The (In)Elasticity of Moral Ignorance*

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Abstract

Ignorance enables individuals to act immorally. This is well known in policy circles, where there is keen interest in lowering moral ignorance. In this paper, we study how the demand for moral ignorance responds to monetary incentives and how the demand curve for ignorance reacts to social norm messages. We propose a simple behavioral model in which individuals suffer moral costs when behaving selfishly in the face of moral information. In several experiments, we find that moral ignorance decreases by more than 30 percentage points with small monetary incentives, but we find no significant change with social norm messages and we document strong persistence of ignorance across moral contexts. Our findings indicate that rather simple messaging interventions may have limited effects on ignorance. In contrast, changes in incentives could be highly effective.

JEL Classification: D83; D91; C91.

Keywords: Information avoidance, morality, unethical behavior, social norms, moral reminders, social nudges.

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1 Introduction

Ignorance allows individuals to engage more easily in questionable ethical behavior. For example, consumers do not want to know whether a favorite product benefits from child labor or causes damage to the environment. They may even denigrate others who pursue this information (Zane et al., 2016). Likewise, many art collectors and museum managers ignore the origins of potentially stolen art work.[1] In business, it is not uncommon for managers to turn a blind eye to unethical behavior if those suspected of it are top performers (e.g., Rayner, 2012).[2] Seminal work on the moral wiggle room has shown that people often ignore information about the consequences of their decisions on others' payoffs (e.g., Dana et al., 2007; Bartling et al., 2014; Grossman, 2014; Grossman and van der Weele, 2017).

An important open question is *how* to reduce moral ignorance. Organizations and policy makers seeking to reduce ignorance can use at least two kinds of tools: monetary incentives that introduce direct financial costs of ignorance and non-monetary incentives such as social norm messages (also known as "norm nudges"). Within policy circles, there is hope that it may be possible to foster integrity through norm nudges (OECD, 2018). These are used in practice to curb immoral behavior, as reviewed in Bicchieri and Dimant (2019) across different contexts, such as tax fraud (Hallsworth et al., 2017) or energy consumption (e.g., Schultz et al., 2007; Bhanot, 2018). The Australian government encourages employees to use the REFLECT model for decision making, in which the second step is to find relevant information (Australian Public Service Commission, 2018) and advises managers to remind employees of their ethical norms and set the ethical tone in the organization they lead. However, how effective norm nudges are in curbing information avoidance and reducing subsequent unethical behavior has not been tested. Given their practical relevance, it is important to systematically test the effects of norm nudges and how persistent information avoidance is across contexts.

This paper examines how the demand for moral ignorance responds to monetary incentives, social norm messages, and moral context. We present a simple behav-

[1]For example, "The World Jewish Congress (WJC), a New York-based advocacy group, has criticized museums for waiting for artworks to be claimed by Holocaust victims instead of publicly announcing that they have suspect items." (CNN.com, 2000)

[2]For example, Martin Winterkorn, former CEO of Volkswagen AG, argued that he would have stopped the emissions scandal if only he had known about it earlier, and yet investigations suggest that Winterkorn could have known already in 2007 (Bomey, 2017). In general, in large organizations a manager's ability to know about other individuals' ethical behavior may be conveniently limited (Jackall, 1988; Dana, 2006).

ioral model that builds on the premise that individuals may face moral costs when behaving selfishly in the face of (often inconvenient) moral information (DellaVigna et al., 2012; Andreoni et al., 2017). Therefore, subjects may prefer moral ignorance over moral information. To test the effects of different policy tools for fighting ignorance within this framework, we use the "moral envelope game" (MEG). In the MEG, an individual chooses between an envelope that may (or may not) contain a donation to a charitable cause and a certain, private payment which the individual can pocket. We measure demand for moral information (or ignorance) by allowing the individual to learn (or avoid learning) the envelope's content before choosing between the envelope and the private payment.

We conduct two experiments with over 1,500 participants. In the first experiment, we elicit the demand curve for moral information in the MEG. We compare this demand curve to the one we obtain in morally neutral counterpart treatments. In the second experiment, we introduce social norm messages at the beginning of the MEG to examine whether the demand curve for information shifts in response to such messages. Through a follow-up task, we measure moral ignorance among the same subjects, in a different moral context, about a week later.

This paper provides three main findings. First, we document that small monetary incentives have a strong and robust effect on moral information demand. These effects range between 33 and 41 percentage points across the two experiments. Consistent with the behavioral model, demand for information reacts more strongly to shifts from small costs to small rewards in the MEG, where decisions are morally relevant, than when decisions are morally neutral. Further, the demand for ignorance is strongly driven by selfish individuals and introducing monetary incentives to seek information has the largest effect on them. Hence a policy that removes any barriers to information and provides incentives (even if only with small rewards) for information seeking could lead to substantial reductions in moral ignorance. Such policy would be especially effective among those individuals who are most likely to avoid information, who are often the more selfish ones.

Second, we illuminate the effects of social norm information on moral information demand. Existing research on social norms has shown that they can increase pro-social behavior (e.g., Cialdini and Goldstein, 2004; Schultz et al., 2007; Frey and Meier, 2004; Shang and Croson, 2009; Bicchieri and Xiao, 2009), but are not always effective (e.g., Bicchieri and Dimant, 2019). In the MEG over 70% of subjects consider it morally appropriate (inappropriate) to obtain information (avoid

information and behave selfishly), and the norm does not vary with the incentives to obtain or avoid information. We use two social norm messages, one positively framed to encourage information seeking, and one negatively framed to discourage ignorance and selfish behavior, provided to individuals at the beginning of the MEG. We do not observe significant effects if the norm message is positively framed. If the norm message is negatively framed, it increases subjects' donations. However, norm messages do not increase moral information demand significantly. The evidence suggests that selfish subjects display a marginally significant *decrease* in information demand if the norm message is negatively framed. This raises questions about the welfare effects of social norm messages (e.g., DellaVigna et al., 2012; Allcott and Kessler, 2019). We structurally estimate two key parameters in the behavioral model, altruism and moral costs, and use these results to provide suggestive insights into the effects of social norm messages on welfare. We find that negatively framed social norm messages, which discourage ignorance and selfish behavior, increase altruistic behavior (donations) and have limited effects on moral costs, leading to an overall increase in welfare.

Third, for our framework and set of findings to be useful for the design of policies to reduce ignorance, a first step is to examine whether moral ignorance in the MEG is predictive of ignorance in other decisions that have a moral component. We examine how our MEG participants approach the controversial question of industrial livestock production. While consumers enjoy undeniable benefits from these production methods, they generally are not comfortable with the living conditions of the animals (te Velde et al., 2002; ASPCA, 2016; BMEL, 2016) and tend to avoid information on the topic (Onwezen and van der Weele, 2016).[3] About a week after making decisions within the MEG, the same participants were rewarded for correctly answering questions regarding industrial livestock production and were offered the opportunity to watch an informative video beforehand. The results indicate that moral ignorance is persistent across tasks: Those who avoid information in the MEG are more likely to avoid the informative video. A policy implication is that organizations may gain from hiring managers with a strong moral compass as a way to reduce moral ignorance in the first place.

A rich literature documents that individuals often seek excuses to avoid charitable

[3]We follow Bandura (2016) in that avoiding unnecessary harm to humans, animals, and/or nature is of moral relevance. Evidence on the extent of moral ignorance in situations where the recipient is an environmental charity is provided in Lind et al. (2019) and Momsen and Ohndorf (2020).

giving and other pro-social behaviors. They avoid charitable asks (e.g., DellaVigna et al., 2012; Andreoni et al., 2017; Exley and Petrie, 2018; Adena and Huck, 2020) or sharing decisions (Dana et al., 2006; Broberg et al., 2007; Lazear et al., 2012), and exploit uncertainty (Exley, 2015; Falk and Szech, 2019; Falk et al., 2020; Gneezy et al., 2020) or potential poor charity performance (Exley, 2020) as excuses not to donate. Moreover, anecdotal evidence suggests that individuals use news stories about high administrative costs and some charities' high salaries—and ignore information about the charities' performance—as excuses not to give at all.[4] This paper systematically examines whether two well-known policy tools (direct monetary incentives in the form of costs and rewards as well as norm nudges) can reduce ignorance and increase giving, guided by a simple behavioral model that can be structurally estimated.

Moral ignorance has been widely studied within the seminal moral wiggle-room paradigm, in which an individual is unsure whether choosing the option that yields a higher monetary payment for herself hurts or helps another individual. Dana et al. (2007) were the first to show that individuals often avoid costless information about the consequences of their choices and are more likely to act selfishly as a result (see also, for example, Larson and Capra, 2009; Matthey and Regner, 2011; Feiler, 2014; Kajackaite, 2015; Freddi, 2020). Related studies have considered the impact of a small cost (Grossman and van der Weele, 2017; Felgendreher, 2018) or a larger cost (Cain and Dana, 2012) on the demand for ignorance across different groups of subjects. Both studies find that a small incentive to acquire information has a limited effect on avoidance, while information demand drops significantly when a small cost is introduced to acquire information. Our paper adds a systematic study of a wide range of direct incentives for and against information demand, as well as a comparison to information demand without moral relevance within the same design. Motivated by our simple behavioral model, we hypothesize that the effects of monetary costs vary by individuals' altruism and hence measure the impact of positive and negative prices of information at the individual level. The data show that information demand in a morally relevant situation reacts significantly more to small monetary incentives than information demand in a morally neutral one, implying that small incentives could be particularly relevant in curbing moral

[4] "Charities have brought skepticism on themselves in some cases by spending large percentages of donated funds on administrative costs and executive salaries. But this complaint is so commonly expressed now that it's starting to sound like a dodge for not giving rather than a principled response to bad management at charities." (Carrick, 2017).

ignorance.

Social norms play an important role in explaining moral ignorance (Krupka and Weber, 2013; Spiekermann and Weiss, 2016; Stüber, 2020), and in the MEG there is a strong social norm to seek moral information. This allows us to study the effectiveness of social norm messages on ignorance. These messages can easily be used by organizations as "moral reminders" (OECD, 2018). While such messages increase individuals' valuation of the donation and increase donations when they are negatively framed, we find no evidence of an aggregate shift in the demand curve for ignorance. Our results suggest that the effectiveness of social norm messages is limited and may depend on the underlying moral valuations of those targeted. Among selfish subjects, there is a marginally significant decrease in information demand when the norm is negatively framed, but generous individuals display no significant reaction to social norms.

Recent surveys by Golman et al. (2017) and Hertwig and Engel (2016) demonstrate that ignorance occurs not only in morally relevant situations but in a variety of other contexts, such as health (Oster et al., 2013; Ganguly and Tasoff, 2016; Serra-Garcia and Szech 2020), financial investment (Karlsson et al., 2009; Sicherman et al., 2016), effort provision (Huck et al., 2018), or school choice (Chen and He, 2017). Our findings contribute to this large and growing literature (see also Ho et al., 2020). We demonstrate that the extent of the effects of monetary incentives on information seeking depends crucially on whether the situation bears moral relevance or not. A shift in monetary incentives has a greater effect on the demand for information in a moral context than in a morally neutral one.

The remainder of the paper is organized as follows. Section 2 describes the MEG and the experimental design. Section 3 provides a parsimonious theoretical framework and derives the five main hypotheses. Section 4 shows the results, starting with the effects of monetary incentives and norms on moral ignorance, and then studying the relationship between ignorance and altruism; this section also provides the structural estimation and first insights into the welfare consequences of norm interventions, as well a discussion of the persistence of moral ignorance across context and time. Section 5 concludes.

2 Experimental Design

2.1 The Moral Envelope Game (MEG)

We study moral ignorance in the following game: An individual is assigned an envelope that with 50 percent probability ($p = 0.5$) contains a \$10 donation to the Malaria Consortium, a non-profit organization that fights malaria in sub-Saharan Africa, and with 50 percent probability is empty. The individual makes two decisions. First, she chooses whether to open the envelope or not. If she first chooses not to open the envelope, she chooses between receiving \$2.50 for herself and receiving the envelope. If she chooses to open the envelope, she learns whether the envelope contains a \$10 donation or no donation, and she then chooses between receiving the envelope and receiving \$2.50 for herself.

As we will outline below, we expect that many individuals prefer moral ignorance in the MEG, that is, they leave the envelope closed. In Experiment 1, we study the impact of direct monetary incentives on moral ignorance in the MEG and compare it to the impact of incentives in two morally neutral games, Self-10 and Self-5. Self-10 is identical to the MEG, the only difference being that instead of a donation to the Malaria Consortium the envelope will either contain a payment of \$10 to the individual or contain nothing. In Self-5, the envelope will either contain a payment of \$5 or contain nothing. In Experiment 2, we analyze the impact of social norms on the demand for ignorance in the MEG. The design of the two experiments is summarized in Table 1.

Experiment 1 was conducted on Amazon Mechanical Turk (AMT) and with subjects from the Karlsruhe Institute of Technology (KIT) KD2Lab subject pool. Experiment 2 was conducted on AMT only. The main advantage of conducting experiments on AMT is the ability to run large-scale experiments, which allows us to evaluate the impact of interventions both within subjects and across subjects (social norms messages) with sufficient power. The experiment with KIT subjects followed the same design as that conducted on AMT to examine the robustness of the results across different samples. The experiments on AMT were pre-registered. Throughout, we refer to analyses that were not pre-registered as explorations of the data.[5]

In total, we analyze the decisions of 1,304 subjects on Amazon Mechanical Turk (AMT) and 255 subjects from the subject pool of the KD2Lab at Karlsruhe Institute

[5]Pre-registration was done on aspredicted.org, and pre-registrations are shown in Appendix F.

of Technology (KIT), who participated online.[6]

Table 1: Experimental Design

Experiment	Treatments	Description
1	MEG	Donation uncertainty: \$10 donation with $p = 0.5$, \$0 otherwise
	Self-5	Payment uncertainty: \$5 payment with $p = 0.5$, \$0 otherwise
	Self-10	Payment uncertainty: \$10 payment with $p = 0.5$, \$0 otherwise
2	Norms	Elicitation of social norms regarding information demand
	NoNorm	MEG without norm information
	NormAvoid	MEG, avoidance (keep closed and take) is morally inappropriate
	NormSeek	MEG, seeking information (open) is morally appropriate

2.2 Experiment 1

In this experiment, we study the effect of monetary incentives on preferences for information. Our main treatment is the MEG, in which the envelope contained a \$10 donation with 50% probability. Individuals had to choose one of three options: take a \$2.50 payment, take the envelope, or open the envelope first. Hence, the decision setting contained no default choice (see, Grossman, 2014). We varied the payment for opening the envelope from −\$2 to \$2. Specifically, each individual made nine independent decisions, with the following range of payments for opening the envelope: \$2, \$1, \$0.50, \$0.10, \$0, −\$0.10, −\$0.50, $\$-1$, and −\$2.[7] We compare information demand in the MEG treatment to two morally neutral treatments (Self-treatments). In these treatments, we replace the uncertain donation with an uncertain payment for subjects themselves.

2.3 Experiment 2

In Experiment 2, we study the impact of social norm messages in the MEG. A large number of studies have shown that social norms can affect individuals' behavior in an array of contexts (e.g., Cialdini and Goldstein, 2004; Schultz et al., 2007; d'Adda et al., 2018). In the context of donation behavior, injunctive-norm information,

[6]We used TurkPrime to run the studies on AMT and to re-invite subjects to the follow-up task (Litman et al., 2016). Further details are provided in Appendix C.

[7]Individuals knew that whether the envelope contained the donation or not independently varied across all nine decisions. To simplify elicitation, decisions were made one at a time, on separate screens, and the order of the questions always followed the same descending pattern of payments for opening the envelope. The instructions are presented in Appendix B.

which describes how individuals should behave, can increase pro-social behavior (e.g., Bicchieri and Xiao, 2009; Hallsworth et al., 2017). Thus far, however, no study has examined how social norms affect information demand. Philosophers have proposed the "Ignorance Thesis," which states that if an individual chooses to remain ignorant in a moral decision, she is culpable for acts that derive from it (Zimmerman, 1997; Rosen, 2003; Guerrero, 2007). If individuals broadly agree with this view within the MEG, we should find that injunctive norms favor of information demand.

The nature of social norms has been studied within the moral wiggle-room paradigm. Krupka and Weber (2013) find that in the moral wiggle-room game of Dana et al. (2007), ignorance while taking the own payoff-maximizing option is considered neither morally appropriate nor inappropriate. On a scale from -1 to 1, the social appropriateness rating of ignorance while choosing a higher own payoff is 0.175. By contrast, it is considered morally inappropriate to choose the higher own payoff knowing that it harms another individual (-0.705 appropriateness rating), while it is considered morally appropriate to act altruistically (0.968 appropriateness rating). Spiekermann and Weiss (2016) argue that a potential explanation for ignorance could be that, for some individuals, resolving uncertainty increases their expected normative obligations (to behave pro-socially). Hence they strategically choose to remain ignorant in order to avoid being in a situation with stronger normative obligations.

We expected that choosing to remain ignorant while taking the private payment would be considered strongly morally inappropriate in the MEG. Therefore, we first ran the Norms treatment to elicit the perceived morality of information and donation decisions. Subjects rated the three potential decisions (to avoid and take \$2.50, to avoid and donate the amount in the envelope, or to open the envelope first) as "very morally appropriate," "somewhat morally appropriate," "somewhat morally inappropriate," or "very morally inappropriate." Ratings were elicited for each of the nine information decisions, that is, for each price of information (avoidance). We also measured the ratings for the decision to donate or not when the envelope is empty, when it contains a donation, and when its content is uncertain. They earned \$5 if their rating in a randomly drawn decision coincided with the most frequently chosen answer of the other subjects in that treatment, and \$0 otherwise (as in Krupka and Weber, 2013).

Figure 1 displays the fraction of subjects who consider taking the \$2.50 payment without opening the envelope to be morally appropriate, as well as the fraction

who consider demanding information by first opening the envelope to be morally appropriate. An action is defined as morally appropriate if a subject considers it somewhat or very morally appropriate. On average, 72% of subjects consider avoiding information and choosing the $2.50 payment very or somewhat morally inappropriate. In the same spirit, 87% of subjects consider seeking information very or somewhat morally appropriate.

