Chlaß and Moffatt 2017) at www.chlass.de/research.html provide results from a series of laboratory experiments on moral judgement, including this study, and the authors control for age, gender, personality, risk preferences, religion, religiosity, country of origin, socio-economic status, fields of study and more. Across these studies, two variables have been found to correlate with *Kohlberg class 5*. These are gender and field of study, Law. Similarly, there are six potential controls for *Kohlberg class 6:* i) gender, ii) age, and iii-vii) fields: of study: Law, Education, IT, Medicine, Nursing, and Health Services. Table 3e adds all potential controls for *Kohlberg class 6* to regressions 1 and 2 from Table 3a and interacts them with the intermediation task dummy. It also adds all potential controls for *Kohlberg class 5* to regressions 3 and 4 and interacts them with the share intermediaries are expected to pass on. *Kohlberg class 6* continues to compensate the negative effect of intermediation (1.720, p-value = 0.002), Kohlberg class 5 (1.955, p-value = 0.015) continues to compensate the negative effect of the price for charitable output. Thus, the link between donors' reaction to intermediation, and their ethical preferences remains robust.

5. Conclusion and discussion

We investigate how the existence of an intermediary and donors' expectations about the behavior of this intermediary affect charitable giving when not just the actions of the intermediary, but also the consequences of these actions are hidden from donors. We compare giving in a standard real donation experiment with an intermediated donation game where donors have the opportunity to donate through an intermediary played by another participant

in the experiment. We collaborate with small, local recipient groups, such that upon leaving the experiment all donations are transferred to these intended groups, to avoid any additional field intermediators who might have uncontrolled effects on donors' expectations about how much of a donation ultimately reaches the recipient.

Our main idea is that donors who donate through an intermediary, seek to purchase charitable output, that charitable output is a commodity with ethical dimensions, and that donors' reaction to intermediation must therefore depend on donors' ethical preferences. Starting with the reference case of a standard economic model, that an increase in the price of a commodity will reduce the consumption of that commodity relative to other goods, we posit a mechanism of *price-orientation*. If donors expect intermediaries to take from their donation, donors expect a lesser amount to reach the intended beneficiary, and therefore expect a higher price of charitable output. They purchase less charitable output relative to other goods as its price increases and therefore reduce their donation. We posit, second, a mechanism of *output-orientation*. If donors consult certain ethical principles such as human rights, human dignity, and the individual's freedom to choose, or the individual's civil rights when opting for a course of action, they may wish to maintain a critical level of charitable output, irrespective of its cost relative to other goods. Since by this reasoning, a certain amount of charitable output is linked to some inalienable right of the intended beneficiary, donors must increase their donation to purchase this amount when its price increases, turning charitable output into a Giffen-good. *Output-orientation* therefore weakens the extent to which donors consider the price increase of charitable output due to intermediation. We posit, third, a mechanism of *donation-orientation* which leads donors to maintain their donation under intermediation. Within this mechanism, in addition to price or the recipient's rights, donors may consider how generous others believe them to be, or how much others expect them to donate when making a donation; these ethical preferences apply to the donation itself rather than to charitable output.

We observe that donors significantly reduce their donations in the amount which they expect intermediaries to divert from the intended beneficiary: i.e., we observe *price-orientation*. This decline is, however, significantly moderated by donors' ethical considerations for others' civic rights as granted by the democratic social contract: the more donors refer to the latter, the less they decrease their donations in the amounts diverted. We therefore also observe *output-orientation* which compensates, on average, 26% of the price effect. Interestingly, donations decrease in intermediation per se even after controlling for donors' beliefs on intermediary

behavior. We interpret this result as a cost of potential trust betrayal. In most cases, this decline in intermediation is fully overcompensated by donors' considerations of others' human rights, their dignity, and freedom to choose. Surprisingly, we do not observe *donation-orientation*: in fact, donors' preferences to consider others' expectations, social norms, and their own social image magnify the effect of price. This may be because in the specific case of intermediation with hidden prices, the expected price of charitable output are donors' expectations about others' behavior, and price itself may therefore describe a social norm.

We present the first study of intermediation with hidden prices and show that donors' ethical preferences determine their response to intermediation. Our findings help inform the mixed results in the literature on the impact of charity effectiveness. For instance, Karlan and Wood 2017; Null 2011; and Butera and Horn 2017, find that overall donors are unresponsive to charity effectiveness. On the other hand, Adena et al. 2019 find that introducing quality certification of a charity increases giving by new donors. As we show in this study, accounting for donors' ethical preferences along with their beliefs regarding the ultimate cost of charitable output, donors' reactions are observed to be heterogenous depending on the ethical considerations they refer to. Our findings also provide a meaningful way to understand seemingly contradictory results, where researchers have observed that in some cases giving increases when the price of giving goes up (for example., Adena and Huck 2020). We find that the increase in giving in such cases is not due to idiosyncrasies of the data; rather, a genuine reaction of donors, which needs to be accounted for in the charitable giving literature.

Figures and Tables

Figure 1. Depiction of the intermediation task
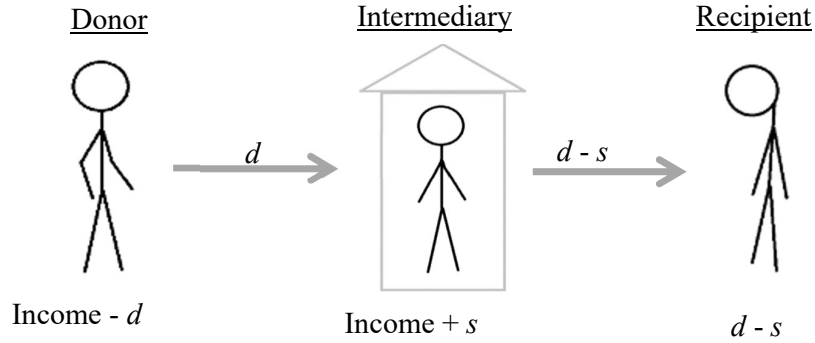
Figure 2. Intermediaries' and donors' donations in the standard real donation task and the intermediation task.
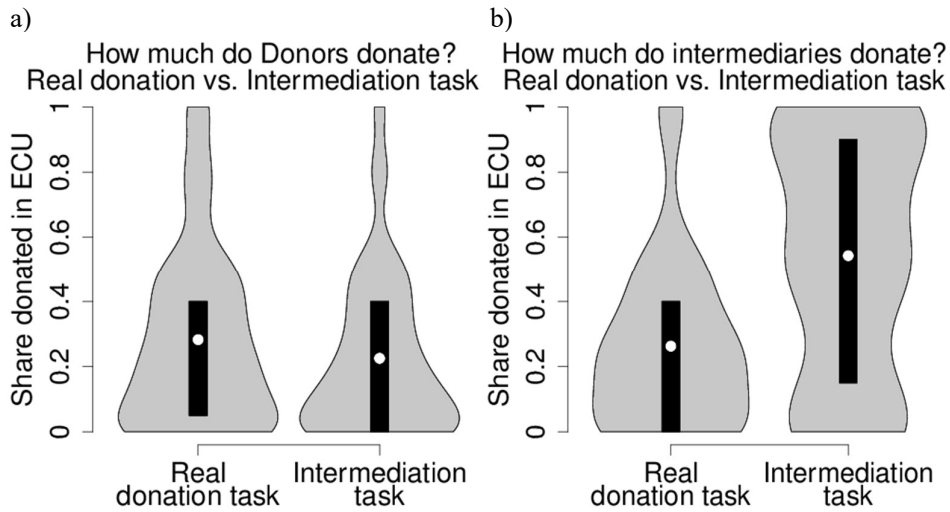
Notes: Each violin plot depicts the distribution of donations expressed as a share of $10 (Fig. 2a) or the distribution of the amounts passed on expressed as a share of $10 (Fig 2b) in grey and their interquartile range as a black bar. The white dot depicts the average amount donated or passed on in each of the tasks (Hintze and Nelson 1998)

Figures 3. Donations in the Intermediation task, donors' beliefs about the share intermediaries pass on, and their ethical preferences

a) donations, beliefs, and ethical preferences for Kohlberg class 5

b) donations, beliefs, and ethical preferences for Kohlberg class 6
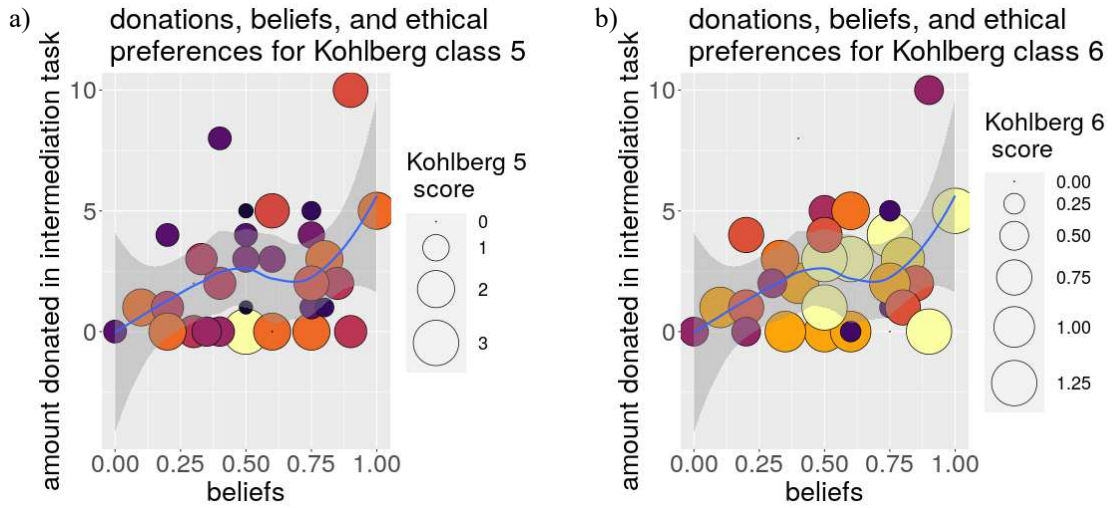
Notes: Figure 3a) plots donors' donations in the intermediation task against their beliefs about how much intermediaries pass on, each donor corresponding to one bubble. The size of each bubble depicts the donor's *Kohlberg class 5* score. The lighter bubbles are shaded, the larger the bubble, and the larger the *Kohlberg 5* score. The blue line plots a Kernel regression of amounts donated on donors' beliefs about how much intermediaries pass on. Figure 3b) plots donations against donor beliefs along with their *Kohlberg class six* scores.

Figures 4. Shares of trust betrayal cost and price effect compensated by Kohlberg class 5 and Kohlberg class 6.

a) output-orientation: Kohlberg class 6

b) output-orientation: Kohlberg class 5
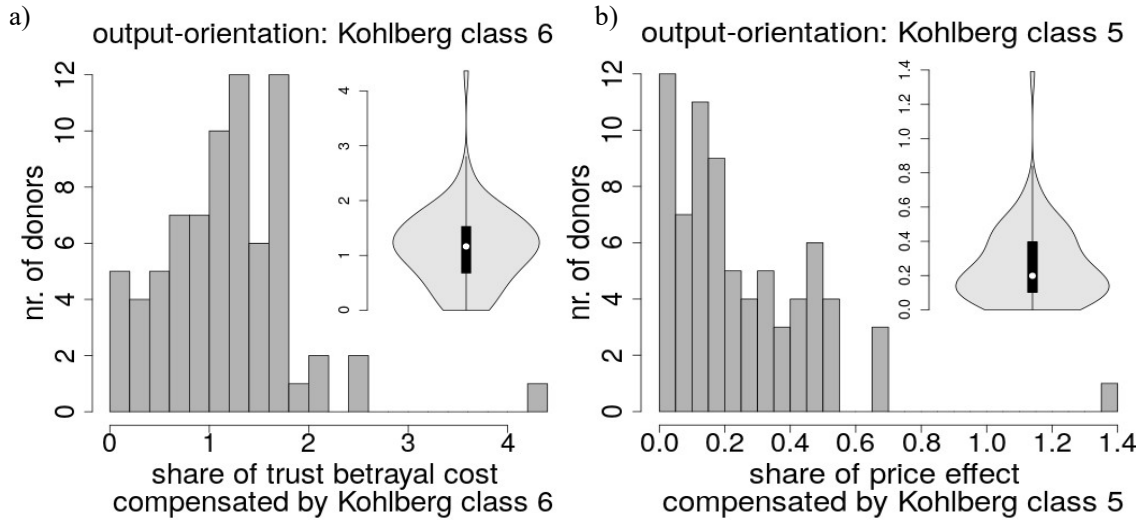
Notes: Figure 4a) illustrates the total interaction effect of Kohlberg class six scores with the intermediation task dummy divided by the effect of the intermediation task dummy (both in absolute terms). The donor who compensates most (rightmost bar of the histogram), compensates more than 4 times the effect of the intermediation task. Figure 4b) illustrates what share of the price effect is compensated by output-orientation. It divides the total interaction effect of Kohlberg class 5 scores with the share donors believe intermediaries to pass on, by the total effect of the share donors believe intermediaries to pass on (again in absolute terms). Take the histogram on the left. There are 12 donors whose compensatory shares are close to Zero such that they fall within its first bin (range of values on the x-axis corresponding to the breadth of one bar). Its last bin shows one donor who compensates roughly 1.4 times the price effect. The violin plot on the top right in each panel shows the density of these compensatory shares along with their interquartile range (fat black line) and the median (white dot).