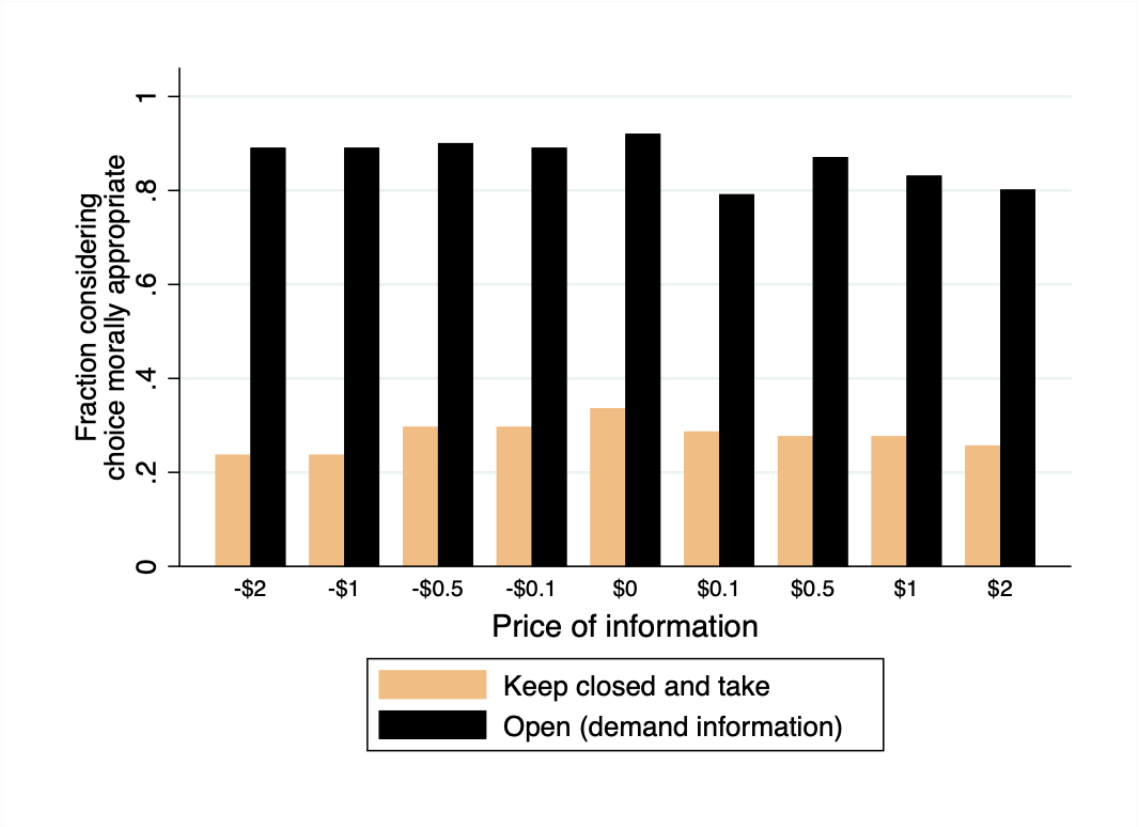


Figure 1: Social norms regarding ignorance

The moral appropriateness of each action in the MEG shows relatively little sensitivity to price. This invariability allowed us to provide simple messages regarding norms to a new set of subjects. We randomly allocated a new set of subjects to one of three treatments. The first treatment was a NoNorm treatment, which was the same as the MEG treatment in Experiment 1. The second was a NormAvoid treatment, in which subjects were informed that over 70% of subjects considered taking the $2.50 payment without seeking information first to be morally inappropriate. The third treatment was a NormSeek treatment, in which subjects were informed that over 70% of subjects considered seeking information to be morally

appropriate.[8] Each message was shown once, just before subjects started making their information decisions. We hence study whether social norms shift the demand curve for ignorance.

In this design, both norms speak truthfully about the average norm beliefs of subjects, by stating that over 70% consider opening the envelope appropriate or leaving it closed inappropriate. Alternatively, one could consider providing norm messages that do not represent the average belief but rather the norm at a specific price point or the norm of a subgroup of people. Higher rates of appropriateness of information seeking could then be communicated, and these may have a stronger impact. However, pilot data show that levels of ignorance remained stable with different messages. In a pilot experiment, presented in detail in Appendix D, we presented subjects with norm information that either indicated that more than 90% of subjects considered it morally appropriate to open the envelope when the price of information is \$0, or indicated that 100% of a group of 50 subjects previously considered it morally appropriate to open the envelope. The first variation is truthful information for the price point of \$0. The second is truthful when focusing on a pre-selected subsample.[9] We found effects of norm messages that were very similar in the NormAvoid and NormSeek treatments.

When an opened envelope contains a certain donation of \$10, choosing the \$2.50 payment is considered morally inappropriate by a large majority of individuals, 78.22%. When there is uncertainty and the likelihood of a donation is 50%, choosing the \$2.50 payment is considered less inappropriate (paired t-test, $p < 0.001$, $N = 101$). In this case, 66.33% of individuals consider it morally inappropriate not to donate. This difference in social norms is one potential reason why individuals may feel particularly guilty when choosing the \$2.50 payment knowing that they could have donated \$10. In Appendix D, we provide a detailed analysis of all norms.

[8]The message shown to subjects was "Over 70% of MTurkers who evaluated the actions in this part of the study consider it morally inappropriate to choose the option 'Get \$2.50' without revealing what the envelope contains first" in NormAvoid, and "Over 70% of MTurkers who evaluated the actions in this part of the study consider it morally appropriate to reveal what the envelope contains first" in NormSeek.

[9]While our messages stated the conditions under which they were true, they may have been perceived as true more generally by participants. There is an ongoing discussion regarding whether such messages could be considered deceptive (e.g., Krawczyk, 2019; Charness, Samek and van de Ven, 2020).

2.4 Persistence Across Contexts

Moral ignorance may be a behavior that individuals exhibit across contexts. If this is the case, it would imply that organizations may reduce ignorance by hiring certain types of individuals with strong moral concerns. We ask, does an individual exhibit the same information-avoiding behaviors in the MEG as in a different incentivized moral dilemma at a different point in time? We invited subjects of our experiments on AMT to an unrelated work task between 7 and 10 days after they had participated in the experiments described above. The task consisted of answering questions about the living conditions of cows and their calves in conventional dairy production. We chose this topic because the willingness to improve living conditions of farm animals correlates with a higher moral and pro-social inclination (Albrecht et al., 2017). Even though many consumers buy products from intense animal farming, many state that they do not agree with the living conditions of animals involved (te Velde et al., 2002). As suggested in the model by Hestermann et al. (2020), the moral costs of harming animals may lead to information avoidance about the externalities imposed on animals.

Subjects earned a \$0.15 bonus if they correctly answered two questions about the treatment of cows and their calves in conventional farming. Before proceeding to the questions, they were offered the option to watch a 1-minute informational video. We study whether subjects who choose to remain ignorant in the MEG also choose to avoid watching the video.[10]

2.5 Experimental Procedures

2.5.1 Other Determinants of Ignorance

After subjects made their information decisions, we elicited several control measures of subjects' preferences. First, we elicited a subject's valuation of the donation (α) to determine its relevance for her decision on whether to remain ignorant or not. Subjects participated in a task that involved eight binary choices, between a payment that increased from \$0.10 to \$10 and a \$10 donation. Their monetary equivalent, or willingness to donate (WTD), is measured as the maximum payment that a subject was willing to give up instead of choosing the certain donation.[11] Subjects also made

[10] In contrast to the MEG, here, repugnance (e.g., Roth, 2007) may be an additional reason for avoiding information. Nevertheless, we observe a marked correlation across the two contexts.

[11] One potential concern with this measure of subjects' altruism is that it was elicited after they participated in the MEG. Reassuringly, we find qualitatively similar changes in altruism with social

eight choices when the donation was uncertain, deciding between a payment that increased from \$0.01 to \$5 and a 50% chance of a \$10 donation. This task provides a measure of their altruism when no information about the envelope's content is available. Subjects knew that the computer either drew one of the two donation valuation tasks or the main part of the experiment (the envelope game) for payment and that one decision in this task would be implemented.

Second, we elicited preferences for information according to the Monitors–Blunters Scale (Miller, 1987) and moral preferences according to the Machiavellianism Scale (Christie and Geis, 1970), as well as gender, age, education, and frequency of work in AMT. In the Self treatments, we also elicited a control measure of subjects' risk preferences. After subjects had completed the respective envelope game, we elicited their risk preferences using a series of binary decisions between the envelope and a certain payment. Because these treatments included no mention of a donation opportunity, we did not measure subjects' valuation of the \$10 donation to fight malaria. We provide detailed information on these measures, descriptive statistics, and a balance check in Appendix C.

2.5.2 Sample

Experiment 1 consists of two different samples. The first sample consists of participants on AMT and it includes 593 subjects, excluding inconsistent subjects as pre-registered.[12] The second sample is from the subject pool of the KD2lab at KIT. These individuals also participated online instead of in the laboratory, because of COVID-19. In total, we analyze the decisions of 255 consistent subjects. The samples differ in several ways, including age and gender, and for that reason we do not pool them in the analysis (see details in Appendix C).

In Experiment 2, conducted on AMT two months after Experiment 1, we again elicited the behavior of subjects in the MEG treatment, labeled the NoNorm treatment, to control for any differences in the sample (see details in Appendix C). In the analysis, which includes 609 consistent subjects, we focus on the treatment effect of providing information about social norms within this experiment. We invited all participants on AMT to complete the follow-up task. On average, 86.3% of subjects

norm messages in Experiment 2, when considering donation decisions conditional on opening an envelope that contains \$10 (within the MEG), as we do in this additional measure of altruism. For details, see Section 4.

[12]Subjects are classified as if they give inconsistent answers, switching multiple times in the elicitation of willingness to pay to resolve uncertainty or in the elicitation of preferences to donate.

in the experiments participated in this task.

Finally, a concern when running an experiment on ignorance, especially among subjects on AMT, is that they remain ignorant in order to save time. In our data, however, this does not seem to play a major role. Obtaining information involves only two additional clicks by the subject (selecting the envelope or the payment for herself, and moving on to the next question), which takes very little time, whereas direct incentives to obtain information can be very high (up to \$2). Indeed, subjects who pay to remain ignorant do not finish earlier than those who do not.

3 Theoretical Background and Hypotheses

In the following, we solve the MEG and contrast predictions with those for the morally neutral games. These predictions lead to the hypotheses that guide our analyses of the data.

We start with the case in which opening the envelope or leaving it closed is costless in the MEG. Then we turn to the case with direct monetary incentives for opening the envelope or keeping it closed. We refer to choosing to take the private payment instead of the envelope as choosing the "selfish option," and choosing the moral envelope as "donating."

We assume utility takes the form $u(x) = x^r$ with risk parameter $r > 0$, where x denotes a monetary payment adjusted for moral values and costs. As we show in Appendix A, the predictions are independent of the risk parameter, and yet they hinge on two parameters. First, it matters how much the individual values the donation of \$10, which we capture by $\alpha \cdot 10$. The parameter $0 \leq \alpha \leq 1$ is thus a measure of altruism. Second, information demand depends on the moral cost associated with rejecting the certain donation of \$10. Research has shown that rejecting a certain donation opportunity can induce significant guilt or disutility, for example, from violating the social norm to donate (e.g., DellaVigna et al., 2012; Andreoni et al., 2017; Ellingsen and Mohlin, 2019), or give rise to self-image costs (e.g., Bénabou and Tirole, 2011; Grossman and van der Weele, 2017). We model this moral cost via a moral discount factor β. An individual who rejects the certain donation gets $\beta \cdot 2.5$ with $\beta < 1$, instead of 2.5. In other words, rejecting the certain donation feels morally worse than rejecting an uncertain one, and thus causes moral costs. This moral cost aims to represent different potential mechanisms that may generate it. Figure 2 provides the game tree.

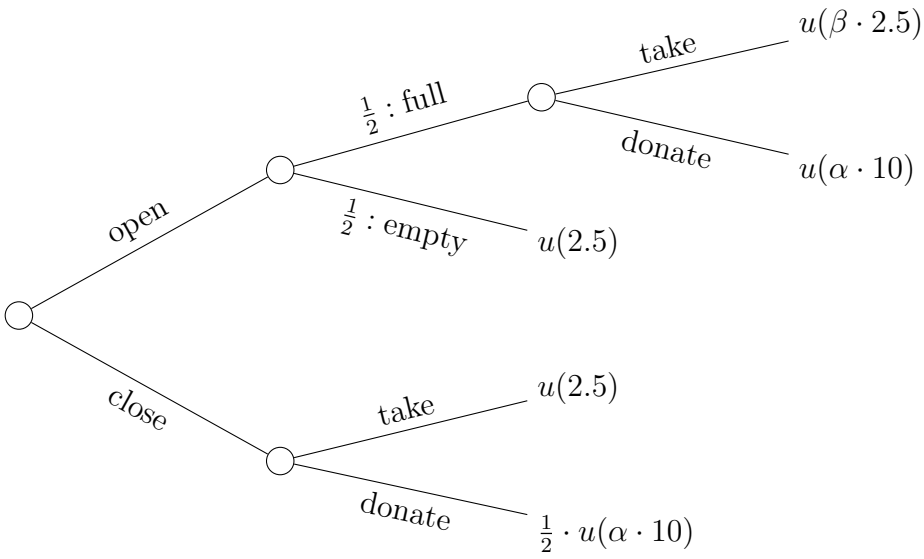


Figure 2: Game tree of the MEG when information is costless

When ignorance is costless, the main result is that moral discounting renders it dominant for individuals with low levels of altruism to leave the envelope closed and take the selfish option right away. Only individuals with high levels of altruism open the envelope. This result, which arises from backwards induction, is described in Proposition 1. (All proofs are presented in Appendix A.)

Proposition 1 *Consider the MEG when information is costless. In equilibrium, individuals with* $\alpha < \frac{1}{4}$ *keep the envelope closed. Individuals with* $\alpha \geq \frac{1}{4}$ *open the envelope. After opening the envelope, individuals donate unless the envelope is empty. After keeping the envelope closed, individuals choose the selfish option.*

Throughout, for simplicity, we will refer to individuals with a low α ($\alpha < \frac{1}{4}$) as "selfish" individuals, in contrast to "altruistic" individuals, who have a high α ($\alpha \geq \frac{1}{4}$).

Next, we introduce a cost of information. We assume that moral costs and altruism are fixed with respect to this cost. When avoiding or obtaining information entails a cost, behavior depends on both the individual's altruism and moral discounting. Suppose direct monetary incentives m_o for opening the envelope and m_c for keeping it closed exist, as shown in the game tree in Figure 3. For simplicity, we focus on the case $r = 1$. In Appendix A, we also address cases of risk aversion and of risk lovingness.

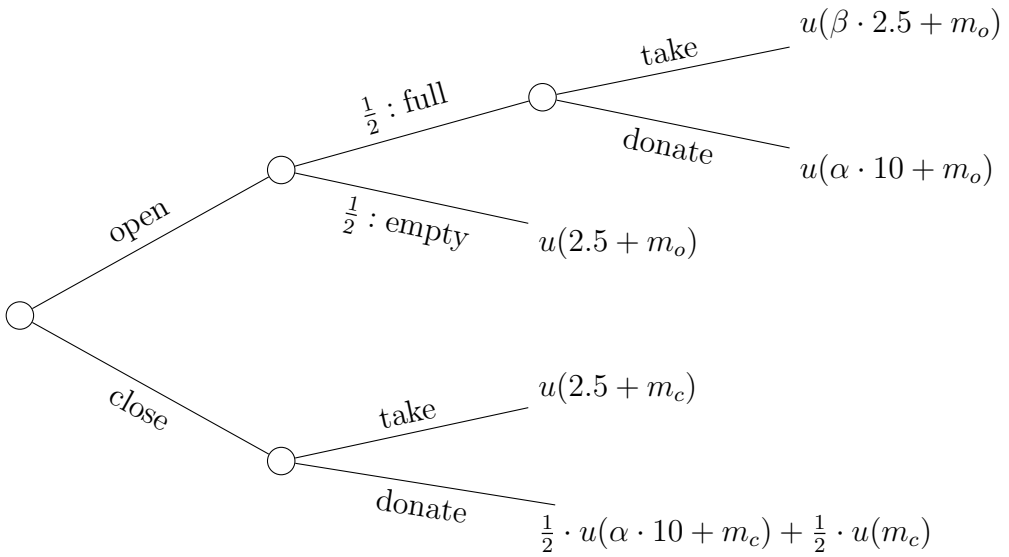


Figure 3: Game tree of the MEG with direct monetary incentives

Proposition 2 *The equilibria of the MEG with monetary incentives* $m_o, m_c > 0$ *and* $r = 1$ *are as follows:*

(i) If $m_c - m_o \geq \frac{5}{4}$*, individuals keep the envelope closed regardless of* α*.*

(ii) If $m_c - m_o < -5\left(\frac{1}{4} - \frac{\beta}{4}\right)$*, individuals open the envelope regardless of* α*.*

(iii) In the intermediate case,

$$-5\left(\frac{1}{4} - \frac{\beta}{4}\right) \leq m_c - m_o < \frac{5}{4},$$

a threshold value of $\alpha_t \in (\frac{\beta}{4}, \frac{1}{2})$ *exists such that individuals open the envelope if* $\alpha \geq \alpha_t$ *and keep it closed if* $\alpha < \alpha_t$*. The value of* α_t *is given explicitly by*

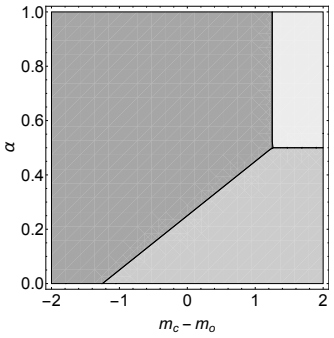
$$\alpha_t = \frac{1}{4} - \frac{m_o}{5} + \frac{m_c}{5}.$$

In the experiments, $m_c - m_o$ ranges from -\$2 to \$2. Figure 4 depicts optimal information demand and donation behavior, which depend on the price of information and the level of altruism, for three cases of moral discounting. The level of altruism generally determines whether individuals open the envelope or leave it closed. If moral discounting is very strong, selfish individuals pay to remain ignorant. If moral discounting is mild, they may open the envelope and bear the moral costs when taking the selfish option. This is where the lower rectangular area to the left emerges. Individuals who leave the envelope closed take the \$2.50 payment, unless

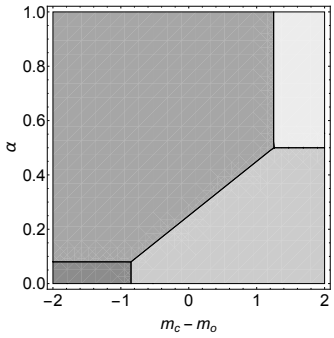
their altruism is very high ($\alpha > 0.5$). The latter case is described by the upper rectangular area to the right.

From Figure 4, one can infer the demand curve for information depending on levels of altruism and moral discounting. To illustrate the demand curve directly, Figure 5 shows the demand curve for information under the assumption that α and β are continuously distributed, with α following a beta(1,3) and β a beta(3,1) distribution. We assume that α and β are independently drawn.[13] We observe a non-differentiability around a price of information of \$0. When ignorance is costly, β affects the slope of the demand curve. When obtaining information is costly, by contrast, α affects the slope of the demand curve.

(a) Very strong moral discounting ($\beta = 0.36$)



(b) Strong moral discounting ($\beta = 0.66$)



(c) Mild moral discounting ($\beta = 0.96$)

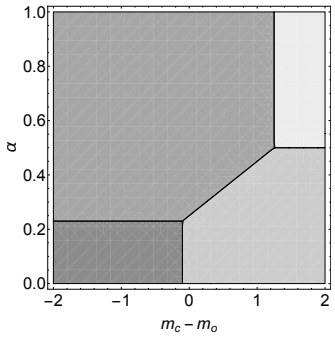


Figure 4: Optimal decisions for a risk-neutral individual with (a) very strong moral discounting ($\beta = 0.36$), (b) strong moral discounting ($\beta = 0.66$), and (c) mild moral discounting ($\beta = 0.96$), respectively.

We use this analysis to derive five main hypotheses. We expect that many individuals will prefer \$2.50 over the \$10 donation. This corresponds to α below 0.25 in the MEG. We also expect that many individuals will display moral discounting, that is, β below 1. Therefore, we expect that many individuals will avoid information and pay for ignorance. In both Self treatments, by contrast, individuals should pay for information (up to \$1.25 if risk neutral). This comparison yields Hypothesis 1.

Hypothesis 1 *There is less information demand in the MEG than in the Self treatments.*

[13]This assumption is consistent with the data. Considering those individuals who prefer the \$2.5 payment over the \$10 donation, we do not observe a significant relationship between the individual's valuation of the donation captured by α, and her willingness to pay to avoid information captured by β ($p > 0.10$). From the model, only for those subjects a correlation would affect predictions.

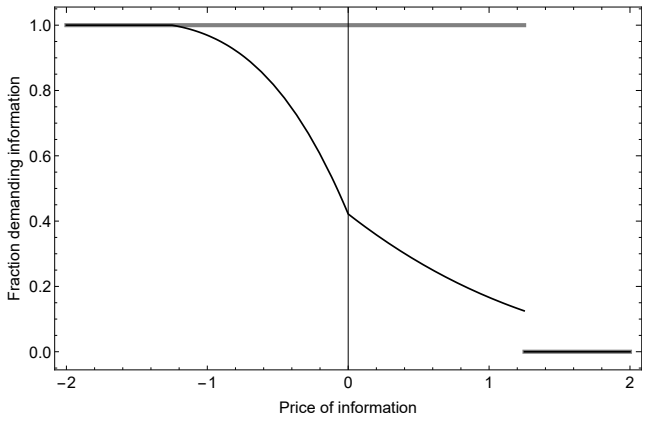


Figure 5: Illustration of the demand for information, assuming that α follows a beta(1,3) and β follows a beta(3,1) distribution, depicted in black. For comparison, in grey, the demand function of the Self-5 with $\alpha = 0.5$ is shown in grey.

In the Self treatments, individuals will demand information regardless of whether they receive \$0.10, receive nothing, or pay \$0.10. This is different in the MEG. When avoidance costs \$0.10, individuals who have both α below 0.23 and β below 0.92 prefer to pay to avoid information. At a cost of \$0, individuals with α below 0.25 prefer to avoid information (regardless of β). When information costs \$0.10, individuals with α above 0.27 demand information (regardless of β). Thus, Hypothesis 2 states that changes of prices around \$0 matter substantially more in the MEG than in the Self treatments.

Hypothesis 2 *The shift from negative to positive prices of information affects demand more strongly in the MEG than in the Self treatments.*

The expected few individuals with a large α of 0.5 or 1 in the MEG should behave as in the corresponding Self treatments. Specifically, the Self-10 treatment is equivalent to setting α to 1 in the MEG. The Self-5 treatment is identical to Self-10 except that the envelope may contain \$5 (not \$10). This corresponds to the case of $\alpha = 0.5$ in the MEG.

Hypothesis 3

(a) In the MEG, individuals' demand for information if $\alpha = 1$ corresponds to the demand curve in Self-10.

(b) In the MEG, individuals' demand for information if $\alpha = 0.5$ corresponds to the demand curve in Self-5.

We next examine the effects of social norm messages on information demand in the MEG. In the MEG, without such messages α is below 0.25 for many individuals. An increase in α which is due to social norms therefore bears lots of potential for fostering information demand. However, social norm messages also increase moral costs, that is, strengthen moral discounting. This leads information demand to fall among subjects for whom α is still below 0.25.

Hypothesis 4

(a) In the MEG, social norm messages increase the appreciation of the donation, α. This increases costly information seeking.

(b) In the MEG, social norm messages strengthen moral discounting, β. This increases costly information avoidance.

In Experiment 2, there were two kinds of messages regarding social norms, one positively and one negatively framed. The negatively framed message explicitly states that taking is inappropriate and can directly increase α. The positively framed message encourages individuals to seek information without mentioning that it is inappropriate to take \$2.50. Both frames mention information demand and can thus increase moral costs, changing β. Ex ante, the overall effects of each frame are unclear. We provide empirical evidence by comparing them, which could be important for our understanding of how to use these frames when applying them to reduce ignorance in organizations.

About a week after making decisions within the MEG, individuals were confronted with the option to see a video about conventional dairy farming and received \$0.15 for answering several questions correctly. Individuals knew that the video would inform them about the living conditions of cows and their calves. If the level of concern for the children the Malaria Consortium aims to help is related (though not perfectly correlated) to the level of concern for animals, we expect that subjects who had a strong preference for ignorance in the MEG will be more likely to avoid watching the video than those who had a weaker preference for ignorance. Hence we expect moral ignorance to be persistent across these two moral contexts.

Hypothesis 5 *The willingness to pay for information avoidance is predictive of information avoidance in a different—and later—morally relevant context.*

4 Results

4.1 The Demand Curve for Ignorance

For each price of information, in each experiment and treatment, Figure 6 displays the share of subjects who demand information, that is, open the envelope. We first consider the effect of monetary incentives, both when the decision involves a donation and when it does not. In panel (a) of Figure 6, the bottom black curve depicts information demand in the MEG treatment. In the AMT sample, we observe limited information demand.

On average, subjects pay 40 cents in order to remain ignorant in the MEG treatment. This amount is significantly negative (t-test, $p < 0.01$). By contrast, they pay \$0.83 for information in the Self-10 treatment, and \$0.29 in the Self-5 treatment. Similar comparative statics arise in the KIT sample, where subjects are more willing to pay for information, as we show in detail in Section 4.3. On average, they pay 38 cents to be informed, a significantly positive amount (t-test, $p < 0.01$), while they pay \$1.10 in the Self-10 treatment. Hence in line with Hypothesis 1, we observe less information demand in the MEG than in the Self treatments.

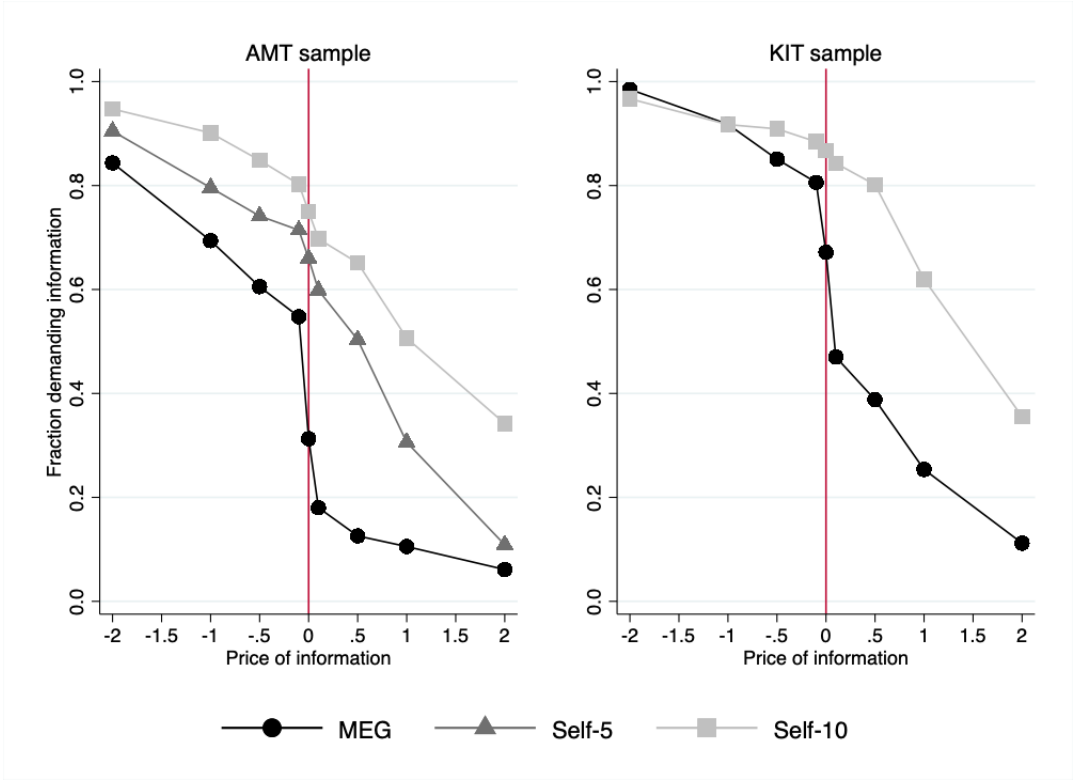
Result 1 *There is less information demand in the MEG than in the Self treatments.*

There is some information avoidance in the Self treatments in both samples. Some subjects pay to avoid information that is instrumental to them. This could be due to mistakes or preferences to avoid instrumental information as documented, for example, in Eliaz and Schotter (2010) or Huck et al. (2018).

In both samples, there are large changes in information demand in the MEG when the price of information moves from being \$0 to being slightly negative or slightly positive, in line with Hypothesis 2. Removing a small cost of information and paying \$0.10 to seek information increases information demand by 36 percentage points, from 18% to 55% in the AMT sample. Similarly, in the KIT sample, removing a small cost of information and instead paying subjects \$0.10 to seek information increases information demand by 33 percentage points, from 47% to 80%. Hence while absolute levels of information demand vary across samples, the effect of small monetary incentives on moral ignorance is strong in both samples.

Figure 6 (b) shows information demand in Experiment 2, with and without social norm messages. The MEG–NoNorm treatment in Experiment 2 is a replication of the MEG treatment in Experiment 1. Again, introducing small monetary incentives

(a) The effect of price and moral relevance on ignorance



(b) The effect of social norms on ignorance

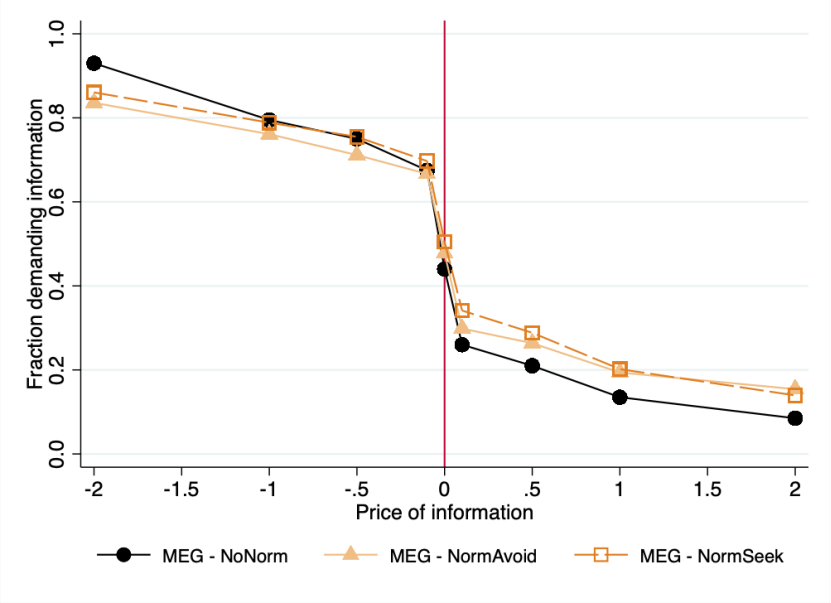


Figure 6: Information demand, by treatment and experiment

to seek information instead of having a small price for information affects information demand, which increases by 41 percentage points. A similar increase is found for the

Norm treatments (37 percentage points in NormAvoid, and 36 percentage points in NormSeek). The effect of introducing small monetary incentives to seek information is thus a very robust finding. This effect could be larger than the effect of changing the default information choice, which potentially entails small psychological costs. Grossman (2014) shows that changing the default from one in which one must click to make a choice, as in the MEG, to one in which seeking information is the default reduces the fraction of subjects who remain ignorant by 22 percentage points, from 25% to 3%.

To quantify the effects of monetary incentives, we estimate the slope of the demand curve in all treatments, in an exploratory analysis. Table 2 presents the results of linear probability models on the decision to demand information as a function of the price of information. The regression includes an indicator variable for costly information, that is, when prices are strictly positive, to examine how the demand curve changes around a price of information of \$0. To allow for the slope of the demand curve to vary when information is costly relative to when it is costless, the regression also includes an interaction term between the indicator for costly information and the price of information. Columns (1) and (2) focus on treatments in Experiment 1 on the AMT sample, columns (3) and (4) consider the treatments in Experiment 1 on the KIT sample, and columns (5) and (6) report the results in Experiment 2.

Table 2 shows that in the MEG, information demand decreases by 28 percentage points when a small monetary incentive replaces a small monetary cost of information. This effect is significantly larger than that in the Self treatments ($p < 0.001$), where it is between 6 and 2 percentage points.

Result 2 *The shift from negative to positive prices of information affects demand more strongly in the MEG than in the Self treatments.*

On average, social norms do not significantly affect information demand. For example, when the cost of information is \$0, information is demanded by 48% and 50% of the subjects in the NormAvoid and NormSeek treatments, compared to 44% in the NoNorm treatment. This shift is not statistically significant. For negative prices of information, social norms significantly decrease the slope of the information demand curve, for negative prices of information, from -0.19 to -0.14 ($p = 0.002$). They also weakly decrease it for positive prices of information ($p = 0.059$). These findings imply that the demand curve for information flattens with social norms.

Table 2: Demand for Information across Domains

	(1)	(2)	(3)	(4)	(5)	(6)
	Experiment 1: AMT		Experiment 1: KIT		Experiment 2	
Treatments:	MEG	Self	MEG	Self	MEG	Norms
Price (of Information)	-0.2159***	-0.1011***	-0.1302***	-0.0455**	-0.1922***	-0.1367***
	(0.0145)	(0.0150)	(0.0208)	(0.0201)	(0.0151)	(0.0098)
Costly Information	-0.2751***	-0.0641**	-0.2760***	0.0202	-0.3247***	-0.2896***
	(0.0242)	(0.0250)	(0.0347)	(0.0335)	(0.0300)	(0.0205)
Costly Information X Price	0.1581***	-0.1264***	-0.0593*	-0.2229***	0.1006***	0.0449***
	(0.0221)	(0.0228)	(0.0316)	(0.0306)	(0.0247)	(0.0161)
Self-5		-0.1238***				
		(0.0163)				
NormSeek						0.0237
						(0.0323)
Constant	0.4452***	0.7954***	0.7525***	0.8763***	0.5796***	0.5956***
	(0.0149)	(0.0173)	(0.0213)	(0.0206)	(0.0315)	(0.0277)
Observations	2,646	2,691	1,206	1,089	1,800	3,681
Nr. of ids	294	299	134	121	200	409
R-squared	0.3039	0.2094	0.3568	0.2017	0.3460	0.2492
	MEG vs. Self		MEG vs. Self		Effect of Norms	
Constant		< 0.001		0.007		0.704
Price of Information		< 0.001		< 0.001		0.002
Costly Information		< 0.001		< 0.001		0.333
Costly Information X Price		< 0.001		< 0.001		0.059

Notes: This table examines the impact of price on information demand in the MEG, Self-10, and Self-5 treatments using linear probability models. The dependent variable takes value 1 if the subject demands information (opens envelope). Robust clustered standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The bottom panel of the table compares the coefficient estimates across the linear probability models using Zellner's Seemingly Unrelated Regression model (Zellner, 1962).

4.2 Behavior Conditional on Information Choices

In Experiment 1, 31% percent of subjects in the AMT sample demand information if the cost of information is \$0. As shown in Table 3, when they find a \$10 donation in the envelope, they donate in 74% of the cases. More subjects demand information when the price of information is negative. These subjects are less likely to donate, and hence donation rates are lower (between 49% and 52%). Very altruistic subjects pay for information. Accordingly, as the price of information increases, the share of subjects who donate increases to 100%. These findings are consistent with selection into demanding information according to subjects' willingness to donate, which has been found within the moral wiggle room paradigm by, among others, Fong and Oberholzer-Gee (2011) and Grossman and van der Weele (2017), but not always

(e.g., Larson and Capra, 2009).

Table 3: Donation Behavior Conditional on Demanding Information

Experiment 1				
Price of	AMT sample		KIT sample	
Information	Mean	N	Mean	N
-2	49%	126	91%	67
-1	50%	101	93%	58
-0.5	52%	94	82%	61
-0.1	51%	78	80%	50
0	74%	47	90%	39
0.1	87%	31	91%	23
0.5	96%	25	100%	26
1	93%	15	100%	17
2	100%	7	100%	8

Experiment 2						
Price of	MEG–NoNorm		MEG–NormAvoid		MEG–NormSeek	
Information	Mean	N	Mean	N	Mean	N
-2	57%	88	67%	81	66%	93
-1	62%	77	65%	72	70%	74
-0.5	68%	72	69%	77	68%	78
-0.1	62%	68	74%	77	67%	64
0	72%	50	80%	61	78%	55
0.1	91%	22	100%	31	97%	33
0.5	83%	18	100%	28	85%	34
1	92%	12	100%	18	95%	20
2	92%	13	100%	15	91%	11

In the KIT sample, when subjects demand information and find a \$10 donation the share of subjects who donate is substantially higher (between 80% and 100%), and there is thus less evidence of (and scope for) selection. On the one hand, this result is driven by the fact that subjects value the donation more. On the other hand, it also implies high moral discounting: Very few subjects choose to take \$2.50 when they are paid to obtain information. However, we still find higher donation rates with increasing cost of acquiring information.

In the Self treatments, conditional on demanding information, subjects choose the envelope when it is full (empty) 99.2% (98.0%) of the time in the Self-5 treatment for the AMT sample, and 99.0% (99.4%) of the time in the Self-10 treatment for the AMT sample and 99.3% (99.8%) in the KIT sample. The latter findings confirm

that subjects who demanded information paid attention to their decisions.

In Experiment 2, conditional on demanding information, subjects who learn that the envelope contains a \$10 donation donate 67% of the time in the NoNorm treatment, 77% in the NormAvoid treatment, and 74% in the NormSeek treatment. The increase is marginally significant in the NormAvoid treatment ($p = 0.069$), and mainly driven by higher donation rates when subjects are paid to demand information. This is again an indication that moral pressure to donate increased. Compared to the NoNorm treatment, the likelihood that a donation is made overall increases from 21.7% to 26.2% in the NormAvoid treatment ($p = 0.052$) and does not change significantly in the NormSeek treatment, where it is 24.2% ($p = 0.267$). Hence the NormAvoid treatment increases the likelihood that a donation is made in the MEG.