Table 1: Number of givers (amount given[1]) by type and task

	Donors	Intermediaries	Total
Real-donation task (task 1)	56/75 ($2.83)	54/75 ($2.63)	110/150 ($2.73)
intermediation task (task 2)	52/75 ($2.25)	63/75 (54.32%)	115/150

[1] The average amount donated by all subjects: both givers and non-givers

Table 2: Average donation/amount passed on by donor type
(std. dev. in parentheses)

	Output-oriented	Price-oriented	Donation-oriented
Real-donation task			
Amount donated	$1.20 (1.40)	$4.12 (2.53)	$3.72 (2.76)
Intermediation task			
Amount donated	$2.80 (1.87)	$1.85 (2.05)	$3.72 (2.76)
N	10	26	25

Notes: Donation-orientated donors excludes donors who gave zero in both tasks

Table 3a: Interval regression of the amount given by donors.

specification →	Amount donated			
	(1)	(2)	(3)	(4)
Intermediation task	-0.698**	-0.727**	-3.521***	-3.155***
	(0.290)	(0.291)	(0.972)	(0.903)
*Expected share passed on by Intermediary * Intermediation task*			5.279***	4.547***
			(1.562)	(1.416)
Male		0.012		-0.005
		(.692)		(0.657)
Aged 20 to 25		-1.535*		-1.170
		(0.784)		(0.753)
Religious		0.235*		0.221**
		(0.111)		(0.107)
Self-reported SES		0.071		0.030
		(0.176)		(0.169)
Constant	0.504	0.240	0.951	0.745
	(2.281)	(2.457)	(2.211)	(2.45)
Session level dummies	YES	YES	YES	YES
N			150	

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. If a donor donated $1, the lower bound is $1 and the upper bound $1.99, if she donated $2 the lower bound is $2 and the upper bound $2.99 and so forth. If she donated $0, the lower bound is unknown and the upper bound is $0. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Demographic variables: (1) **Religious**: In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious). (2) **Self-reported SES**: In the exit survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

Table 3b: Interval regression of the amount given by donors: moral judgement

	Amount donated			
specification →	(1)	(2)	(3)	(4)
Intermediation task	-1.591**	-1.652**	-3.819***	-3.471***
	(0.641)	(0.651)	(0.973)	(0.926)
Intermediation task * Kohlberg class 6	1.370**	1.443**		
	(0.559)	(0.570)		
Intermediation task * Kohlberg class 4	-0.708*	-0.761**		
	(0.380)	(0.382)		
Expected share passed on by Intermediary * Intermediation task			6.421***	5.736***
			(1.737)	(1.619)
Expected share passed on * Kohlberg class 3			2.036**	2.019**
			(0.824)	(0.819)
Expected share passed on * Kohlberg class 5			-1.917**	-1.899**
			(0.846)	(0.812)
Kohlberg class 3			-0.121	-0.258
			(0.452)	(0.450)
Kohlberg class 4	-0.261	-0.333		
	(0.513)	(0.517)		
Kohlberg class 5			-0.165	0.011
			(0.524)	(0.497)
Kohlberg class 6	-0.014	0.014		
	(0.712)	(0.744)		
Male		0.240		0.028
		(0.707)		(0.641)
Aged 20 to 25		-1.581**		-0.944
		(0.796)		(0.709)
Religious		0.246**		0.215*
		(0.115)		(0.107)
Self-reported SES		0.007		0.015
		(0.191)		(0.168)
Constant	0.638	0.582	1.139	0.886
	(2.504)	(2.577)	(2.121)	(2.414)
Session level dummies	YES	YES	YES	YES
N		150 (148)		

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. If a donor donated $1, the lower bound is $1 and the upper bound $1.99, if she donated $2 the lower bound is $2 and the upper bound $2.99 and so forth. If she donated $0, the lower bound is unknown and the upper bound is $0. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.
Moral judgement variables: (1) **Kohlberg class 3**: average score over all four test items pertaining to Kohlberg class 3, ranges from 0 to 7 with a mean of 1.182 and a median of 1. (2) **Kohlberg class 4: average score** over all four test items pertaining to Kohlberg class 4, ranges from 0 to 7 with a mean of 1.335 and a median of 1.25. (3) **Kohlberg class 5: average score** over all four test items pertaining to Kohlberg class 5, ranges from 0 to 7 with a mean of 1.482 and a median of 1.5. (4) **Kohlberg class 6: average score** over all four test items pertaining to Kohlberg class 6, ranges from 0 to 7 with a mean of 1.331 and a median of 1.333. **Demographic variables:** (1) **Religious**: In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious). (2) **Self-reported SES**: In the exit survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

Table 3c: Interval regression of the amount given by donors: corruption vs. inefficiency frames.

	Amount donated			
specification →	(1)	(2)	(3)	(4)
Intermediation task	-0.616*	-0.644*	-2.032*	-1.758
	(0.339)	(0.338)	(1.206)	(1.167)
Intermediation task*corruption frame: yes	-0.150	-0.154	-2.435	-2.347
	(0.561)	(0.563)	(1.779)	(1.693)
Expected share passed on by Intermediary * Intermediation task			2.628	2.086
			(2.036)	(1.955)
Expected share passed on by Intermediary * Intermediation task*corruption frame: yes			4.323	4.122
			(2.878)	(2.706)
Male		0.012		-0.100
		(.692)		(0.653)
Aged 20 to 25		-1.536**		-1.099
		(0.784)		(0.757)
Religious		0.235**		0.221**
		(0.112)		(0.107)
Self-reported SES		0.071		0.010
		(0.176)		(0.170)
Constant	4.131***	4.108***	3.909***	3.964***
	(0.696)	(1.111)	(0.705)	(1.113)
corruption frame: yes	-3.594	-3.834*	-2.839	-2.911
	(2.394)	(2.315)	(2.331)	(2.325)
Session level dummies	YES	YES	YES	YES
N		150		

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. If a donor donated $1, the lower bound is $1 and the upper bound $1.99, if she donated $2 the lower bound is $2 and the upper bound $2.99 and so forth. If she donated $0, the lower bound is unknown and the upper bound is $0. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Demographic variables: (1) **Religious**: In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious). (2) **Self-reported SES**: In the exit survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

Table 3d: Interval regression of the amount given by donors: reversed order.

specification →	Amount donated			
	(1)	(2)	(3)	(4)
Intermediation task	-1.561**	-1.629**	-3.738***	-3.328***
	(0.626)	(0.638)	(0.945)	(0.889)
Intermediation task* Reversed order	-7.789**	-6.993**	-1.692	-2.445
	(3.929)	(3.241)	(2.374)	(2.396)
Intermediation task * Kohlberg class 6	1.333**	1.412**		
	(0.544)	(0.557)		
Intermediation task*Kohlberg class 6*Reversed Order	-0.206	-0.556		
	(0.943)	(0.809)		
Intermediation task* Kohlberg class 4	-0.686*	-0.743*		
	(0.372)	(0.375)		
Intermediation task*Kohlberg class 4*Reversed Order	3.435***	3.329***		
	(1.314)	(1.130)		
Expected share passed on by Intermediary * Intermediation task			6.279***	5.450***
			(1.689)	(1.549)
Expected share passed on in Intermediation task*Reversed Order			-14.034**	-14.561**
			(7.169)	(7.088)
Expected share passed on* Kohlberg class 3			2.001**	1.973**
			(0.808)	(0.801)
Expected share passed on*Kohlberg class 3* Reversed Order			5.306	6.100
			(4.395)	(4.180)
Expected share passed on* Kohlberg class 5			-1.887**	-1.847**
			(0.828)	(0.792)
Expected share passed on*Kohlberg class 5*Reversed Order			-2.402	-2.602
			(2.742)	(2.726)
Kohlberg class 3			-0.122	-0.285
			(0.445)	(0.446)
Kohlberg class 4	-0.251	-0.290		
	(0.502)	(0.503)		
Kohlberg class 5			-0.153	0.050
			(0.516)	(0.489)
Kohlberg class 6	-0.018	-0.042		
	(0.698)	(0.727)		
Kohlberg class 3* Reversed Order			-9.300**	-8.903**
			(3.931)	(3.545)
Kohlberg class 4*Reversed Order	0.689	0.634		
	(1.360)	(1.087)		
Kohlberg class 5*Reversed Order			6.280***	5.672***
			(2.144)	(1.938)

	(1)	(2)	(3)	(4)
*Kohlberg class 6*Reversed Order*	-0.527 (0.917)	0.126 (0.861)		
Reversed Order	2.012 (3.342)	1.198 (2.772)	7.979 (7.532)	9.415 (7.258)
Male		0.172 (0.649)		-0.103 (0.558)
Aged 20 to 25		-1.679** (0.681)		-1.128* (0.636)
Religious		0.252** (0.108)		0.214** (0.095)
Self-reported SES		0.048 (0.174)		0.053 (0.149)
Constant	0.744 (2.432)	0.564 (2.465)		0.939 (2.291)
Session level dummies	YES	YES	YES	YES
N		178 (176)		

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. If a donor donated $1, the lower bound is $1 and the upper bound $1.99, if she donated $2 the lower bound is $2 and the upper bound $2.99 and so forth. If she donated $0, the lower bound is unknown and the upper bound is $0. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Moral judgement variables: (1) **Kohlberg class 3**: average score over all four test items pertaining to Kohlberg class 3, ranges from 0 to 7 with a mean of 1.132 and a median of 1. (2) **Kohlberg class 4: average score** over all four test items pertaining to Kohlberg class 4, ranges from 0 to 7 with a mean of 1.369 and a median of 1.250. (3) **Kohlberg class 5: average score** over all four test items pertaining to Kohlberg class 5, ranges from 0 to 7 with a mean of 1.507 and a median of 1.5. (4) **Kohlberg class 6: average score** over all four test items pertaining to Kohlberg class 6, ranges from 0 to 7 with a mean of 1.352 and a median of 1.381. **Demographic variables:** (1) **Religious**: In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious). (2) **Self-reported SES**: In the exit survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

Table 3e: Interval regression of the amount given by donors: demographic controls

	Amount donated	
specification →	(1)	(2)
Intermediation task	-1.310** (0.557)	-3.486*** (0.967)
Intermediation task * Kohlberg class 6	1.720*** (0.559)	
Intermediation task * Kohlberg class 4	-0.831 (NA)	
Intermediation task*Aged 20 and 25	-0.862* (0.449)	
[Intermediation task*gender]	[-0.669] [(0.634)]	
Intermediation task*Law	1.922*** (0.725)	
Intermediation task*IT	-2.489*** (0.330)	
Intermediation task*Education	2.010** (0.965)	
Intermediation task*Medicine, Nursing and Health Sciences	-1.189 (0.884)	
Expected share passed on by Intermediary*Intermediation task		6.537*** (1.758)
Expected share passed on*Kohlberg class 3		2.089*** (0.814)
Expected share passed on*Kohlberg class 5		-1.955** (0.806)
Expected share passed on*gender		-1.543 (0.978)
Expected share passed on*Law		5.205*** (1.845)
Expected share passed on*IT		-3.997*** (1.392)
Law	-2.416** (1.182)	-1.714 (1.163)
IT	-0.638 (0.909)	-0.364 (0.842)
Education	1.426 (2.917)	
Medicine, Nursing, and Health Sciences	-1.885* (1.063)	
Kohlberg class 3		-0.278 (0.446)
Kohlberg class 4	-0.387 (0.545)	
Kohlberg class 5		-0.001 (0.495)

Kohlberg class 6	0.005	
	(0.790)	
Male	0.183	0.297
	(0.712)	(0.740)
Aged 20 to 25	-1.594*	-1.050
	(0.880)	(0.751)
Religious	0.297	0.230
	(NA)	(NA)
Self-reported SES	0.017	0.030
	(0.182)	(0.167)
Constant	0.966	0.728
	(2.560)	(2.448)
Session level dummies	YES	YES
N	150 (148)	

Notes: Interval regression where the dependent variable is the lower and upper bound of the donation amount in whole dollars. If a donor donated $1, the lower bound is $1 and the upper bound $1.99, if she donated $2 the lower bound is $2 and the upper bound $2.99 and so forth. If she donated $0, the lower bound is unknown and the upper bound is $0. Robust standard errors are in parentheses. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.

Moral judgement variables: (1) **Kohlberg class 3**: average score over all four test items pertaining to Kohlberg class 3, ranges from 0 to 7 with a mean of 1.182 and a median of 1. (2) **Kohlberg class 4: average score** over all four test items pertaining to Kohlberg class 4, ranges from 0 to 7 with a mean of 1.335 and a median of 1.25. (3) **Kohlberg class 5: average score** over all four test items pertaining to Kohlberg class 5, ranges from 0 to 7 with a mean of 1.482 and a median of 1.5. (4) **Kohlberg class 6: average score** over all four test items pertaining to Kohlberg class 6, ranges from 0 to 7 with a mean of 1.331 and a median of 1.333. **Demographic variables:** (1) **Law**: Dummy variable which takes on a value of One if field of study is Law, (2) **IT**: Dummy variable which takes on a value of One if field of study is IT, (3) **Education:** Dummy variable which takes on a value of One if field of study is Education, (4) **Medicine, Nursing, and Health Sciences:** Dummy variable which takes on a value of One if field of study is Medicine, Nursing, and Health Sciences, (5) **Religious**: In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious). (6) **Self-reported SES**: In the exit survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

Table 4a: Logit regressions of the share donated/passed on by intermediaries: average marginal effects

	Share donated/passed on			
	(1)	(2)	(3)	(4)
Intermediation task	0.132**	0.131**	-0.047	0.018
	(0.053)	(0.052)	(0.104)	(0.102)
*Expected share donated * Intermediation task*			0.756**	0.498
			(0.376)	(0.361)
Male		-0.250***		-0.227**
		(0.088)		(0.097)
Aged 20 to 25		-0.041		-0.038
		(0.080)		(0.074)
Religious		0.033***		0.032**
		(0.013)		(0.013)
Self-reported SES		-0.030		-0.026
		(0.019)		(0.018)
Session level dummies	YES	YES	YES	YES
N		150		