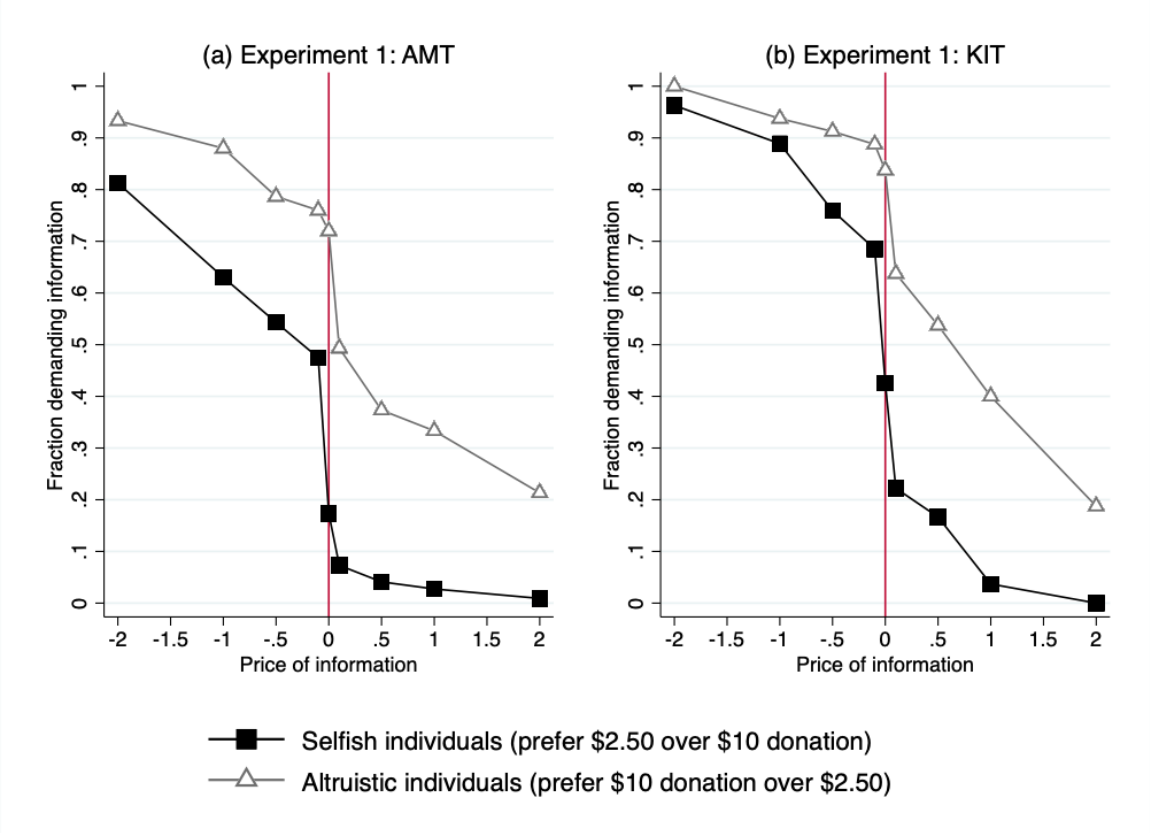
4.3 Ignorance and Altruism

To understand the drivers of information demand and the consistency of the data with the theoretical framework, we examine the relationship between subjects' altruism and their demand for information. According to the model, information demand depends on whether subjects are selfish, and prefer to keep \$2.50 over donating \$10 (corresponding to an α lower than 0.25), or whether they are generous, and prefer the \$10 donation.[14] Panels (a) and (b) of Figure 7 show information demand for these two groups. Selfish subjects often prefer to remain ignorant, even if doing so is costly. By contrast, altruistic subjects often choose to obtain information, even if it is costly, in line with the model.

According to Hypothesis 3, subjects with a willingness to donate (WTD) of \$10 should behave as in Self-10, and those with a WTD of \$5 should act like subjects in Self-5. Comparing those subjects who display a WTD of \$10 ($N = 26$) in the MEG treatment and subjects in the Self-10 treatment, in the AMT sample we find no difference in willingness to pay for information, which is \$0.83 in both cases ($p = 0.9773$). We find a similar result in the KIT sample, where willingness to pay for information of those with a WTD of \$10 is \$0.80 ($N = 23$), while willingness to pay for information in Self-10 is \$1.10 ($p = 0.1982$). Comparing subjects with

[14] More continuous classifications yield similar insights, as shown in Appendix D. We also find that donation choices under certainty are highly correlated with those under uncertainty. Hence when we study the relationship between ignorance and altruism we focus on our measure of altruism for the case when the donation is certain. In Appendix D, we study in further detail the determinants of ignorance at the individual level. In that analysis, which was pre-registered, we relate willingness to pay for information with willingness to donate under certainty and uncertainty, as well as psychological scales of ignorance and morality.

Figure 7: Information demand and altruism in Experiment 1



a WTD of \$5 to the Self-5 treatment does not lead to any significant differences either; however, the number of subjects with a WTD of \$5 in the MEG treatment is small ($N = 8$).

Result 3 *In the MEG, individuals' willingness to pay for information if* $\alpha = 1$ *is not significantly different from that in Self-10. Qualitatively, we also find that individuals' willingness to pay for information in the MEG if* $\alpha = 0.5$ *is similar to that in Self-5.*

Next, we examine the effects of social norms on altruism and information demand. The monetary equivalent of the donation increases by \$0.71 (t-test, $p = 0.0619$) and \$0.68 (t-test, $p = 0.0813$) in the NormAvoid and NormSeek treatments, respectively, compared to the NoNorm treatment. Considering information demand, the effects of social norm information for selfish and altruistic subjects are displayed in panels (a) and (b) of Figure 8, respectively. Among selfish subjects, willingness to pay for information decreases from −\$0.38 to −\$0.60 ($p = 0.0884$) in NormAvoid and

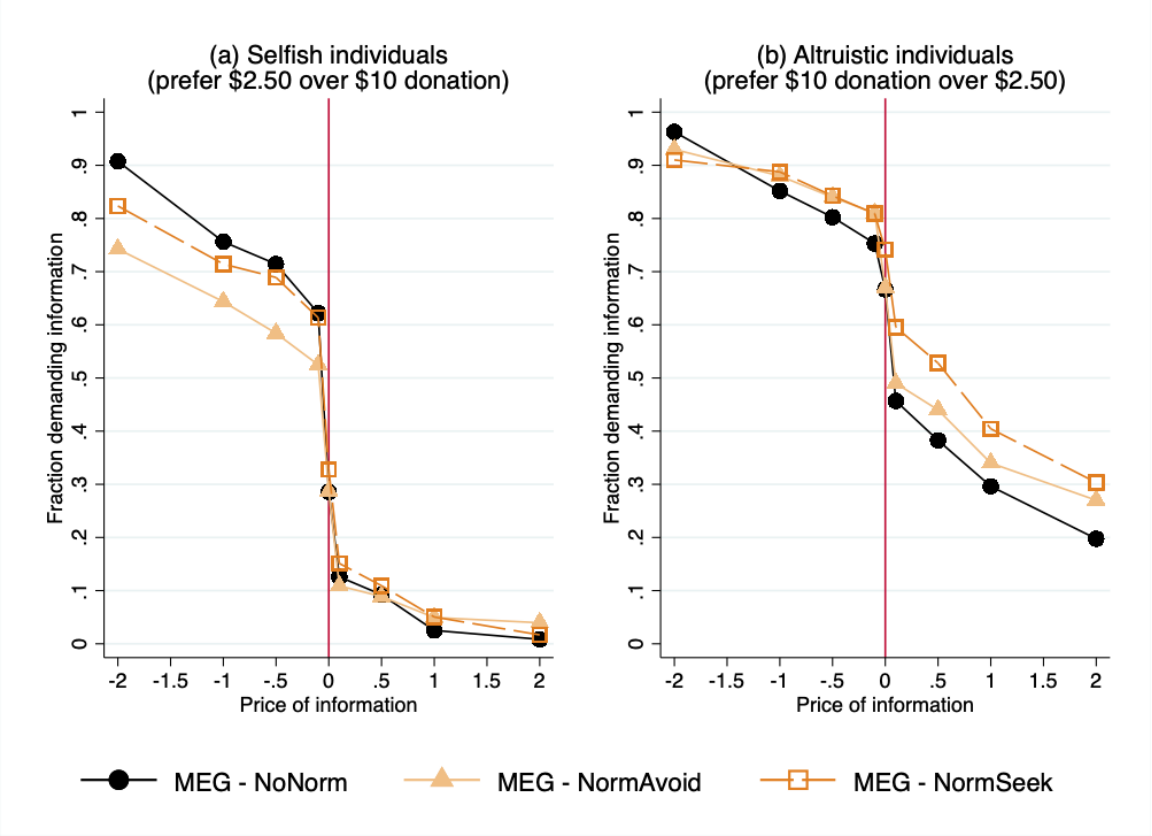


Figure 8: Effects of social norm messages by altruism in Experiment 2

does not change significantly in NormSeek ($p = 0.7021$), where it is $-\$0.42$. Among altruistic subjects, willingness to pay for information does not change significantly. It is \$0.34 without social norm messages, \$0.48 in NormAvoid ($p = 0.4410$), and \$0.62 in NormSeek ($p = 0.1467$). Hence social norm messages increase willingness to donate and decrease information demand among selfish subjects if they are negatively framed, as in NormAvoid. In the aggregate, information demand remains similar to that in the NoNorm treatment.[15]

4.4 Structural Estimates

We conduct exploratory analyses that estimate the extent of altruism and moral discounting structurally, based on the simple behavioral model of information demand that we propose. Using a nested logit model (see, for example, Cameron and Trivedi,

[15]In the experiment, we do not elicit subjects' beliefs about the norm, prior to participating in the MEG, due to the potential effects on behavior. However, eliciting beliefs before and after the norm intervention could lead to additional insights.

2005, Ch. 15) for the MEG treatment, we first estimate average altruism (α) and moral discounting (β), as well as the CRRA parameter (r), as detailed in Appendix E. For Experiment 1, the results are shown in columns (1) and (2) of Table 4. In the AMT sample, we find that the estimated α is 0.200 ($s.d. = 0.01$) and the estimated β is 0.721 ($s.d. = 0.05$), which is significantly smaller than 1 ($p < 0.01$), consistent with significant moral discounting. In the KIT sample, we find significantly higher altruism, with an α of 0.253 ($s.d. = 0.01$). Very few subjects in this sample open the envelope and choose to take the private payment when they are paid to obtain information. This suggests that moral discounting is strong, as illustrated in Figure 4(a) in Section 3, where subjects with $\beta = 0.36$ never open and take. Indeed, we find that β is 0.422 ($s.d. = 0.10$).

Table 4: Estimation of Preferences for Ignorance

	(1) Experiment 1: AMT	(2) Experiment 1: KIT	(3)	(4) Experiment 2	(5)
			NoNorm	NormAvoid	NormSeek
Altruism parameter α	0.1998	0.2528	0.2165	0.2347	0.2209
	(0.0095)	(0.0062)	(0.0074)	(0.0070)	(0.0082)
Moral discounting β	0.7208	0.4222	0.6497	0.5823	0.5391
	(0.0483)	(0.0990)	(0.0578)	(0.0738)	(0.0748)
CRRA coefficient r	1.0516	0.9641	1.0008	0.8829	0.9410
	(0.0309)	(0.0439)	(0.0411)	(0.0438)	(0.0435)
Observations	2,646	1,206	1,800	1,809	1,872

Notes: This table presents structural estimation results of the preference parameters of subjects in Experiments 1 and 2. Robust standard errors, clustered at the individual level, are shown in parentheses.

In Experiment 2, we find similar effects of social norm messages on altruism and moral discounting as documented descriptively in Section 4.3. Subjects' average altruism α is 0.217 in the absence of norm information, and it increases to 0.235 in NormAvoid ($p = 0.074$) while not changing significantly in the NormSeek treatment. The estimated moral discounting parameter β does not change significantly with social norm messages. It is 0.650 without norm information in Experiment 2, 0.582 in the NormAvoid treatment, and 0.539 in the NormSeek treatment.

Result 4

(a) In line with Hypothesis 4a, in the MEG negatively framed social norm messages increase the appreciation of the donation, α. There is no increase if the norm

is positively framed, however. We observe no significant effect on information seeking.

(b) In contrast to Hypothesis 4b, in the MEG, social norm messages do not affect moral discounting, β.

Structural estimates can help us explore the welfare effects of policies that remind individuals of social norms. Since there is wide heterogeneity across individuals, using the average estimated parameters is inappropriate, and we estimate individual-level parameters to evaluate the effects of social norm messages on utilities. Specifically, given the limited number of decisions, we estimate altruism and moral discounting assuming risk neutrality. Altruism is estimated first, using subjects' decisions in the additional tasks that aim to capture WTD. We then estimate β from their choices in the MEG, following a similar approach to that taken in the intertemporal domain by Andersen et al. (2008). The moral discounting parameter is identified only for individuals who avoid information when avoidance is costly; for the others, moral discounting is set to 1 (further details are provided in Appendix E). The estimation recovers the altruism, and moral discounting, for a large majority of participants (79% of 609). The distribution of individual estimates of α and β is shown in Figure 9 and is consistent with the patterns of decisions observed in Experiment 2.

In Table 5, we present the estimated average individual utility of each action when information is costless, using individual-level estimated structural parameters. The table separates individuals who are information avoiders and pay a positive amount to avoid opening the envelope, considering all their decisions, from those who are information seekers and open the envelope even if weakly costly. As can be seen, norms weakly decrease the utility of opening and keeping (action (d)) for information avoiders, from \$1.79 for NoNorm to \$1.69 and \$1.72 for NormAvoid and NormSeek, respectively, as a result of the weak increase in moral discounting. By contrast, they increase the utility of donating, especially for information seekers, in line with the increase in altruism.

We use the individual-level estimated utility of each action to measure the welfare effects of norms. For this exercise, we assume that welfare is measured as the sum of individual utility and donations and that those two components are given equal weight. Individual expected utility is \$2.79 in the NoNorm treatment, while it is \$3.09 in NormAvoid ($p-$value=0.0185) and \$3.01 in NormSeek ($p-$value=0.0898). This (marginally) significant increase is due to the increase in altruism, which in-

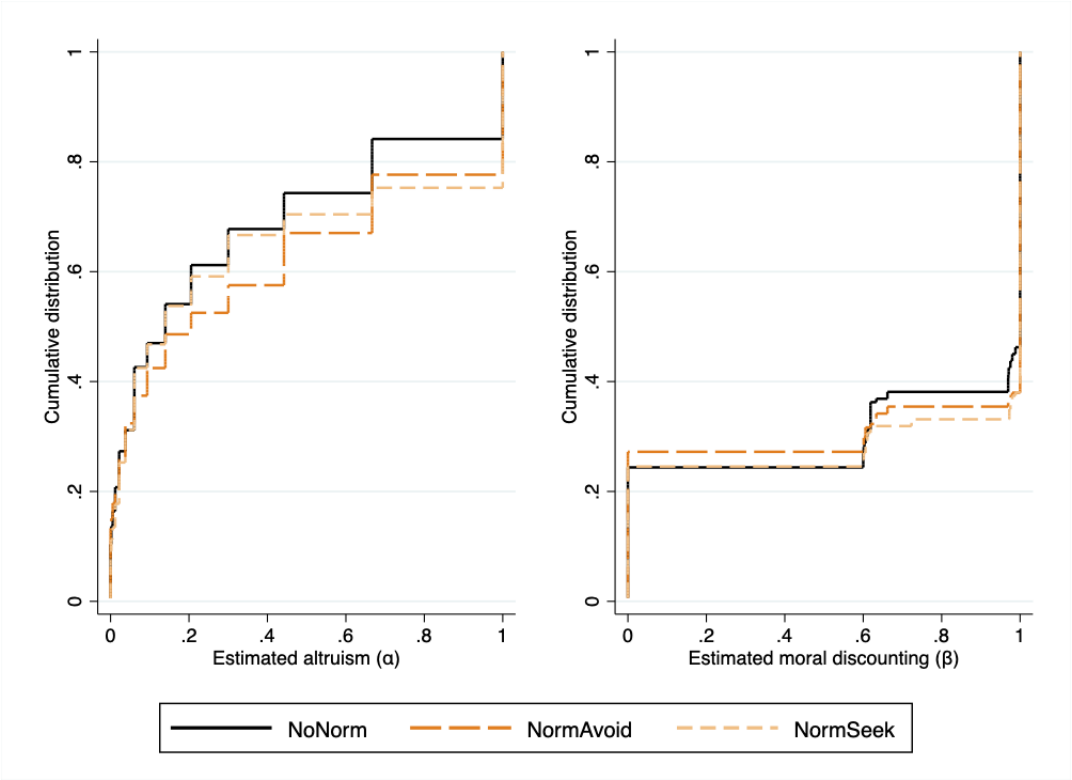


Figure 9: Estimated altruism and moral discounting in Experiment 2

creases the utility of donating. The negative effect of norms on moral discounting is small and thus has a small effect on utility. Combined with the increase in the likelihood that a donation is made, norms significantly increase welfare in the NormAvoid treatment but have no significant effect on welfare in the NormSeek treatment. Qualitatively similar effects are found for different prices of information, except for the case where the price of information is \$2, since social norm messages weakly increase the likelihood that information is demanded at a very high cost.

4.5 Persistence of Ignorance across Contexts

We have documented that information demand about a moral dilemma, such as that studied in the MEG, is highly responsive to monetary incentives but rather inelastic to social norms. Hypothesis 5 posits that information demand in the MEG is predictive of information demand in other moral dilemmas.[16]

[16]Willingness to pay for information in the MEG is related to the Monitors–Blunters Scale (Miller, 1987), a scale that measures information seeking by individuals when they are under threat, for AMT subjects, and it is also weakly negatively related to the Machiavellianism Scale score for subjects in Experiment 2. We present detailed results in Appendix D.

Table 5: Welfare

	Action	Treatment NoNorm	NormAvoid	NormSeek
	(a) Avoid & keep	2.50	2.50	2.50
Information Avoider	(b) Avoid & donate	0.76	0.83	0.56
	(c) Open & donate	2.01	2.08	1.81
	(d) Open & keep	1.79	1.69	1.72
Information Seeker	(b) Avoid & donate	2.25	2.77	2.58
	(c) Open & donate	3.50	4.02	3.83
	(d) Open & keep	2.50	2.50	2.50
All individuals	(b) Avoid & donate	1.47	1.86	1.68
	(c) Open & donate	2.72	3.11	2.93
	(d) Open & keep	2.13	2.12	2.15
	Individual utility	2.79	3.09	3.01
	Expected donation	2.13	2.97	2.39
	Welfare	4.92	6.07	5.41
	Welfare effect of norms: t-test, p-val.		*0.0418*	*0.3734*
	N	160	158	163

Notes: This table presents the average utility of each action of the individual using individual-level estimated structural parameters when the price of information is \$0. An individual is an information avoider if she chooses not to obtain information when the price of information is negative, and is an information seeker otherwise. The average utility of each action is calculated for information avoiders, seekers, and all individuals for actions (b), (c), and (d). By definition, (a) is the same for all individuals. The average individual utility in each treatment is calculated based on the individual's decision when the price of information is \$0. The number of observations in each treatment corresponds to the number of subjects for whom altruism and moral discounting could be recovered (in total, 481 out of 609, 79% of participants).

To this end, we examine the relationship between information demand in the MEG and information demand about animal welfare in dairy production several days later. We find that a majority of subjects (71%) choose to watch the informational video about cows' living conditions, and those watching the video answer the questions correctly in 73% of the cases, compared to 27% for those who do not watch it. Figure 10 shows a positive relationship between the likelihood of watching the video and a subject's willingness to pay for information in the envelope game.

We test the relationship between willingness to pay to remain ignorant in the MEG and the choice to watch the informational video in Table 6. The results indicate that a \$1 increase in a subject's willingness to pay for information increases the

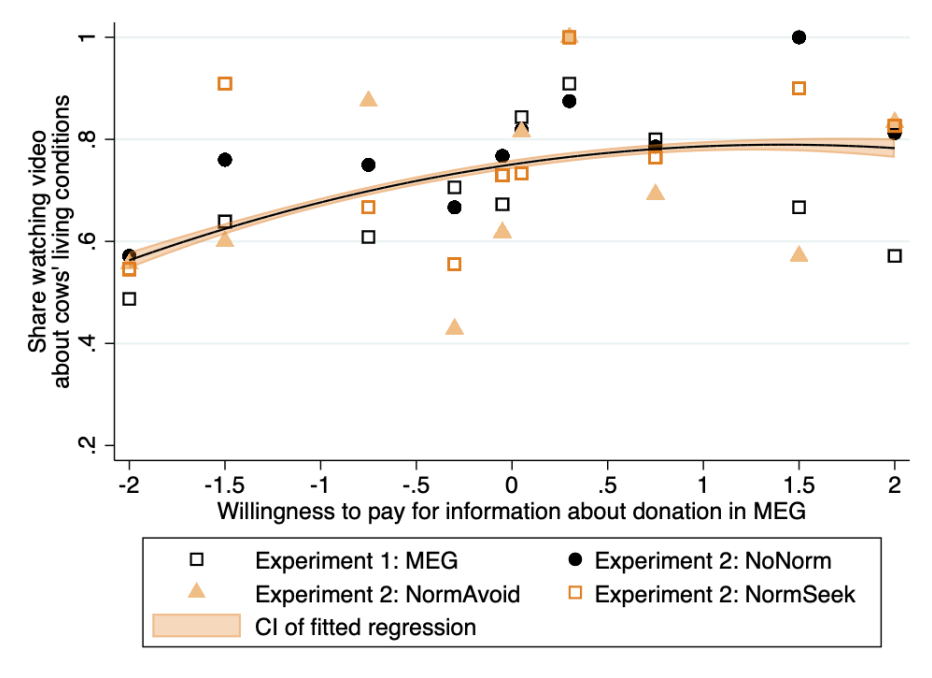


Figure 10: Demand for information across tasks

likelihood that she watches the video about cows' living conditions by 5 percentage points, in line with Hypothesis 5. This relationship is not driven by the subject's valuation of the donation, as the regressions control for the subject's WTD and this variable has no predictive power on information demand regarding cows' living conditions, and it is similar in Experiment 1 and Experiment 2.