Notes: Logit regressions where the dependent variable is the share donated in the real donation task and the share passed on in the intermediation task. We report average marginal effects, robust clustered standard errors are in parentheses and obtained via the Delta Method. *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level.
Demographic variables: (1) **Religious**: In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious). (2) **Self-reported SES**: In the exit survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

Table 4b: Logit regressions (marginal effects) of the share donated/passed on by intermediaries: moral judgement.

specification →	Share donated/passed on			
	(1)	(2)	(3)	(4)
Intermediation task	[0.056]	[0.053]	-0.086	-0.030
	[(0.121)]	[0.120]	(0.090)	(0.100)
Intermediation task * Kohlberg class 6	0.009**	0.009**		
	(0.004)	(0.004)		
Expected share donated			[0.340]	[0.031]
			[(0.389)]	[(0.354)]
Expected share donated*Kohlberg class 3			0.054***	0.047***
			(0.014)	(0.017)
Expected share donated* Kohlberg class 5			-0.034**	-0.031**
			(0.013)	(0.013)
Expected share donated* Kohlberg class 6			0.068***	0.055**
			(0.023)	(0.017)
Kohlberg class 3			-0.012*	-0.009*
			(0.006)	(0.005)
Kohlberg class 5			-0.017*	-0.012
			(0.009)	(0.007)
Kohlberg class 6	0.001	0.004	0.017*	0.017**
	(0.008)	(0.006)	(0.010)	(0.007)
Male		-0.256***		-0.189**
		(0.088)		(0.078)
Aged 20 to 25		-0.045		-0.049
		(0.077)		(0.067)
Religious		0.034***		0.024**
		(0.012)		(0.010)
Self-reported SES		-0.034*		-0.036**
		(0.019)		(0.017)
Session level dummies	YES	YES	YES	YES
N		150 (136)		

Notes: Logit regressions where the dependent variable is the share donated in the real donation task and the share passed on in the intermediation task. We report average marginal effects, robust clustered standard errors are in parentheses and are obtained via the Delta Method *significant at the 10% level, ** significant at the 5% level, *** significant at the 1% level. [] denotes coefficients and standard errors of an insignificant variable before it was deleted from the model.

Moral judgement variables: (1) **Kohlberg class 3**: average score over all four test items pertaining to Kohlberg class 3, ranges from 1 to 27 with a mean of 11.6 and a median of 11. (2) **Kohlberg class 5:** average score over all four test items pertaining to Kohlberg class 5, ranges from 1 to 27 with a mean of 14.39 and a median of 15. (3) **Kohlberg class 6:** average score over all four test items pertaining to Kohlberg class 6, ranges from 1 to 29 with a mean of 13.79 and a median of 14. **Demographic variables:** (1) **Religious**: In the exit survey, subjects ticked how religious they would say they were on a scale from 0 (not religious at all) to 10 (very religious). (2) **Self-reported SES**: In the exit survey, subjects also ticked their economic situation (self-reported socio-economic status SES) on a scale from 0 to 10 with 0 being extremely poor, and 10 being extremely wealthy.

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Appendix A

Table A1: Kohlberg's (e.g. 1984) six 'classes' or 'ways' of moral argumentation summarized by Ishida (2006)

argumentation	motivations for moral behavior
"preconventional way"	*Class 1.* Orientation toward punishment and obedience; physical and material power. Rules are obeyed to avoid punishment. *Class 2.* Naïve hedonistic orientation. The individual conforms to obtain rewards.
"conventional way"	*Class 3.* "Good boy/girl" orientation to win approval and maintain expectations of one's immediate group. The individual conforms to avoid disapproval. One earns approval by being 'nice'. *Class 4.* Orientation to authority, law and duty to maintain a fixed social order. One does right by doing one's duty and by abiding by the social order.
"postconventional way"	*Class 5*. Social contract orientation. Duties are defined in terms of the social contract and the respect of others' rights. Emphasis is upon equality and mutual obligation within a democratic order. **Class 6.** Moral behavior is grounded upon individual principles of conscience such as the respect for the individual will, the individual's freedom to choose, her dignity and so forth. The rightness of an action is determined by conscience in accord with comprehensive, universal and consistent ethical principles.

GENERAL INSTRUCTIONS[25]

General Information

Thank you for participating in this experiment. This is a study of individual and institutional decision-making. You have been paid a show-up fee of $5 for attending the experiment. The $5 show up fee is on your desk and is yours to keep. In addition to the show-up fee you will also receive compensation for your participation, which will be paid to you in cash at the end of the experiment. How you will be compensated is explained below.

The instructions that we have distributed to you are for your private information. The experimenter will read the instructions aloud and you should follow along on your own copy. It is important that you understand all the instructions. If you do not understand the instructions, you may not be able to participate effectively. If there is something you do not understand or you have any questions, please raise your hand.

After you have completed the tasks in the experiment you will be asked to fill out an exit survey before you receive payment.

To ensure all participants' choices remain anonymous, the computer will assign you a random ID. Please do not turn around or look at anyone else or anyone else's computer screen. Do not communicate with the other participants during the experiment.

We will ask for a volunteer to come forward to be the monitor for today's study. The monitor will verify that the instructions, as they appear, have been followed, but will otherwise take part in the experiments as everybody else.

The experiment is divided into 5 tasks. Once each task is finished, you will receive detailed information about the next task. The first 4 tasks will be performed on the computer. The 5th task will be conducted using paper and pen. At the end of the experiment, you will be asked to fill out a computerized exit survey.

You will be paid your earnings in cash at the end of the experiment. You are free to leave the experiment at any time, however, you must complete all tasks and the exit survey in order to receive payment or to take any of the money earned home with you.

We anticipate that the experiment should not take longer than an hour and a half.

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[25] This appendix reproduces instructions for the treatment where the intermediation task was presented second and in an inefficiency frame. Those parts which differ from the instructions for the alternative corruption frame are put in square brackets. These square brackets were not part of the original instructions.

Payment

The experiment is divided into 5 tasks. In the first task you will be asked to answer a series of questions for which you will receive compensation that can be used in task 2 and task 3 of the experiment. Although you make decisions in task 2 and 3 you will only be paid for the outcome of one of these tasks. Which task will be paid out will be determined by the random flip of a coin in front of you by the monitor at the end of the experiment. If the outcome of the coin is heads, you will be paid for task 2. If the outcome of the coin is tails, you will be paid for task 3. You will also be paid for task 4 and task 5 regardless of the outcome of the coin toss.

That is, in addition to your show up fee:

If coin toss is heads:

$$Your\ earnings = Task\ 2\ earnings + Task\ 4\ earnings + Task\ 5\ earnings$$

If coin toss is tails:

$$Your\ earnings = Task\ 3\ earnings + Task\ 4\ earnings + Task\ 5\ earnings$$

As you do not know which of the two tasks (task 2 or task 3) will be chosen for payment, you should pay attention to the choices you make in each decision and treat them as if they were the decision that is going to be chosen for payment.

INSTRUCTIONS FOR TASK 1

In this task you are going to be asked to complete a series of questions for which you will receive compensation that can be used in task 2 and task 3 of the experiment.

Everybody in the room will be randomly allocated to one of two 'types'. You will be allocated as either a Type A or a Type B. You will be allocated a different set of questions to answer based on whether you are a Type A or a Type B.

The questions will appear on your computer screen when the experiment starts. You will be asked to enter the answer to each of the questions. Once you have entered your answer for each of the questions and clicked OK, the computer will take your answers and allocate you a payment for answering the questions. The payment amount you have received for answering the questions will appear on your computer screen.

This payment amount will be used in the next two tasks of the experiment. How it can be used will be explained in the instructions for Task 2 and 3 of the experiment which will be given to you on completion of this task.

Do you have any questions?

INSTRUCTIONS FOR TASK 2

Thank you for participating in the first part of the experiment. You are now going to be given an opportunity to donate a portion of your earnings from task 1 of the experiment to a Needy Recipient.

The Needy Recipient that you can donate to is disadvantaged Indigenous Australians (from here forward referred to as the 'Recipient'). At the end of the experiment, if this task is chosen for payment, the total donations from all participants for this decision will be aggregated and the experimenter will donate the total amount to the Recipient. The monitor will verify that the donation has been made by observing the experimenter making the donation by website directly at the end of the experiment. Any amount of your earnings from task 1 that you do not donate will be paid out to you in cash at the end of the experiment.

Please note, your decisions in Task 2 are unrelated to Task 3, what you choose in this task will not affect Task 3. As only one of the questions will be chosen for payment, you should treat the decisions separately. That is, the donation you choose to make in this task will be made if Task 2 is selected for payment. If Task 3 is chosen for payment, the decisions you make in Task 3 will be paid out instead.

You can choose to donate any whole dollar amount from $0 to the total amount you earned in the first task. The choice is up to you. For example, if you earned $10 in the first task of the experiment, you could choose to donate any amount from $0 to $10 to the Recipient. How much you receive and how much the Recipient receives depends on your decision. For example, if you chose to donate $6 to the Recipient, the donation made to the Recipient would be $6 and your earnings for this part of the experiment would be $4.

You will be asked on the computer screen, how much of your earnings you would like to donate. You can then enter any donation amount from $0 to the total amount you earned in the first part of the experiment and press OK.

Please remember that your responses in this experiment are anonymous, nobody will be able to match the decisions you make with your name or your face.

Do you have any questions?

INSTRUCTIONS FOR TASK 3

In this task you are going to be randomly matched with another participant in the room. Who you are matched with will depend on the type you were allocated in task 1 of the experiment. If you are a 'Type A' you will be matched with a 'Type B' person. If you are a 'Type B' person, you will be matched with a 'Type A' person. You will not be informed of the identity of the person you are matched with at any stage during or after the experiment.

In this task, you will be allocated the role of a DONOR or a CHARITABLE INSTITUTION based on your type. Each Donor will be matched with a Charitable Institution; Each Charitable Institution will be matched with a Donor. When the task starts, the computer will inform you whether you have been allocated the role of a Donor or the role of a Charitable Institution. Remember your type was allocated to you randomly by the computer at the start of the experiment.

Neither the Charitable Institution nor the Donor will be informed of the identity of their partner or the type of any other participant at any stage during or after the experiment. As such, all of your choices will remain anonymous.

What you are required to do in this task depends on whether you have been allocated the role of the Donor or the role of the Charitable Institution. Remember, as only one of Task 2 and Task 3 is going to be paid out you should treat your decisions in each of the Tasks separately. Therefore, you should make your decisions in this task as if you had not made any decision in Task 2.

<u>If you are allocated the role of the DONOR</u>

The Donor is going to be given an opportunity to donate a portion of their earnings from task 1 of the experiment to a Needy Recipient through the Charitable Institution (the other person in the room who they have been matched with for this part of the experiment).

The Needy Recipient that you can donate to is disadvantaged Indigenous Australians (from here forward referred to as the 'Recipient'). You can choose to donate any whole dollar amount from $0 to the total amount you earned in the first part. The choice is up to you. For example, if you earned $10 in the first part of the experiment, you could choose to donate any amount from $0 to $10 to the Recipient through the Charitable Institution. The Charitable Institution will decide how to allocate the funds to the Recipient.

- How much you receive depends on your decisions;

- How much disadvantaged Indigenous Australians receive depends on both your decision and the decision of the Charitable Institution (the choices the Charitable Institution can make are explained below).

At no stage will you be told the choices of the Charitable Institution so you will not know exactly how much of your donation was received by the Recipient. It could be the entire amount you donated, or it could be nothing. As you do not know the Charitable Institution's decisions you will not know the earnings of the Charitable Institution or how much of your donation was received by the Recipient.

You will be asked on the computer screen, how much of your earnings you would like to donate to the Recipient through the Charitable Institution. You can enter whole dollar amount from $0 to the total amount you earned in the first part of the experiment. Once you have decided on the amount and entered it in on the computer screen, press OK.

Please remember that your responses in this experiment are anonymous, nobody will be able to match the decisions you make with your name or your face.

At the end of the experiment, if this task is chosen for payment, the total donations from all Donors for this decision will be aggregated, the decisions of the Charitable Institution will be used to calculate the final total donation amount, and the experimenter will donate the total amount to the Recipient. The monitor will verify that the donation has been made by observing the experimenter making the donation by website directly at the end of the experiment. Any amount of your earnings from task 1 that you do not donate will be paid out to you in cash at the end of the experiment.

<u>If you are allocated the role of the CHARITABLE INSTITUTION</u>

The Charitable Institution acts as an intermediary between the Donor and the Recipient. It is the role of the Charitable Institution to perform administrative tasks and use donations for charitable

purposes to improve the welfare of the Recipient. The money you earned in task 1 of the experiment is the compensation you receive for performing this role (you can think of this compensation as comparable to payments by charities in real-life such as payments to employees, etc.).

In addition to this compensation, [the Charitable Institution can choose a supplementary amount to charge the Donor in administration costs to compensate for performing the administrative task in task 1 and for acting as the intermediary between the Donor and the Needy Recipient] [as the Donor does not know how much of their donation you pass on to the recipient, you have an opportunity to act corruptly and to take some of the Donor's donation for yourself rather than passing it on to the Needy Recipient]. The Charitable Institution must determine how much of the Donor's donation [to [allocate towards supplementary administration costs] [they want to take through corrupt activities] and how much to pass on to the Recipient. The amount that the Charitable Institution seeks to pass on to the Recipient will be donated to disadvantaged Indigenous Australians at the end of the experiment. Any amount the Charitable Institution chooses <u>not</u> to pass on will be added to the earnings of the Charitable Institution in addition to compensation received in task 1 as explained above. This amount will NOT be passed on to disadvantaged Indigenous Australians as the Donor intended.