Result 5 *The willingness to pay for information avoidance is predictive of information avoidance in a different—and later—morally relevant context.*

The rate of avoidance of the video varies depending on the social norm messages subjects were exposed to in Experiment 2. The share of subjects who watch the video is 76.9% in the NoNorm treatment, 68.8% in the NormAvoid treatment, and 74.3% in the NormSeek treatment. As shown in column (2) of Table 6, the NormAvoid treatment led to a marginally significant increase in avoidance of the video. Although the effect is comparatively small and exploratory, it suggests that the impact of social norm messages should be carefully measured in the short-run and the long-run, in order to fully capture potential spillovers onto information demand in other moral contexts.

Table 6: Persistence of Ignorance across Contexts

	(1)	(2)
	Likelihood of watching video about cows' living conditions	
Willingness to pay for information	0.0509***	0.0502***
	(0.0181)	(0.0181)
Monetary equivalent of $10 donation (WTD)	0.0073	0.0085
	(0.0058)	(0.0058)
Experiment 1: MEG	-0.0314	-0.0707
	(0.0467)	(0.0536)
Experiment 1: MEG X Willingness to pay for information	-0.0071	-0.0067
	(0.0335)	(0.0334)
Experiment 1: MEG X WTD	-0.0084	-0.0096
	(0.0121)	(0.0120)
Experiment 2: NormAvoid Treatment		-0.0839*
		(0.0472)
Experiment 2: NormSeek Treatment		-0.0444
		(0.0481)
Observations	774	774

Notes: This table reports marginal effects from probit regressions on the likelihood of watching the informational video about cows' living conditions. Willingness to pay for information is measured by the price of information at the point at which the subject switches from demanding information to avoiding information. Monetary equivalent of $10 donation (WTD) is the subject's willingness to donate as measured after the envelope game. Experiment 1: MEG is an indicator variable for participants in Experiment 1. The interaction of this indicator with willingness to pay and willingness to donate are also included and shown in the table. Experiment 2: NormAvoid and NormSeek are treatment indicators for the corresponding treatments in Experiment 2. All regressions include controls for the subject's gender, age, and educational achievement. Robust standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5 Conclusion

This paper investigates how the demand for moral ignorance responds to monetary and non-monetary incentives. Ignorance often enables individuals to engage in questionable ethical decisions in a variety of domains. In the domain of charitable giving, ignorance appears to be a widespread excuse for not giving.

Our findings reveal that ignorance can be substantially reduced by using small monetary incentives. From a policy perspective, this implies that incentives matter. Removing any (small) monetary costs of information and introducing small monetary incentives for information seeking can reduce moral ignorance significantly, by more than 30 percentage points in our context.

One could consider institutional changes such as delegation, market trading, authority, or committee decisions to reduce moral ignorance. When it comes to im-

moral behavior, however, these institutions often render problems more severe (Fischbacher et al., 2001; Milgram, 1963; Falk and Szech, 2013; Falk, et al., 2020). Motivated by the literature on social norms (see Bicchieri and Dimant (2019) for an overview), which is often cited by policy makers as an effective way to curb unethical behavior, we tested whether social norm messages would decrease moral ignorance. We find no significant effects of such messages on information demand in the aggregate. However, negatively framed norms increase the likelihood that a donation is made by 20 percent (or, equivalently, 5 percentage points). The results suggests that, while information behavior may not change, social norms could increase the "pressure" felt to donate.

Further, we observe persistence in ignorance across moral contexts. For organizations and policy makers, these findings imply that changing a culture of moral ignorance to one of transparency and information seeking may require costlier interventions than norm nudges. Curbing costs of information seeking could be key. If costs can be replaced by rewards, moral transparency may flourish.

References

1. d'Adda, Giovanna, Gao, Yu, Golman, Russell, and Massimo Tavoni (2018). "It's So Hot in Here: Information Avoidance, Moral Wiggle Room, and High Air Conditioning Usage." Working paper.

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

3. Albrecht, Konstanze, Krämer, Florentin, and Nora Szech (2017). "Animal Welfare and Human Ethics: A Personality Study". CESifo Working Paper No. 6609.

4. Allcott, Hunt, and Judd B. Kessler (2019). "The Welfare Effects of Nudges: A Case Study of Energy Use Social Comparisons." *American Economic Journal: Applied Economics* 11 (1), 236–276.

5. Andersen, Steffen, Harrison, Glenn W., Lau, Morten I., and Elisabet E. Rutström (2008). "Eliciting Risk and Time Preferences." *Econometrica* 76 (3), 583–618.

6. Andreoni, James, Rao, Justin M., and Hannah Trachtman (2017). "Avoiding the Ask: A Field Experiment on Altruism, Empathy, and Charitable Giving." *Journal of Political Economy* 125 (3), 625–653.

7. Andreoni, James, and Lise Vesterlund (2001). "Which is the Fair Sex? Gender Differences in Altruism." *Quarterly Journal of Economics* 116 (1), 293–312.

8. American Society for the Prevention of Cruelty to Animals (ASPCA) (2016). "New Research Finds Vast Majority of Americans Concerned about Farm Animal Welfare, Confused by Food Labels and Willing to Pay More for Better Treatment," Press Release.

9. Australian Public Service Commission (2018, May). "Reflect: APS Values and Code of Conduct: Decision-making model." *Australian Government.* https://legacy.apsc.gov.au/reflect-aps-values-and-code-conduct-decision-making-model

10. Bandura, Albert (2016). "Moral Disengagement: How People Do Harm and Live with Themselves." *New York: Worth Publishers.*

11. Bartling, Björn, Florian Engl, and Roberto A. Weber (2014). "Does Willful Ignorance Deflect Punishment? An Experimental Study." *European Economic Review* 70, 512–524.

12. Bénabou, Roland, and Jean Tirole (2011). "Identity, Morals and Taboos: Beliefs as Assets." *Quarterly Journal of Economics* 126 (2), 805–855.

13. Bhanot, Syon P. (2018). "Isolating the Effect of Injunctive Norms on Conservation Behavior: New Evidence from a Field Experiment in California." *Organizational Behavior and Human Decision Processes.*

14. Bicchieri, Cristina, and Eugen Dimant (2019). "Nudging with Care: The Risks and Benefits of Social Information." *Public Choice* 1–22.

15. Bicchieri, Cristina, and Erte Xiao (2009). "Do the Right Thing: But Only If Others Do So." *Journal of Behavioral Decision Making* 22 (2), 191–208.

16. Bomey, Nathan (2017, January 19). "Ex-VW CEO: 'I would have stopped' the cheating but 'I wasn't informed'." *USA Today.*https://www.usatoday.com/story/money/2017/01/19/volkswagen-martin-winterkorn/96764832/.

17. Broberg, Tomas, Ellingsen, Tore, and Magnus Johannesson (2007). "Is Generosity Involuntary?" *Economic Letters* 94 (1), 32–37.

18. Bundesministerium für Ernährung und Landwitschaft [German Ministry of Nutrition and Agriculture, BMEL] (2016). "Deutscher Ernährungsreport [German Nutrition Report]."

19. Cain, Daylian M., and Jason Dana (2012). "Paying People to Look at the Consequences of Their Actions." Working paper.

20. Cameron, A. Colin, and Pravin K. Trivedi (2005). "Microeconometrics: Methods and Applications." *Cambridge University Press.*

21. Carrick, Rob (2017, December 5). "A frank discussion of your excuses for not giving to charity." *The Globe and Mail.* https://www.theglobeandmail.com/globe-investor/personal-finance/household-finances/a-frank-discussion-of-your-excuses-for-not-giving-to-charity/article37196754/

22. Charness, Gary, Samek, Anya and Jeroen van de Ven (2020). "What is Deception in Experimental Economics? A Survey." Working paper.

23. Chen, Yan, and Yinghua He (2020). "Information Acquisition and Provision in School Choice: An Experimental Study." Working paper.

24. Christie, Richard, and Florence L. Geis (2013). "Studies in Machiavellianism." *New York and London: Academic Press.*

25. Cialdini, Robert B., and Noah J. Goldstein (2004). "Social Influence: Compliance and Conformity." *Annual Review of Psychology* 55, 591–621.

26. CNN.com (2000, March 2). "Manhattan museum plans to issue Holocaust looted-art study." *CNN.com.* http://www.cnn.com/2000/STYLE/arts/03/02/holocaust.art.reut/

27. Dana, Jason (2006). "Strategic Ignorance and Ethical Behavior in Organizations." In *Ethics in Groups: Research on Managing Groups and Teams, Volume 8*, edited by Ann E. Tenbrunsel, 39–57. Bingley: Emerald Group Publishing.

28. Dana, Jason, Cain, Daylian M., and Robyn M. Dawes (2006). 'What You Don't Know Won't Hurt Me: Costly (But Quiet) Exit in a Dictator Game." *Organizational Behavior and Human Decision Processes* 100 (2), 193–201.

29. Dana, Jason, Weber, Roberto A., and Jason Xi Kuang (2007). "Exploiting Moral Wiggle Room: Experiments Demonstrating an Illusory Preference for Fairness." *Economic Theory* 33 (1), 67–80.

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

31. Eliaz, Kfir, and Andrew Schotter (2010). "Paying for Confidence: An Experimental Study of the Demand for Non-Instrumental Information." *Games and Economic Behavior* 70 (2), 304–324.

32. Ellingsen, Tore, and Erik Mohlin (2019). "Decency." Working paper.

33. Exley, Christine (2015). "Excusing Selfishness in Charitable Giving: The Role of Risk." *Review of Economic Studies* 83 (2), 587–628.

34. Exley, Christine (2020). "Using Charity Performance Metrics as an Excuse Not to Give." *Management Science* 66 (2), 553–563.

35. Exley, Christine, and Ragan Petrie (2018). "The Impact of a Surprise Donation Ask." *Journal of Public Economics* 158, 152–167.

36. Falk, Armin, Neuber, Thomas, and Nora Szech (2020). "Diffusion of Being Pivotal and Immoral Outcomes." *The Review of Economic Studies* 87 (5), 2205–2229.

37. Falk, Armin, and Nora Szech (2019). "Competing Image Concerns: Pleasures of Skills and Moral Values." Working paper.

38. Falk, Armin, and Nora Szech (2013). "Morals and Markets." *Science* 340 (6133), 707–711.

39. Feiler, Lauren (2014). "Testing Models of Information Avoidance with Binary Choice Dictator Games." *Journal of Economic Psychology* 45, 253–67.

40. Felgendreher, Simon (2018). "Do Consumers Choose to Stay Ignorant? The Role of Information in the Purchase of Ethically Certified Products." Working paper.

41. Fischbacher, Urs, Gächter, Simon, and Ernst Fehr (2001). "Are People Conditionally Cooperative? Evidence from a Public Goods Experiment." *Economics Letters* 71 (3), 397–404.

42. Fong, Christina M., and Felix Oberholzer-Gee (2011). "Truth in Giving: Experimental Evidence on the Welfare Effects of Informed Giving to the Poor." *Journal of Public Economics* 95 (5-6), 436–444.

43. Freddi, Eleonora (2020). "Do People Avoid Morally Relevant Information? Evidence from the Refugee Crisis." *Review of Economics and Statistics*, forthcoming.

44. Frey, Bruno S., and Stephan Meier (2004). "Social Comparisons and Pro-social Behavior: Testing 'Conditional Cooperation' in a Field Experiment." *American Economic Review* 94 (5), 1717–1722.

45. Ganguly, Ananda R., and Joshua Tasoff (2017). "Fantasy and Dread: The Demand for Information and the Consumption Utility of the Future." *Management Science* 63 (12), 4037–4060.

46. von Gaudecker, Hans-Martin, Arthur van Soest, and Erik Wengström (2011). "Heterogeneity in Risky Choice Behavior in a Broad Population." *American Economic Review* 101 (2), 664–694.

47. Gneezy, Uri, Saccardo, Silvia, Serra-Garcia, Marta, and Roel van Veldhuizen (2020). "Bribing the Self." *Games and Economic Behavior* 120, 311–324.

48. Golman, Russell, Hagmann, David, and George Loewenstein (2017). "Information Avoidance." *Journal of Economic Literature* 55 (1), 96–135.

49. Grossman, Zachary (2014). "Strategic Ignorance and the Robustness of Social Preferences." *Management Science* 60 (11), 2659–2665.

50. Grossman, Zachary and Joël J. van der Weele (2017). "Self-Image and Willful Ignorance in Social Decisions." *Journal of the European Economic Association* 15 (1), 173–217.

51. Guerrero, Alexander A. (2007). "Don't Know, Don't Kill: Moral Ignorance, Culpability, and Caution." *Philosophical Studies* 136, 59–97.

52. Hallsworth, Michael, List, John, Metcalfe, Robert, and Ivo Vlaev (2017). "The Behavioralist as Tax Collector: Using Natural Field Experiments to Enhance Tax Compliance." *Journal of Public Economics* 148, 14–31.

53. Hertwig, Ralph, and Christoph Engel (2016). "Homo Ignorans: Deliberately Choosing Not to Know." *Perspectives on Psychological Science* 11 (3), 359–372.

54. Hestermann, Nina, Le Yaouanq, Yves, and Nicolas Treich (2020). "An Economic Model of the Meat Paradox." *European Economic Review* 129, 103569.

55. Ho, Emily, Hagmann, David, and George Loewenstein (2020). "Measuring Information Preferences." *Management Science*, forthcoming.

56. Huck, Steffen, Szech, Nora, and Lukas Wenner (2018). "More Effort with Less Pay: On Information Avoidance, Optimistic Beliefs and Performance." KIT Working Paper.

57. Jackall, Robert (1988). "Moral Mazes: The World of Corporate Managers." *International Journal of Politics, Culture, and Society* 1 (4), 598–614.

58. Kajackaite, Agne (2015). "If I Close my Eyes, Nobody Will Get Hurt: The Effect of Ignorance on Performance in a Real-Effort Experiment." *Journal of Economic Behavior and Organization* 116, 518–524.

59. Karlsson Niklas, Loewenstein, George, and Duane Seppi (2009). "The Ostrich Effect: Selective Attention to Information." *Journal of Risk and Uncertainty* 38 (2), 95–115.

60. Krawczyk, Michal (2019). "What should be regarded as deception in experimental economics? Evidence from a survey of researchers and subjects." *Journal of Behavioral and Experimental Economics* 79, 110–118.

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

62. Larson, Tara, and C. Monica Capra (2009). "Exploiting Moral Wiggle Room: Illusory Preference for Fairness? A Comment." *Judgment and Decision Making* 4 (6), 467–474.

63. Lazear, Edward P., Malmendier, Ulrike, and Roberto A. Weber (2012). "Sorting in Experiments with Application to Social Preferences." *American Economic Journal: Applied Economics* 4 (1), 136–163.

64. Lind, Jo T., Nyborg, Karine and Anna Pauls (2019). "Save the Planet or Close Your Eyes? Testing Strategic Ignorance in a Charity Context." *Ecological Economics* 161, 9–19.

65. Litman, Leib, Robinson, Jonathan, and Tzvi Abberbock (2016). "TurkPrime.com: A Versatile Crowdsourcing Data Acquisition Platform for the Behavioral Sciences." *Behavior Research Methods*, 1–10.

66. Matthey, Astrid, and Tobias Regner (2011). "Do I Really Want to Know? A Cognitive Dissonance-Based Explanation of Other-Regarding Behavior." *Games* 2 (1), 114–135.

67. Milgram, Stanley (1963). "Behavioral Study of Obedience." *The Journal of Abnormal and Social Psychology* 67 (4), 371–378.

68. Miller, Suzanne M. (1987). "Monitoring and Blunting: Validation of a Questionnaire to Assess Styles of Information Seeking Under Threat." *Journal of Personality and Social Psychology* 52 (2), 345–353.

69. Momsen Katharina, and Markus Ohndorf (2020). "When do People Exploit Moral Wiggle Room? An Experimental Analysis of Information Avoidance in a Market Setup." *Ecological Economics* 169, 106479.

70. OECD (2018). "Behavioural Insights for Public Integrity Harnessing the Human Factor to Counter Corruption." *OECD Public Governance Reviews, OECD Publishing*, Paris.

71. Onwezen, Marleen C., and Cor N. van der Weele (2016)."When Indifference is Ambivalence: Strategic Ignorance about Meat Consumption." *Food Quality and Preference* 52, 96–105.

72. Oster, Emily, Shoulson, Ira, and E. Ray Dorsey (2013). "Optimal Expectations and Limited Medical Testing: Evidence from Huntington Disease." *American Economic Review* 103 (2), 804–30.

73. Rayner, Steve (2012). "Uncomfortable Knowledge: The Social Construction of Ignorance in Science and Environmental Policy Discourses." *Economy and Society* 41 (1), 107–125.

74. Rosen, Gideon (2003). "Culpability and Ignorance." *Proceedings of the Aristotelian Society* 103 (1), 61–84.

75. Roth, Alvin E. (2007). "Repugnance as a Constraint on Markets," *Journal of Economic Perspectives* 21 (3), 37–58.

76. Schultz, P. Wesley, Nolan, Jessica M., Cialdini, Robert B., Goldstein, Noah J., and Vladas Griskevicius (2007). "The Constructive, Destructive and Reconstructive Power of Social Norms." *Psychological Science* 18 (5), 429–434.

77. Serra-Garcia, Marta, and Nora Szech (2020). "Demand for COVID-19 Antibody Testing, and Why It Should Be Free." CESifo Working Paper 8340.

78. Shang, Jen, and Rachel Croson (2009). "A Field Experiment in Charitable Contribution: The Impact of Social Information on the Voluntary Provision of Public Goods." *Economic Journal* 119, 1422–1439.

79. Sicherman, Nachum, Loewenstein, George, Seppi, Duane J., and Stephen P. Utkus (2016). "Financial Attention." *Review of Financial Studies* 29 (4), 863–897.

80. Spiekermann, K., and Arne Weiss (2016). "Objective and Subjective Compliance: A Norm-Based Explanation of "Moral Wiggle Room." *Games and Economic Behavior* 96, 170–183.

81. Stüber, Robert (2020). "The Benefit of the Doubt: Willful Ignorance and Altruistic Punishment." *Experimental Economics* 23 (3), 848–872.

82. te Velde, Hein, Aarts, Noelle, and Cees van Woerkum (2002). "Dealing with Ambivalence: Farmers' and Consumers' Perceptions of Animal Welfare in Livestock Breeding." *Journal of Agricultural and Environmental Ethics* 15, 203–219.