You will be asked to decide what percentage of the donation you would like to **<u>pass on</u>** to the Recipient. You will have the option to pass on any amount, including some, none or all of it. You can choose any amount in between 0 and 100 percent.

What you do not pass on to the Recipient will be added to your earnings and will not be passed on to the Recipient. That is, any amount of the Donors' donation you choose not to pass on, you will take for yourself and it will not be passed on to disadvantaged Indigenous Australians.

- How much you earn as the Charitable Institution and how much the Recipient receives depends on both the Donor and your decisions in this task.

For example, suppose that you had earned $10 in task 1. Assume that the Donor decided to donate $5 to the Recipient through you as the Charitable Institution. Suppose that for a donation amount of $5, you had chosen to pass on 70 percent to the Recipient.

Based on these decisions, if this task was selected for payment, disadvantaged Indigenous Australians would receive $3.50 (70 percent of the $5 donation) and your earnings would be $11.50 ($10 received in compensation from your role as a Charitable Institution from task 1, plus the additional $1.50 (30 percent of the $5 donation) not passed on to the Recipient). As you do not know how much the Donor earned in task 1 you will not know the earnings of the Donor.

Neither the Charitable Institution nor the Donor will be informed of the identity of their partner at any stage during the experiment. The Donor will also not be informed of the actions of the Charitable Institution. The Donor will only know that they have made a donation to the Recipient through the Charitable Institution. As such, all decisions will remain completely anonymous.

At the end of the experiment, if this task is chosen for payment, the total donations from all Donors [less supplementary administration costs from all Charitable Institutions] [less the amounts taken by Charitable Institutions through corrupt activities] will be aggregated and the experimenter will donate the total amount to disadvantaged Indigenous Australians. The monitor will verify that the donation has been made by observing the experimenter making the donation by website directly at the end of the experiment.

Please remember that your responses in this experiment are anonymous, nobody will be able to match the decisions you make with your name or your face.

Control Question

(This aims to help you better understand the experiment and should not be used as a guide for decisions in the experiment)

Assume that the Donor decided to donate $10 to the Recipient. Assume the Charitable Institutions chose to pass on 80 percent of the donation to the Recipient. How much would the Charitable Institution receive in addition to the compensation they received in payment for their role? How much would disadvantaged Indigenous Australians receive?

Do you have any questions?

INSTRUCTIONS FOR TASK 4:

In this task you are going to be asked your opinion on others decisions in the previous part of the experiment. You will be asked two questions and you will be paid for your answers. How much you receive depends on how close you are to the decisions of other subjects in today's experiment. What you will be asked depends on whether you played the role of a Donor or a Charitable Institution in the previous task.

<u>If you were allocated the role of a Donor</u>

If you were allocated the role of a Donor in the previous task you will be asked how much of all Donors' donations, on average, you believe Charitable Institutions chose to pass on to the Recipient. You will also be asked what percentage of their earnings, on average, the other Donors in the room chose to donate to the recipient through the Charitable Institution. Specifically, you will be asked:

Question 1: On average, what percentage of Donor's donations do you think the Charitable Institutions passed on to disadvantaged Indigenous Australians?

You should consider what percentage (from 0 percent to 100 percent) on average you believe Charitable Institutions in the room passed on to the Recipient from Donors' donations.

As you do not know which subject you are matched with in the room, (there is an equal chance that you are matched with any of the subjects playing the role of the Charitable Institution), your expectation of how much the Charitable Institution you are matched with passed on to the Recipient should be exactly equal to your guess of the average amount all Charitable Institutions in the room passed on. That is, you should answer the question 1 the same way as you would answer the question "What percentage of your donation do you think the Charitable Institution you were matched with passed on to the Recipient?"

The second question you will be asked is:

Question 2: On average, what percentage of their earnings from Task 1 do you think the other Donors in the room donated to disadvantaged Indigenous Australians through the Charitable Institutions?

<u>If you were allocated the role of a Charitable Institution</u>

If you were allocated the role of a Charitable Institution in the previous task you will be asked what percentage of their earnings on average the Donor you are matched with chose to donate to the recipient through you as the Charitable Institution. You will also be asked how much of the Donors' donations, on average, you believe the other Charitable Institutions in the room chose to pass on to the Recipient. Specifically, the first question you will be asked is:

Question 1: What percentage of their earnings from Task 1 do you think the Donor <u>you are matched with</u> donated to disadvantaged Indigenous Australians, through you the Charitable Institution?

The second question you will be asked is:

Question 2: On average, what percentage of Donor's donations do you think the other Charitable Institutions in the room passed on to disadvantaged Indigenous Australians?

How will I be paid?

For each question, you will be paid up to $5 for your answer depending on how close you are to the actual answer. That is, you will be paid up to $5 for your answer to Question 1 and up to an additional $5 for your answer to Question 2. Your maximum earnings for this task are $10.

Your payment will be based on the formula below:

$$Your\ payment = \$5\ x\ \left[1 - \left(\frac{actual\ percentage - your\ guess}{100}\right)^2\right]$$

The formula is such that the closer your guess is to the actual value the more you get paid.

Example 1:

For example, consider Donor's question 1. Suppose you are a Donor and that you guessed that, on average, the Charitable Institutions passed on 0 percent of the donation to the Recipient. Assume that in reality the Charitable Institutions passed on 50 percent of their earnings on average. Your earnings for this question would be $3.75.

$$\$5\ x\ \left[1 - \left(\frac{50 - 0}{100}\right)^2\right] = \$5\ x\ [1 - 0.25] = \$5\ x\ 0.75 = \$3.75$$

Alternatively, if you had guessed correctly that Charitable Institutions had, on average, passed on 50 percent of the donation you would have earned $5.

$$\$5 \; x \left[1 - \left(\frac{50 - 50}{100}\right)^2\right] = \$5 \; x \; [1 - 0^2] = \$5 \; x \; 1 = \$5$$

Suppose instead, on average, Charitable Institutions passed on 100 percent of the donation. If you had guessed that they had passed on 0 percent, you would earn $0 for this question

$$\$5 \; x \left[1 - \left(\frac{100 - 0}{100}\right)^2\right] = \$5 \; x \; [1 - 1] = \$5 \; x \; 0 = \$0$$

Example 2:

Consider the Charitable Institution's second question. Suppose you are a Charitable Institution and that you guessed that, on average, the Donor's donated 100 percent of their Task 1 earnings to the Recipient through the Charitable Institution. Assume that in reality the Donors donated 75 percent of their Task 1 earnings, on average. Your earnings for this question would be $4.69.

$$\$5 \; x \left[1 - \left(\frac{75 - 100}{100}\right)^2\right] = \$5 \; x \; [1 - 0.0625] = \$5 \; x \; 0.94 = \$4.69$$

Alternatively, if you had guessed that Donors had, on average, donated on 10 percent of their Task 1 earnings, but in reality, they had donated 90 percent. Your earnings for this question would be $1.80

$$\$5 \; x \left[1 - \left(\frac{90 - 10}{100}\right)^2\right] = \$5 \; x \; [1 - 0.64] = \$5 \; x \; 0.36 = \$1.80$$

Control Questions

(These examples aim to help you better understand the experiment and should not be used as a guide for decisions in the experiment)

Control Question 1:

Assume that you are a Donor and that the actual amount, on average, the other Donors donated from their earnings was 23 percent. Suppose that you guessed that on average they donated 87 percent of their earnings. **What would the missing values in the formula used to calculate your earnings for this question be?**

$$Your\ payment = \$5\ x\ \left[1 - \left(\frac{?\ -\ ?}{100}\right)^2\right]$$

Control Question 2:

Assume that you are a Charitable Institution and that the Donor you are matched with donated 90 percent of their Task 1 earnings. Suppose that you guessed that the Donor you are matched with donated 50 percent of their earnings. **What would the missing values in the formula used to calculate your earnings for this question be?**

$$Your\ payment = \$5\ x\ \left[1 - \left(\frac{?\ -\ ?}{100}\right)^2\right]$$

Do you have any questions?

INSTRUCTIONS FOR TASK 5   **TABLE ID NUMBER_____**

On the following pages you will find two short stories. In each of these stories someone has to make a decision. You will be asked: What do you think about that decision? After each decision you will also find reasons pro and contra this decision. You will be asked: Do you accept these reasons or reject them? Please fill out your responses on the paper.

You will be paid $5 for completing this task. Please respond to all questions. Do not skip any. There is no time limit. But do not hesitate too long, either.

After everyone has completed the task, please fold your responses in half so they cannot be seen. They will then be collected by the experimenter.

After all response sheets have been collected, the monitor will be asked to flip a coin. The outcome of the coin flip will determine which of the tasks you will be paid for. The results from each of the tasks you have completed will be displayed on your computer screen. To display your final earnings for the experiment, you will be asked to click either the 'Heads' or the 'Tails' button, depending on the outcome of the coin flip.

When your final earnings are displayed on the computer screen, please fill out the payment sheet you have been given.

You will then be asked to fill out an exit survey on your computer. Please complete the exit survey.

Appendix C. Moral Judgement Test (Georg Lind 1978, 2008) [26]

Cabin number:

Workers

Recently a company fired some people for unknown reasons. Some workers think that their bosses are listening in on their private conversations through cameras and microphones in the building and using the information against them. The bosses say that they are not listening in.

The workers cannot legally do anything until they can prove that their bosses are listening in on their conversations.

Two workers then break into the main office and take the tapes that prove their bosses were listening in.

Would you agree or disagree with the workers' action ...

I strongly disagree						I strongly agree
-3	-2	-1	0	1	2	3

How acceptable do you find the following arguments *in favor* of the two workers' action? Suppose someone argued they were *right* for breaking in . . .

because they didn't cause much damage to the company.

I strongly reject								I strongly accept
-4	-3	-2	-1	0	1	2	3	4

because the company did not follow the law that says that they should not listen in, the actions of the two workers were allowed to bring back law and order.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because most of the workers would approve of their action and many would be happy about it.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because trust between people and individual dignity count more than the company's rules.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the company had done something wrong first by listening in, the two workers were right in breaking into the main office.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the two workers saw no legal ways of proving the company misused their trust by listening in, and therefore chose what they considered the lesser of two evils.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

How acceptable do you find the following arguments against the two workers´ actions? Suppose someone argued they were wrong for breaking in . . .

because if everyone acted as the two workers did, we would be going against law and order in our society.

I strongly reject								I strongly accept
-4	-3	-2	-1	0	1	2	3	4

because a person must not break such a basic right as the right to protection of property and take the law into one's own hands, unless there is universal moral principle that says it is o.k. to do so.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because risking getting fired from the company in order to help other workers is not very smart.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the two workers should have used all the legal ways available to them without breaking a law.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because a person doesn't steal if he wants to be considered decent and honest.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the firing of other workers had nothing to do with them, the two workers had no reason to steal the tapes.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

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[26] Each argument in the test represents one Kohlbergian class of moral argumentation (four to identify one class) See also footnotes 17 and 18. THE TEST MUST NOT BE REPRINTED OR USED WITHOUT EXPLICIT PERMISSION BY GEORG LIND. IT IS PROTECTED BY INTERNATIONAL COPYRIGHT.

Cabin number:

Doctor

A woman had cancer and she had no hope of being saved. She was in terrible pain and was so weak that a large dose of a painkiller such as morphine would have caused her to die. During a brief period of improvement, she begged the doctor to give her enough morphine to kill her. She said she could no longer stand the pain and would be dead in a few weeks anyway. After some thinking, the doctor decided to give her an overdose of morphine.

Do you agree or disagree with the doctor's action?

I strongly disagree						I strongly agree
-3	-2	-1	0	1	2	3

How acceptable do you find the following arguments in favor of the doctor's actions? Suppose someone said he acted in a right way . . .

because the doctor had to act according to his conscience and what he believed was right. The woman's pain made it right for the doctor to his moral obligation to preserve life.

I strongly reject								I strongly accept
-4	-3	-2	-1	0	1	2	3	4

because the doctor was the only one who could do what the woman asked; respect for her wish made him act the way he did.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the doctor only did what the woman talked him into doing. He does not need to worry about negative consequences.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the woman would have died anyway and it didn't take much effort for him to give her an overdose of a painkiller

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the doctor didn't really break the law. Nobody could have saved the woman and he only wanted to shorten her suffering.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because most of his fellow doctors would most probably have done the same thing in a similar situation.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

How acceptable do you find the arguments presented *against* the doctor's action? Suppose someone said that he acted in a *wrong* way. . .

because he acted opposite to other doctors′ beliefs. If the rest of them are against mercy-killing, then the doctor shouldn't have done it.

I strongly reject								I strongly accept
-4	-3	-2	-1	0	1	2	3	4

because a person should be able to have complete faith in a doctor's commitment to save every life even if someone with great pain would rather die.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because protection of life is everyone's highest moral duty. We have no clear moral way of telling the difference between mercy-killing and plain murder.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the doctor could get himself into a lot of trouble. Other doctors were punished before for doing the same thing.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because he could have had it much easier if he had waited and not interfered with the woman's dying.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

because the doctor broke the law. If a person thinks that mercy-killing is illegal, then one should refuse such requests from the patient.

| -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 |

How difficult was it for you to fill out this questionnaire?

Not difficult at all								Very difficult
0	1	2	3	4	5	6	7	8

Roughly how much time did it take you to fill it out?   _____ minutes