83. Zane, Daniel M., Julie R. Irwin, and Rebecca Walker Reczek (2016). "Do Less Ethical Consumers Denigrate More Ethical Consumers? The Effect of Willful Ignorance on Judgments of Others." *Journal of Consumer Psychology* 26 (3), 337–349.

84. Zellner, Arnold (1962). "An Efficient Method of Estimating Seemingly Unrelated Regressions and Tests for Aggregation Bias." *Journal of the American Statistical Association* 57 (298), 348–368.

85. Zimmerman, Michael J. (1997). "Moral Responsibility and Ignorance." *Ethics* 107 (3), 410–426.

Online Appendix

A Theoretical Analysis

A.1 Proofs

Proof of Proposition 1. We solve the MEG by backwards induction, using the game tree depicted in Figure 2. We begin with the decision to take or donate after an initial decision to open. In this case, taking the selfish amount if $u(\beta \cdot 2.5) > u(\alpha \cdot 10)$ is strictly optimal. This condition is equivalent to $\alpha < \beta \cdot \frac{1}{4}$, due to the monotonicity of u. At the other endnode, after an initial decision not to open, taking the selfish monetary amount if $u(2.5) > \frac{1}{2} \cdot u(\alpha \cdot 10)$ is optimal. By our assumption that $u(x) = x^r$, $r > 0$, this condition is equivalent to $\alpha < 2^{\frac{1}{r}} \cdot \frac{1}{4}$. We can thus turn to the initial decision to open the envelope and its dependence on α. The utility from opening is[17]

$$\frac{1}{2}u(2.5) + \frac{1}{2}u(\beta \cdot 2.5) \qquad \text{if } \alpha < \beta \cdot \frac{1}{4}$$

and

$$\frac{1}{2}u(2.5) + \frac{1}{2}u(\alpha \cdot 10) \qquad \text{if } \alpha \geq \beta \cdot \frac{1}{4}.$$

The utility from not opening is

$$u(2.5) \qquad \text{if } \alpha < 2^{\frac{1}{r}} \cdot \frac{1}{4}$$

and

$$\frac{1}{2}u(\alpha \cdot 10) \qquad \text{if } \alpha \geq 2^{\frac{1}{r}} \cdot \frac{1}{4}.$$

As $\beta < 1 < 2^{\frac{1}{r}}$, we thus distinguish three cases depending on the location of α. If α lies below both thresholds, $\alpha < \frac{\beta}{4}$, donating is suboptimal regardless of the decision

[17] Here and in the following, we assume an agent who is indifferent between taking the money and donating will donate. Similarly, the agent favors options with a higher donation probability in case of indifference.

in the first stage. In this case, the comparison

$$\frac{1}{2} \cdot u(2.5) + \frac{1}{2} u(\beta \cdot 2.5) < u(2.5) \tag{1}$$

implies leaving the envelope closed is optimal.[18] In the intermediate case when $\beta \cdot \frac{1}{4} \leq \alpha < 2^{\frac{1}{r}} \cdot \frac{1}{4}$, we have to compare the utility of $\frac{1}{2} \cdot u(2.5) + \frac{1}{2} \cdot u(\alpha \cdot 10)$ from opening and $u(2.5)$ from leaving the envelope closed. Opening is thus optimal for $\alpha \geq \frac{1}{4}$ whereas leaving the envelope closed is optimal otherwise. In the third case $\alpha \geq 2^{\frac{1}{r}} \cdot \frac{1}{4}$, the relevant comparison is between $\frac{1}{2} \cdot u(2.5) + \frac{1}{2} \cdot u(\alpha \cdot 10)$ and $\frac{1}{2} \cdot u(\alpha \cdot 10)$. In this case, opening the envelope is optimal. ■

Proof of Proposition 2. The behavior at the endnodes is not affected by the additional costs of opening or leaving the envelope closed. After opening and finding a full envelope, the agent donates if $\alpha \geq \frac{\beta}{4}$. If the envelope is kept closed, the agent donates if $\alpha \leq \frac{1}{2}$.

For the initial opening decision, we distinguish between three cases, depending on whether $\alpha < \frac{\beta}{4}$, $\alpha \in [\frac{\beta}{4}, \frac{1}{2})$, or $\alpha \geq \frac{1}{2}$. First, for $\alpha < \frac{\beta}{4}$, the relevant comparison is now between a utility of $\frac{1+\beta}{2} 2.5 + m_o$ from opening and $2.5 + m_c$ from keeping it closed. Opening is strictly dominant if the difference between m_o and m_c is positive and sufficiently large,

$$m_o - m_c > 5 \left(\frac{1}{4} - \frac{\beta}{4} \right).$$

Second, for $\alpha \in [\frac{\beta}{4}, \frac{1}{2})$, the comparison is between a utility of $\frac{2.5+\alpha \cdot 10}{2} + m_o$ from opening and $2.5 + m_c$ from keeping the envelope closed. Opening strictly dominates if

$$m_o - m_c > 5 \left(\frac{1}{4} - \alpha \right). \tag{2}$$

Otherwise, leaving the envelope closed is best. Observe the right-hand side of (2) switches signs at $\alpha = \frac{1}{4}$. Thus, if $\alpha < \frac{1}{4}$, a positive value of $m_o - m_c$ is needed to motivate the agent to open the envelope. By contrast, for $\alpha > \frac{1}{4}$, the agent will still open the envelope when m_c is slightly larger than m_o.

In the third case $\alpha \geq \frac{1}{2}$, that is for subjects with a very high valuation for the donation, we have to compare $\frac{2.5+\alpha \cdot 10}{2} + m_o$ from opening and $\frac{\alpha \cdot 10}{2} + m_c$ from keeping

[18] In the boundary case $\beta = 1$, the agent is instead indifferent between opening and not opening. This case is the only part of the analysis that changes for $\beta = 1$.

the envelope closed. Opening strictly dominates if

$$m_o - m_c > -\frac{5}{4};$$

that is, unless m_c is quite high, opening the envelope is best. ■

A.2 Cases of Risk Aversion and Risk Lovingness

Individuals may have different risk attitudes. Intuitively, risk aversion makes the closed envelope less attractive such that even under high monetary incentives only very altruistic subjects prefer the closed envelope. The following figure demonstrates the case of $u(x) = \sqrt{x}$ for different levels of moral discounting, β. If the moral discounting is pronounced, even most selfish individuals prefer to leave the envelope closed in order to avoid moral costs from rejecting the donation.

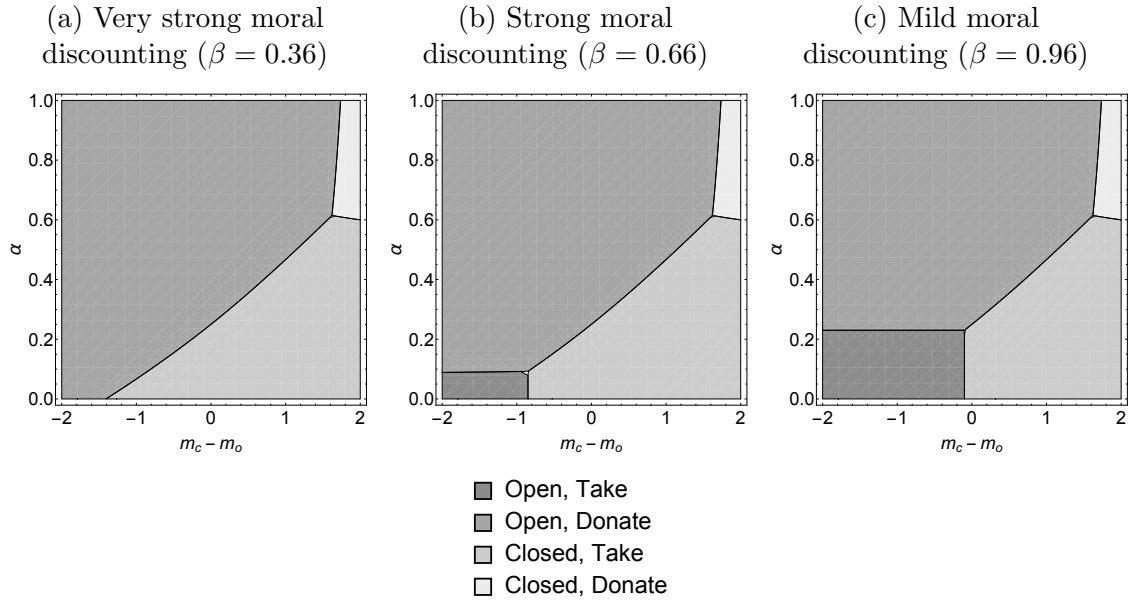


Figure A.1: Risk Aversion: $u(x) = \sqrt{x}$; $\beta = 0.36, 0.66, 0.96$, respectively

By contrast, the closed envelope can become quite appealing for altruists if they are risk loving. The following figure illustrates that case.

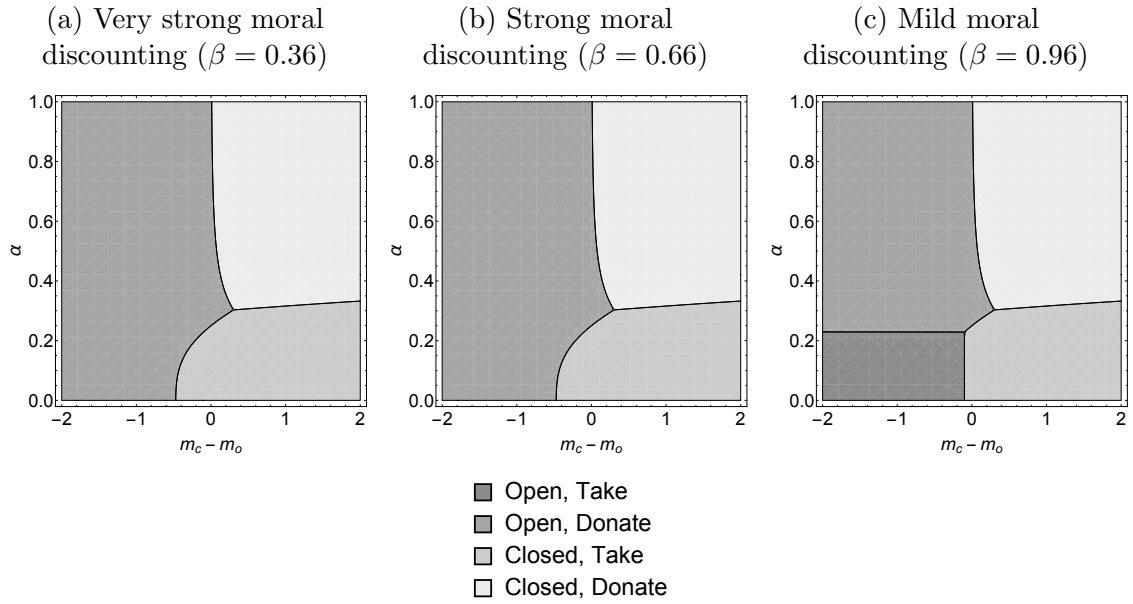


Figure A.2: Risk Loving: $u(x) = x^4$; $\beta = 0.36, 0.66, 0.96$, respectively

B Instructions

B.1 Main Experiment

Below, we present the instructions for the MEG treatment in Experiment 1. The Self-5 and Self-10 treatments had the same instructions except that the $10 donation was replaced by a $5 or $10 payment for the individual. In Experiment 2, we added information on social norms at the end of the instructions, as indicated in brackets below.

In this study, you make decisions involving money for you and a donation to the Malaria Consortium in your name.

Your donation takes place via **an envelope**.

The envelope either **contains**: **a $10 donation on your behalf with 50% chance,** or **no donation with 50% chance**

page break

In this part, you **do not know what the envelope contains**. You decide whether to get $2.50, get the envelope, or reveal what the envelope contains first.

You will make 9 decisions. In each decision you have **three options:**

(a). **Get $2.50:** then, you get $2.50.

(b). **Get the envelope:** then, you donate what the envelope contains, which you do not know.

(c). **Reveal what the envelope contains first:** then, you are shown whether the envelope contains **a $10 donation on your behalf** or **no donation.** After being informed of the envelope's content, you decide either to get $2.50 or get the envelope.

In each decision, you may receive **an additional amount for choosing option (c) 'Reveal what the envelope contains first', or** you may receive **an additional amount for NOT choosing option (c)**, that is not 'revealing what the envelope contains first', and choosing options (a) or (b).

Across the 9 decisions, this additional amount you receive varies, from $2 for revealing what the envelope contains to $0, and from $0 to $2 for NOT revealing what the envelope contains.

You will not know which is the 'decision that counts' until the end of the study. Because the computer is making a random draw, any of the choices could be the 'decision that counts.' Therefore, you should think carefully about the choice you make in each question.

page break

Remember, the envelope either contains:

a $10 donation on your behalf with 50% chance, or

no donation with 50% chance.

In what follows you will be shown an example and will be asked to answer several questions, before making your decisions.

page break

EXAMPLE

As an example, let us consider question 5. In this question, you receive **$0 for revealing what the envelope contains, and $0 for not revealing what the envelope contains.** The question is shown below.

---

5. **If you get $0 for revealing and $0 for not revealing what the envelope contains first,** what do you choose?

(a). Get $2.50

(b). Get the envelope

(c). Reveal what the envelope contains

If you choose '(a) get $2.50', **you get $2.50.**

If you choose '(b) get the envelope', **you donate $10 with 50% chance or donate $0 with 50% chance.**

If you choose '(c) reveal what the envelope contains', you learn what is inside the envelope. Two cases can then happen:

- **The envelope contains a $10 donation on your behalf.** Then you choose between:

  Get $2.50 or

  Donate $10.

- **The envelope contains no donation.** Then you choose between:

  Get $2.50 or

  Donate $0.

Thus, choosing (c) brings you to another choice. This choice is either between a monetary amount for you and a donation on your behalf or between a monetary amount for you and no donation in your name.

page break

CONTROL QUESTIONS

As an exercise, let us consider question 1.

The envelope either contains a $10 donation with 50% chance or no donation with 50% chance.

In question 1, you **receive $2 for revealing what the envelope contains.** You choose from these options:

(a). Get $2.50.

(b). Get the envelope.

(c). Reveal what the envelope contains (plus $2 for revealing what the envelope contains).

Suppose you choose (a). What happens?

(a). I get $0

(b). I get $2.50

Suppose you choose (b). What happens?

(a). I get $4.50

(b). I donate what is in the envelope.

Suppose you choose (c). What happens?

(a). I learn what is inside the envelope and then decide between the envelope and $2.50. I either decide between a $10 donation on my behalf or $2.50 for me, or I decide between a $0 donation or $2.50 for me. I also get $2 for choosing to reveal what is in the envelope.

(b). I do not learn what is inside the envelope and get $0.

page break

Now you will make your decisions for this part.

In each question, the chance that the envelope contains a $10 donation is 50%. So, the envelope's content varies for each question according to chance.

One of your decisions may be the 'decision that counts'. So please decide carefully!

page break

[Treatment NormSeek: **NOTE: More than 70% of MTurkers who evaluated the actions in this part consider it MORALLY APPROPRIATE to choose the option 'Reveal what the envelope contains' first.**]

[Treatment NormAvoid: **NOTE: More than 70% of MTurkers who evaluated the actions in this part consider it MORALLY INAPPROPRIATE to choose the option 'Get $2.5' without revealing what the envelope contains first.**]

B.2 Follow-Up Task

Below, we present the instructions for the follow-up task.

In what follows we'd like to ask you about the **living conditions of cows and their calves** in dairy production. This is a controversial topic. Some consider the living conditions of cows and calves in dairy production appropriate. Others criticize them.

Before providing your knowledge and opinion on this topic, you can watch a **1-Minute informational video**. It provides you with details about the living conditions of cows and their calves in dairy production. The facts reported in this video have been checked for accuracy. You can also choose not to view the video.

Then, you'll be asked two questions about dairy production. You'll be paid an **additional $0.15** if you answer these **questions correctly**.

You'll also be asked to provide your opinion on the topic

What do you prefer?

(1). Watch informational video.

(2). Proceed to answer questions.

page break

If participant chose to watch the video:

[VIDEO: `https://www.youtube.com/embed/LRZ4yWpsrFw`

page break

Please answer two short questions about the lives of cows and their calves, when cows are used to produce dairy.

You'll be paid an additional $0.15 if you answer these questions correctly.

You have 20 seconds to answer these questions.

1. When are calves separated from their mothers after birth, when cows are used in dairy production?

(1). The day they are born.

(2). Three weeks after they are born.

(3). Two months after they are born

2. How often do cows give birth in order to keep supplying milk?

(1). Every 5 years.

(2). Every 2 years.

(3). Every year.

page break

Please state your opinion about the appropriateness of consuming dairy:

(1). Extremely appropriate.

(2). Moderately appropriate.

(3). Slightly appropriate.

(4). Neither appropriate nor inappropriate.

(5). Slightly inappropriate.

(6). Moderately inappropriate.

(7). Extremely inappropriate.

page break

Please briefly explain your opinion.

C Elicitation of Control Measures

After the main part of the experiment, we elicited the monetary equivalent of a certain \$10 donation by asking the subject to make eight binary choices between the donation and payments to her that increased from \$0.10 to \$10. Each choice between a private payment and the donation was presented in a separate screen, and across screens the value of the private payment increased. Thereafter, we elicited the monetary equivalent of a \$10 donation that occurs with a 50% chance. Subjects again made eight binary choices, each between the potential donation and a payment that increased from \$0.01 to \$5. These choices were elicited in the MEG treatment in Experiment 1 and all treatments in Experiment 2.

For each subject, we calculate her monetary equivalent of a certain (uncertain) donation as the maximum value of the payment to her that she was willing to give up instead of the donation. As shown in Table C.1., on average, the monetary equivalent of a certain \$10 donation was \$1.91, whereas it was \$0.99 for a 50% chance of a \$10 donation for subjects from the AMT sample in Experiment 1. For those subjects from the KIT sample, the monetary equivalent of the donation was much higher, \$3.95 when the donation was certain, and \$1.76 when there was a 50% chance.

In the Self 5 and Self 10 treatments of Experiment 1, we elicited the certainty equivalent of a \$5 and \$10 payment that occurred with a 50% chance. We asked the subject to make eight binary choices between the uncertain payment and payments to her that increased from \$0.50 to \$5 in the Self 5 treatment, and \$1 and \$10 in the Self 10 treatment. On average, in Experiment 1, the certainty equivalent of a 50% chance of \$5 was 1.43, and that of a 50% chance of \$10 was \$2.65 for the AMT sample. For the KIT sample, the certainty equivalent of a 50% chance of \$10 was \$3.56.

In Experiment 2, we observe an increase in both the monetary equivalent of the \$10 donation when it is certain and when it is uncertain, in the treatments NormAvoid and NormSeek, compared to NoNorm.

Each experiment and sample is balanced in terms of their gender, age, and scores in the Monitors-Blunters scale, and the Mach IV scale, with the exception of age in the KIT sample, where we find slightly older subjects in the Self-10 treatment (24.46 years of age) than in the MEG treatment (23.15 years of age).

Table C.1: Balance Check

	Experiment 1 Panel A. AMT sample				
	(1)	(2)	(3)	t-test, p-value	
	MEG	Self-5	Self-10	(1) vs. (2)	(1) vs. (3)
Female	0.46	0.43	0.47	0.544	0.874
Age	36.51	37.63	35.27	0.31	0.251
Monetary equivalent of:					
\$10 donation	1.91	-	-		
\$10 donation/self payoff, with $p = 0.5$	0.99	1.43	2.65		
Monitors-Blunters Scale Score	4.95	4.91	5.60	0.93	0.124
Mach IV Score	2.85	2.82	2.89	0.539	0.394

	Panel B. KIT sample		
	MEG	Self-10	t-test, p-value
Female	0.34	0.34	0.975
Age	23.15	24.46	0.007
Monetary equivalent of:			
\$10 donation	3.95		
\$10 donation/self payoff, with $p = 0.5$	1.76	3.56	
Monitors-Blunters Scale Score	6.13	6.07	0.917
Mach IV Score	2.94	2.93	0.763

	Panel C. Experiment 2				
	(1)	(2)	(3)	t-test, p-value	
	NoNorm	NormAvoid	NormSeek	(1) vs. (2)	(1) vs. (3)
Female	0.55	0.51	0.53	0.452	0.669
Age	36.35	35.61	37.98	0.529	0.159
Monetary equivalent of:					
\$10 donation	2.92	3.60	3.56	0.069	0.083
\$10 donation with $p = 0.5$	1.43	1.76	1.75	0.060	0.062
Monitors-Blunters Scale Score	4.79	4.66	4.71	0.765	0.859
Mach IV Score	2.81	2.87	2.83	0.148	0.582

C.1 Procedural Details of the Studies

We used TurkPrime to invite individuals to participate in our studies on AMT, and re-invite them for the follow-up task. In Experiments 1 and 2, subjects always received a fix payment of \$3, in addition to their earnings from the experiment. The criteria to participate were that they should be located in the US and have an approval rate of at least 80%. The median time to complete the study was approximately 20 minutes and more than 96% of subjects who started completed the experiment.

The analysis focuses on consistent subjects. There were 594 consistent subjects in Experiment 1. Of these, 294 participated in the MEG treatment, 147 in Self-5, and 152 in Self-10. We classify subjects as consistent if their choices in the envelope game and their choices in the control measures of willingness to donate do not exhibit multiple switching. We recruited a total of 400 subjects in the MEG treatment, 200 in Self-5 and 200 in Self-10. There were 300 subjects in the MEG-NoNorm treatment, 299 in the NormAvoid treatment and 312 subjects in the NormSeek treatment in Experiment 2. As shown in Appendix D, our main results remain qualitatively similar including all subjects.

For the KIT sample, part of the KD2Lab of KIT, subjects were invited via email, and received a personalized code to start each survey. Due to COVID19, we implemented probabilistic payments, such that one of each 10 subjects would receive a payment. All monetary amounts in the experiment were presented as KIT$, and were then converted to Euro at the end. The stakes were 10 fold those of the AMT subjects, in Euro instead of USD. This means that subjects who were selected for payment received 30 Euro and the additional payments for their decisions (or donations were implemented on their behalf). In the KIT sample, there were 255 consistent subjects, 134 in the MEG treatment and 121 in the Self-10 treatment.

When conducting Experiment 2, we first ran the Norms treatment with 101 subjects. We thereafter conducted the treatments NoNorm, NormAvoid and NormSeek at the same time and randomly assigned subjects to one of these three treatments. The treatments contain 200, 201, and 208 subjects, respectively. Sample sizes were chosen to be able to detect a \$0.15 change in willingness to pay for information in the presence of social norms messages (with an 80% power).

In Experiment 2, conducted on AMT 2 months after Experiment 1, we find that the share of female participants in Experiment 2 was significantly higher, 55.0%, compared to 45.9% in Experiment 1 (t-test, $p = 0.048$).[19] In line with previous literature on gender effects in altruistic behavior (e.g., Andreoni and Vesterlund, 2001), we observe a higher monetary equivalent of the \$10 donation in this experiment, \$2.90, compared to \$1.90 in Experiment 1 (t-test, $p < 0.01$). We also observe a weaker preference to remain ignorant in the NoNorm treatment than in the MEG treatment in Experiment 1 (t-test, $p < 0.01$).[20]

[19] Age, educational attainment, and MTurk experience of subjects did not differ (t-tests, $p > 0.05$).

[20] We conducted a first smaller version of Experiment 2 that suggested results would be incomparable to the former MEG treatment run earlier. We hence conducted a larger study thereafter, and focus on these data. Including the smaller study does not change the conclusions.

We used TurkPrime to recontact participants for the follow-up task. The return rate is 83.7% in the MEG treatment in Experiment 1, 91% in the NoNorm treatment in Experiment 2, and 87.6% and 84% in the NormAvoid and NormSeek treatments, respectively. Within Experiment 2, the difference in return rates between the NormSeek and NoNorm treatments is significant ($p = 0.036$).

D Additional Results

D.1 Distribution of Information Choices

Table D.1 below presents the distribution of choices in Experiment 1. For each price of avoidance, we show the percentage of subjects who (a) avoid and choose \$2.50 ("Choose \$2.50"), (b) avoid and donate ("Choose envelope"), (c) seek information ("Open envelope").

Table D.1: Distribution of Choices in Experiment 1

Price of information		AMT Sample Treatment			KIT sample Treatment	
		Donation	Self $5	Self $10	Donation	Self $10
-$2	Choose $2.5	14.6%	7.5%	2.6%	1.5%	1.7%
	Choose envelope	1.0%	2.0%	2.6%	0.0%	1.7%
	Open envelope	84.4%	90.5%	94.7%	98.5%	96.7%
-$1	Choose $2.5	28.6%	18.4%	6.6%	6.0%	4.1%
	Choose envelope	2.0%	2.0%	3.3%	2.2%	4.1%
	Open envelope	69.4%	79.6%	90.1%	91.8%	91.7%
-$0.50	Choose $2.5	36.7%	21.8%	10.5%	9.7%	5.0%
	Choose envelope	2.7%	4.1%	4.6%	5.2%	4.1%
	Open envelope	60.5%	74.1%	84.9%	85.1%	90.9%
-$0.10	Choose $2.5	42.5%	23.1%	13.8%	14.2%	6.6%
	Choose envelope	2.7%	5.4%	5.9%	5.2%	5.0%
	Open envelope	54.8%	71.4%	80.3%	80.6%	88.4%
$0	Choose $2.5	62.6%	25.9%	15.1%	23.9%	7.4%
	Choose envelope	6.1%	8.2%	9.9%	9.0%	5.8%
	Open envelope	31.3%	66.0%	75.0%	67.2%	86.8%
$0.10	Choose $2.5	72.8%	34.0%	19.1%	35.1%	7.4%
	Choose envelope	9.2%	6.1%	11.2%	17.9%	8.3%
	Open envelope	18.0%	59.9%	69.7%	47.0%	84.3%
$0.50	Choose $2.5	77.2%	42.2%	21.7%	39.6%	10.7%
	Choose envelope	10.2%	7.5%	13.2%	21.6%	9.1%
	Open envelope	12.6%	50.3%	65.1%	38.8%	80.2%
$1	Choose $2.5	76.5%	59.9%	30.9%	43.3%	17.4%
	Choose envelope	12.9%	9.5%	18.4%	31.3%	20.7%
	Open envelope	10.5%	30.6%	50.7%	25.4%	62.0%
$2	Choose $2.5	76.5%	76.2%	42.1%	48.5%	28.1%
	Choose envelope	17.3%	12.9%	23.7%	40.3%	36.4%
	Open envelope	6.1%	10.9%	34.2%	11.2%	35.5%

Table D.2 below presents the distribution of choices in Experiment 2.

Table D.2: Distribution of Choices in Experiment 2

Price of information		Treatment NoNorm	NormAvoid	NormSeek
-$2	Choose $2.5	5.0%	12.4%	9.1%
	Choose envelope	2.0%	4.0%	4.8%
	Open envelope	93.0%	83.6%	86.1%
-$1	Choose $2.5	16.5%	19.4%	15.9%
	Choose envelope	4.0%	4.5%	5.3%
	Open envelope	79.5%	76.1%	78.8%
-$0.50	Choose $2.5	19.5%	21.4%	19.2%
	Choose envelope	5.5%	7.5%	5.3%
	Open envelope	75.0%	71.1%	75.5%
-$0.10	Choose $2.5	26.0%	24.9%	24.5%
	Choose envelope	6.5%	8.5%	5.8%
	Open envelope	67.5%	66.7%	69.7%
$0	Choose $2.5	49.0%	42.8%	41.3%
	Choose envelope	7.0%	9.5%	8.2%
	Open envelope	44.0%	47.8%	50.5%
$0.10	Choose $2.5	58.5%	53.7%	51.0%
	Choose envelope	15.5%	16.4%	14.9%
	Open envelope	26.0%	29.9%	34.1%
$0.50	Choose $2.5	61.5%	53.7%	52.9%
	Choose envelope	17.5%	19.9%	18.3%
	Open envelope	21.0%	26.4%	28.8%
$1	Choose $2.5	64.5%	56.7%	60.1%
	Choose envelope	22.0%	23.9%	19.7%
	Open envelope	13.5%	19.4%	20.2%
$2	Choose $2.5	64.5%	57.7%	61.5%
	Choose envelope	27.0%	26.9%	24.5%
	Open envelope	8.5%	15.4%	13.9%

D.2 Illustration of Calibration in Experiment 1

Figure D.1 illustrates the equivalence between the MEG treatments and the Self-5 and Self-10 treatments, within the AMT sample. The black connected line shows the willingness to pay for information in the Self treatments. The red line indicates the willingness to pay for ignorance in the MEG treatment.

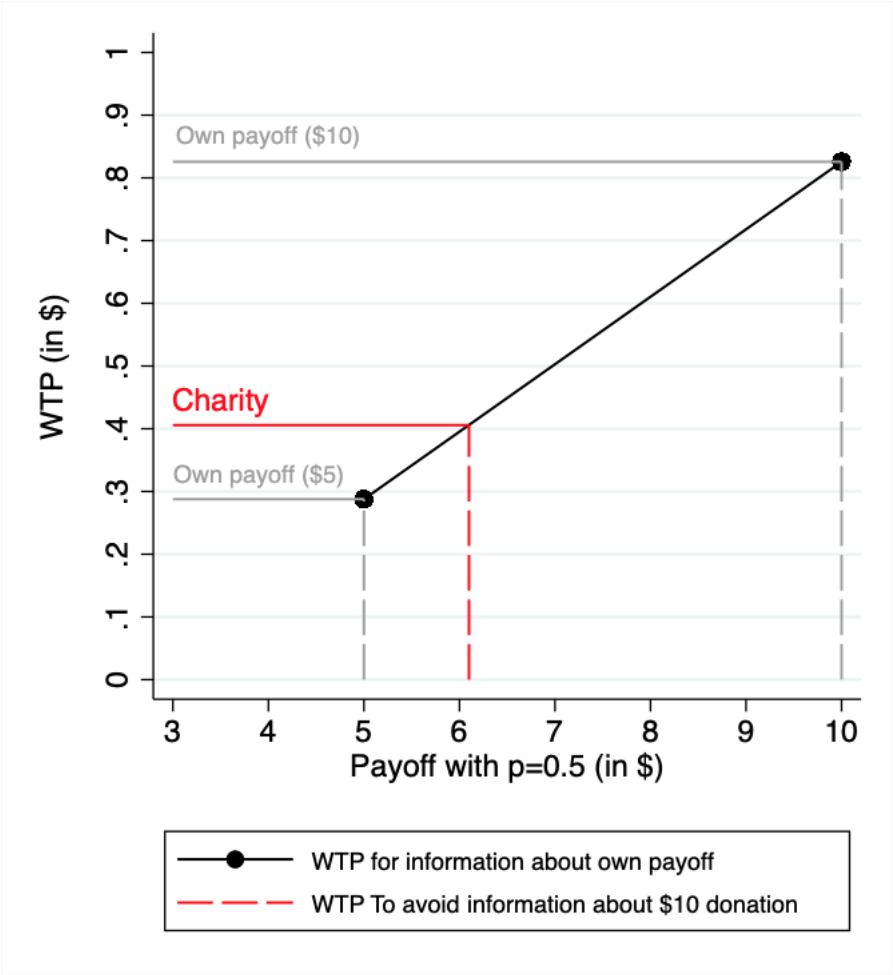


Figure D.1: Benchmarking Ignorance in MEG Treatment to Information Demand in Self Treatments within the AMT sample

D.3 Information Demand and Donation Preferences

We examine the information demand and donation behavior of subjects in Experiment 1 in Figures D.2(a) and (b), for the AMT sample, and Figures D.3(a) and (b). The model predicts that subjects with a higher willingness to donate (WTD) should open the envelope unless opening becomes too costly. They should also want to donate in case the envelope contains a donation. If opening becomes very costly, at very high levels of WTD, they should even prefer donating the closed envelope over taking the \$2.50. In contrast, subjects with a low WTD should prefer to leave the envelope closed and take the \$2.50 straight away, unless leaving the envelope closed becomes very costly. The data confirm that subjects with a higher WTD choose to open and donate more often (hollow triangles), whereas those with a lower WTD choose to open and take the private payment (dark circles). Figure D.2(b) further confirms that subjects with a higher WTD often opt for the closed envelope if opening is rather costly (dark hollow triangles). Also in line with the model, subjects with a lower WTD often choose to keep the envelope closed and take the private payment (light-colored circles).

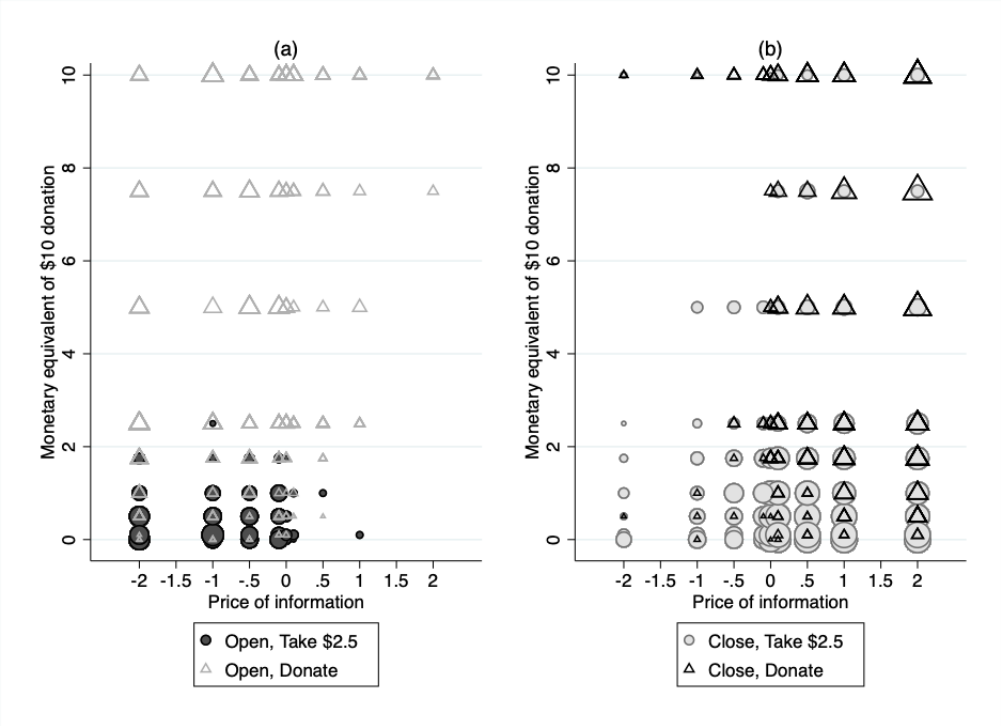


Figure D.2: Information Preferences and Donation Preferences in Experiment 1, AMT sample

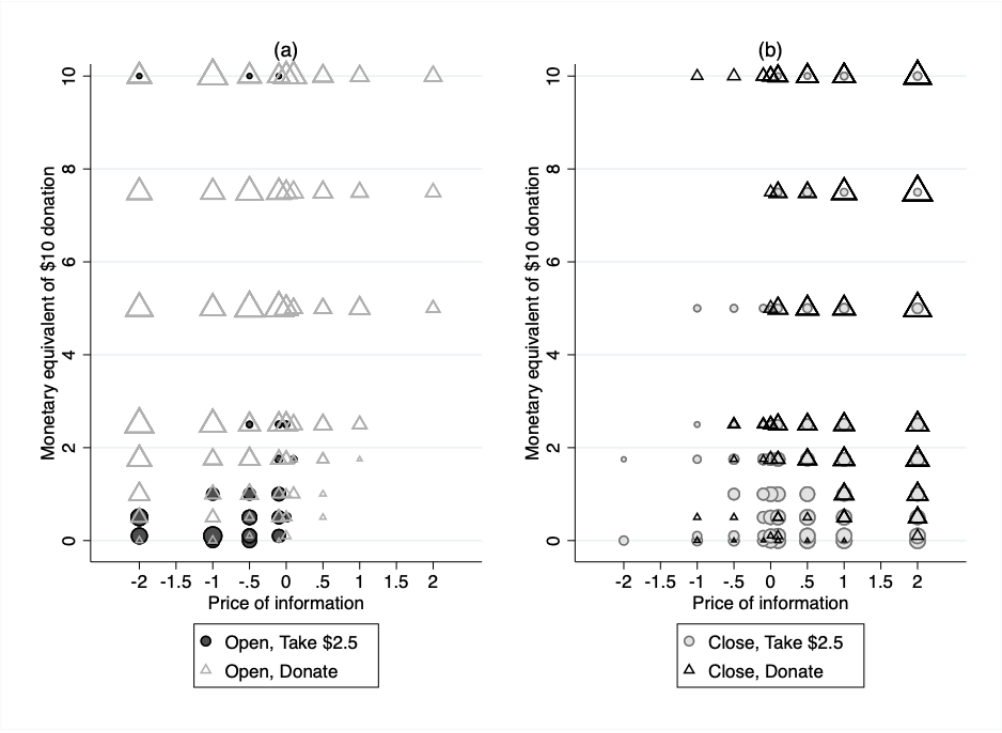


Figure D.3: Information Preferences and Donation Preferences in Experiment 1, KIT sample

D.4 The Effect of Social Norms on Donation Behavior

In Figure D.4 we show the distribution of willingness to donate in each treatment in Experiment 2. As reported in the main text, subjects exhibit higher willingness to donate in the NormAvoid and NormSeek treatments.

In Figure D.5 we show the likelihood that a donation is made in each treatment of Experiment 2. The likelihood of a donation stems from two decisions. First, the subject donates after opening the envelope and finding a donation inside. Second, the subject donates without opening the envelope.

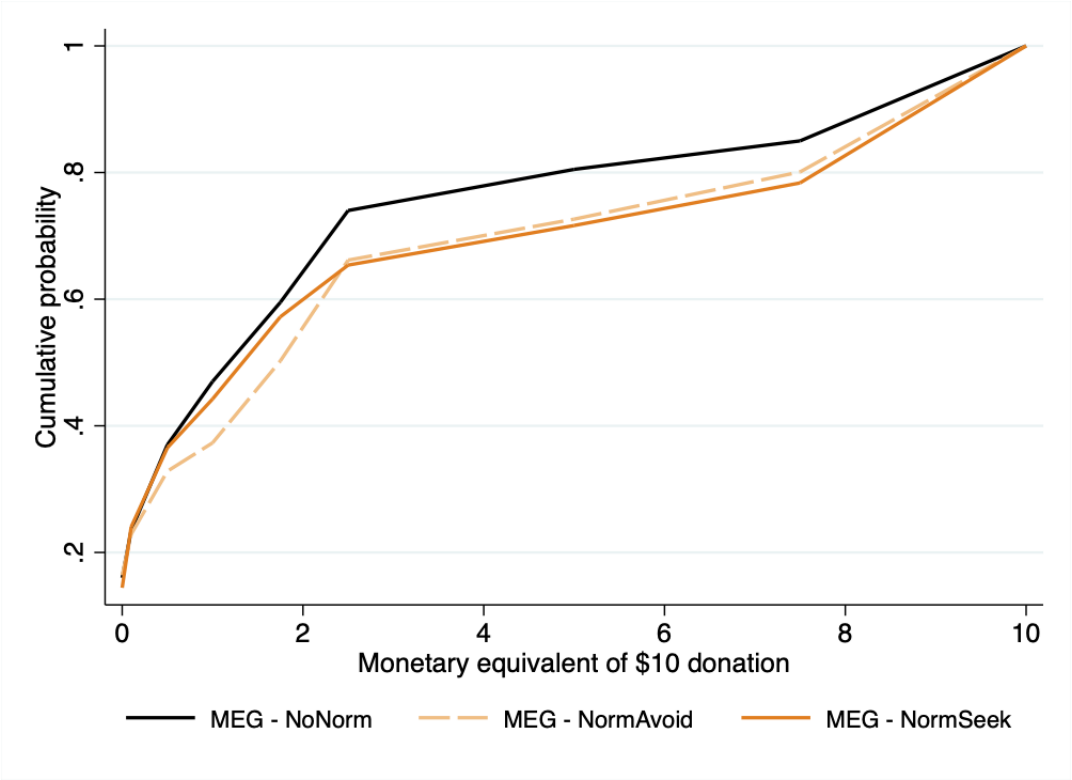


Figure D.4: Willingness to Donate, by Treatment, in Experiment 2

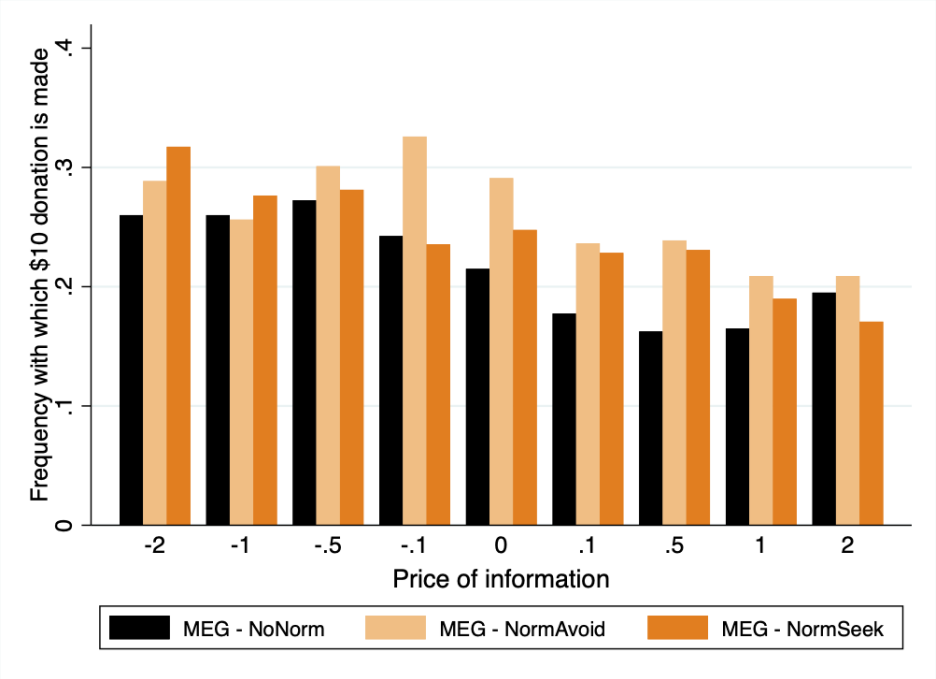


Figure D.5: Likelihood of a donation in Experiment 2

D.5 The Determinants of Information Demand in the MEG Treatment

In Table D.3, we examine the determinants of information preferences in the MEG treatment in Experiments 1 and 2. In addition to the subject's willingness to donate, one important preference is the subject's value of a \$10 donation that occurs only with a 50% chance. To measure how much the subject's value drops when uncertainty cannot be removed, we compare the monetary equivalent of a \$10 donation with certainty and the one with a 50% chance. If the equivalent with uncertainty is less than half of the equivalent with certainty, we classify the subject as risk averse (with respect to the donation). We do not observe that the change in the donation valuation when it is uncertain, relative to when it is certain, is related to information demand. Additional characteristics that could explain information decisions are the score on the Monitors-Blunters Scale and the Machiavellianism Scale as well as gender, age, and for AMT subjects their education. We find the Monitors-Blunters Scale is associated with ignorance for the AMT sample. By contrast, the Machiavellianism scale is negatively associated with ignorance, for the KIT sample, and in Experiment 2. We do not find evidence that individual socio-demographic characteristics explain information choices.

Table D.3: Determinants of Information Demand in the MEG treatment

	(1)	(2)	(3)	(4)	(5)	(6)
	Experiment 1					
	AMT sample		KIT sample		Experiment 2	
Monetary equivalent of $10 donation	0.1625***	0.1642***	0.1009***	0.1017***	0.1078***	0.1053***
	(0.0208)	(0.0212)	(0.0239)	(0.0239)	(0.0123)	(0.0125)
Risk averse	0.1168	0.0954	0.1265	0.1366	0.1602	0.1365
	(0.1485)	(0.1492)	(0.1725)	(0.1701)	(0.1058)	(0.1052)
Monitors-Blunters Scale Score		0.0279**		0.0078		0.0312***
		(0.0137)		(0.0194)		(0.0102)
Machiavellianism Scale Score		0.0320		-0.5039**		-0.2085**
		(0.1218)		(0.2318)		(0.1048)
Female		-0.0623		-0.2179		-0.1494
		(0.1204)		(0.1696)		(0.0928)
Age		0.0005		-0.0232		-0.0051
		(0.0056)		(0.0294)		(0.0039)
High school degree or higher		-0.0731				-0.1105
		(0.1184)				(0.0950)
NormAvoid treatment					-0.0557	-0.0493
					(0.1116)	(0.1110)
NormSeek treatment					0.0430	0.0535
					(0.1106)	(0.1100)
Constant	-0.7416***	-0.9289**	-0.0608	1.9628*	-0.4390***	0.3178
	(0.0715)	(0.4403)	(0.1270)	(1.0383)	(0.0887)	(0.3682)
Observations	294	294	135	134	609	609
R-squared	0.2014	0.2146	0.1389	0.1951	0.1257	0.1491

Notes: This table examines the determinants of willingness to pay for information in the MEG treatment. The dependent variable takes values from -2 to 2, depending on when the subject chooses to switch from obtaining information to not obtaining information. The monetary equivalent of a $10 donation is the subject's valuation of the donation. Risk averse is a dummy variable that takes a value of 1 if the subject values a donation opportunity with a 50% chance less than half of her monetary equivalent of a certain donation. Standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

D.6 Detailed Results on the Norm Elicitation

Table D.4 shows the ratings of moral appropriateness of each first-stage choice in the MEG for each price of avoidance. Panel A focuses on the choice to avoid and choose $2.50. Panel B focuses on the choice to avoid and donate by choosing the envelope. Panel C focuses on the choice to seek information by opening the envelope. Table D.5 shows the ratings of moral appropriateness of the decision whether to donate or not, knowing that the envelope contains a $10 donation (Panel A) or when uncertain about the envelope's content (Panel B).

Table D.4: Ratings of Moral Appropriateness of Each First-Stage Choice in MEG

	Moral Appropriateness Category Rating			
	Very morally inappropriate	Somewhat morally inappropriate	Somewhat morally appropriate	Very morally appropriate
Price of information	**Panel A. Choose $2.50**			
-$2	37.62	38.61	18.81	4.95
-$1	38.61	37.62	16.83	6.93
-$0.50	39.6	30.69	23.76	5.94
-$0.10	37.62	32.67	18.81	10.89
$0	35.64	30.69	24.75	8.91
$0.1	40.59	30.69	19.8	8.91
$0.5	37.62	34.65	19.8	7.92
$1	39.6	32.67	17.82	9.9
$2	42.57	31.68	17.82	7.92
Total	38.83	33.33	19.8	8.03
Price of information	**Panel B. Choose envelope**			
-$2	0.99	3.96	55.45	39.6
-$1	0	6.93	56.44	36.63
-$0.50	0	6.93	55.45	37.62
-$0.10	2.97	5.94	51.49	39.6
$0	1.98	7.92	47.52	42.57
$0.1	0	9.9	44.55	45.54
$0.5	2.97	6.93	48.51	41.58
$1	0	7.92	49.5	42.57
$2	0.99	9.9	40.59	48.51
Total	1.1	7.37	49.94	41.58
Price of information	**Panel C. Open envelope first**			
-$2	1.98	8.91	44.55	44.55
-$1	0.99	9.9	45.54	43.56
-$0.50	0.99	8.91	47.52	42.57
-$0.10	0.99	9.9	41.58	47.52
$0	1.98	5.94	46.53	45.54
$0.1	3.96	16.83	43.56	35.64
$0.5	2.97	9.9	56.44	30.69
$1	6.93	10.89	48.51	33.66
$2	7.92	12.87	45.54	33.66
Total	3.19	10.45	46.64	39.71

Table D.5: Moral Appropriateness of Donation Decisions With and Without Uncertainty

	Very morally inappropriate	Somewhat morally inappropriate	Somewhat morally appropriate	Very morally appropriate
Choice	**Panel A. Envelope contains $10 donation with certainty**			
Donate	2.97	18.81	26.73	51.49
Not donate	82.18	13.86	2.97	0.99
	Panel B. Envelope contains $10 donation with 50% chance			
Donate	5.94	27.72	35.64	30.69
Not donate	58.42	35.64	4.95	0.99

Table D.6 presents the results of a linear probability model on the evaluation of each informational choice in the MEG as morally appropriate. The regression models include an indicator variable for costly information, that is, when prices are strictly positive, to allow for a kink around $0. The regressions also include an interaction term between the indicator for costly information and the price of information, to allow for a different effect of price on moral appropriateness depending on whether information is costly. The moral appropriateness of demanding information does not vary significantly with the price of information but it exhibits a kink around a price of $0. If information is costly, demanding information is 8 percentage points less likely to be considered morally appropriate.[21]

In our pre-registration, we also planned to examine the relationship between moral views and desire to obtain information in the follow-up task, in which subjects had the opportunity to answer questions about the living conditions of cows. We find that 83% of subjects complete the video task (84 out of 101). Of these, 73% watch the video. We build an index measuring how often a subject considers it morally appropriate to take $2.50 without opening first (28% of the time), to take the envelope without opening it first (91% of the time), or to open the envelope first (86% of the time). We find that subjects who consider taking $2.50 to be more morally appropriate more often are less likely to watch the video, ρ=-0.20 (p=0.06). We find no significant correlation between the decision to watch the video and how often subjects consider it more morally appropriate to take the envelope or open the envelope first, ρ=-0.01 (p=0.88) and ρ=-0.0691 (p=0.53), respectively.

[21]This result provides a potential explanation for the drop in information demand when price increases from $0 to $0.10, documented in Experiment 1.

Table D.6: Moral Appropriateness of Moral Ignorance

	(1)	(2)	(3)
		Morally Appropriate	
Action:	Get $2.5	Demand Information	All
Price (of Information)	0.0454**	0.0088	0.0088
	(0.0182)	(0.0141)	(0.0141)
Costly Information	-0.0259	-0.0733**	-0.0733**
	(0.0243)	(0.0336)	(0.0337)
Costly Information X Price	-0.0601**	-0.0230	-0.0230
	(0.0300)	(0.0238)	(0.0238)
Get $2.5			-0.5915***
			(0.0495)
Price X Get $2.5			0.0366
			(0.0221)
Costly Information X Get $2.5			0.0474
			(0.0452)
Costly Information X Price X Get $2.5			-0.0371
			(0.0365)
Constant	0.3139***	0.9054***	0.9054***
	(0.0444)	(0.0235)	(0.0235)
Observations	909	909	1,818
R-squared	0.0033	0.0139	0.3543
Nr. of subjects	101	101	101

Notes: This table examines the impact of price on the likelihood that getting $2.50 (private payment) and demanding information is considered very or somewhat morally appropriate, using linear probability models. The dependent variable takes a value of 1 if the subject considers getting $2.50 (private payment) or demanding information very morally appropriate or somewhat morally appropriate. Robust clustered standard errors are shown in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

D.7 Additional Norms Experiment

In a pilot experiment, subjects receive two alternative norm messages. The first new treatment is AllSeek, which presented a message indicating that 100% of a group of 50 subjects previously considered it morally appropriate to open the envelope. The second new treatment is Norm90, which presented a message indicating that more than 90% of subjects considered it morally appropriate to open the envelope when the price of information is $0. The first new treatment is truthful when focusing on a subsample. The second new treatment is truthful information for the price point of zero. Since these treatments were run after Experiment 2, we again collected observations for the NoNorm treatment and the NormSeek treatment. Figure D.6 shows that behavior in these new treatments was qualitatively similar. In Table D.7 we further present average willingness to pay for information in each treatment and

the willingness to donate of subjects. As can be seen, the effects of norms messages are small (a bit larger in Norm90). There is an increase in willingness to donate, consistent with the findings in Experiment 2.

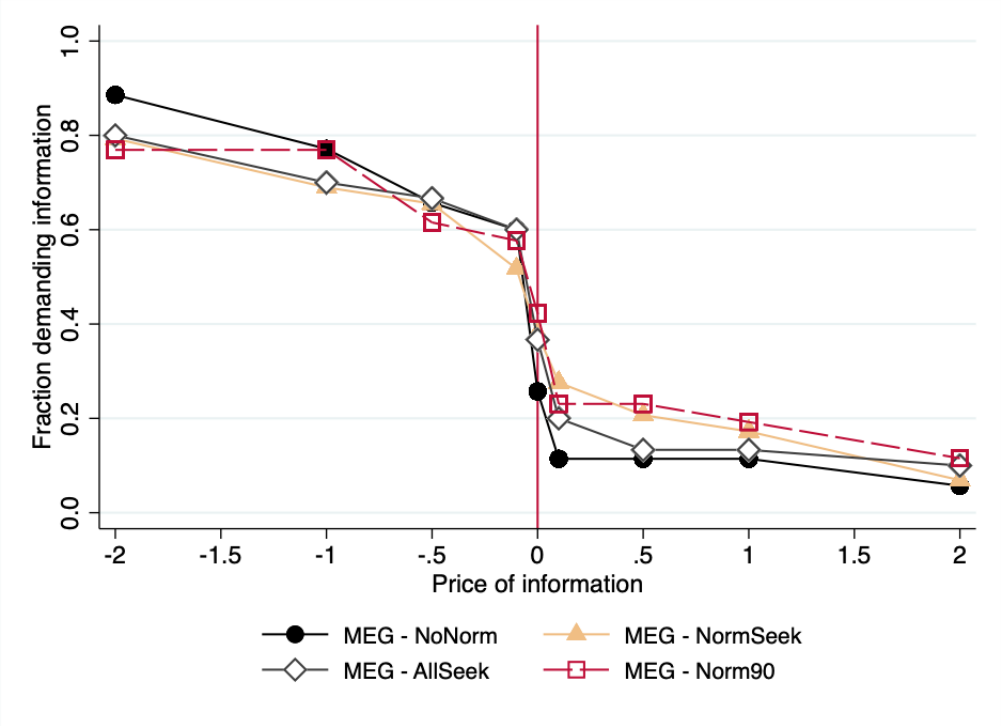


Figure D.6: Information Demand in Additional Norms Experiment

Table D.7: Summary Results for Additional Norms Experiment

Treatment		(1) Willingness to pay for information	(2) Monetary equivalent of $10 donation
Donation-NoNorm	Mean	-0.31	1.61
	N	35	35
NormSeek	Mean	-0.30	2.73
	N	29	29
Donation-AllSeek	Mean	-0.33	2.21
	N	30	30
Donation-Norm90	Mean	-0.21	2.37
	N	26	26

D.8 Distribution of Information Choices in Experiments 1 and 2, including Inconsistent Subjects

Tables D.8 and D.9 below present the distribution of choices in Experiments 1 and 2 including inconsistent subjects, on the AMT sample. There were 400 subjects in the MEG treatment, and 200 in Self-5 and Self-10 each. There were 300 subjects in the MEG-NoNorm treatment, 299 in the NormAvoid treatment and 312 subjects in the NormSeek treatment in Experiment 2. Following the preregistration, we exclude inconsistent ones in the main analysis. However, results are qualitatively similar including all subjects.

Table D.8: Distribution of Choices in Experiment 1, including Inconsistent Subjects

Cost of avoidance		Treatment MEG	Self $5	Self $10
$2	Choose $2.5	16.0%	11.0%	6.0%
	Choose envelope	3.8%	6.5%	4.0%
	Open envelope	80.3%	82.5%	90.0%
$1	Choose $2.5	29.3%	23.5%	14.5%
	Choose envelope	5.3%	5.5%	5.0%
	Open envelope	65.5%	71.0%	80.5%
$0.50	Choose $2.5	37.8%	26.5%	18.0%
	Choose envelope	8.0%	7.0%	6.5%
	Open envelope	54.3%	66.5%	75.5%
$0.10	Choose $2.5	44.5%	28.0%	20.0%
	Choose envelope	7.5%	7.5%	8.0%
	Open envelope	48.0%	64.5%	72.0%
$0	Choose $2.5	57.8%	27.5%	17.5%
	Choose envelope	9.5%	11.0%	13.0%
	Open envelope	32.8%	61.5%	69.5%
-$0.10	Choose $2.5	65.5%	39.0%	22.5%
	Choose envelope	14.0%	7.5%	14.0%
	Open envelope	20.5%	53.5%	63.5%
$-0.50	Choose $2.5	70.8%	41.0%	25.5%
	Choose envelope	13.8%	14.0%	13.0%
	Open envelope	15.5%	45.0%	61.5%
-$1	Choose $2.5	69.3%	58.5%	33.0%
	Choose envelope	18.3%	12.5%	19.5%
	Open envelope	12.5%	29.0%	47.5%
-$2	Choose $2.5	71.8%	70.5%	42.0%
	Choose envelope	20.0%	17.5%	26.5%
	Open envelope	8.3%	12.0%	31.5%

Table D.9: Distribution of Choices in Experiment 2, including Inconsistent Subjects

Cost of avoidance		Treatment NoNorm	NormAvoid	NormSeek
$2	Choose $2.5	9.7%	17.1%	12.8%
	Choose envelope	6.3%	6.7%	7.4%
	Open envelope	84.0%	76.3%	79.8%
$1	Choose $2.5	20.3%	20.7%	19.6%
	Choose envelope	10.0%	7.7%	11.2%
	Open envelope	69.7%	71.6%	69.2%
$0.50	Choose $2.5	25.3%	24.4%	24.7%
	Choose envelope	9.0%	12.4%	10.3%
	Open envelope	65.7%	63.2%	65.1%
$0.10	Choose $2.5	31.7%	29.8%	29.8%
	Choose envelope	11.0%	13.0%	13.1%
	Open envelope	57.3%	57.2%	57.1%
$0	Choose $2.5	45.0%	40.5%	41.3%
	Choose envelope	11.3%	12.7%	12.2%
	Open envelope	43.7%	46.8%	46.5%
-$0.10	Choose $2.5	54.0%	48.8%	49.7%
	Choose envelope	19.3%	20.1%	19.2%
	Open envelope	26.7%	31.1%	31.1%
$-0.50	Choose $2.5	57.3%	48.8%	47.1%
	Choose envelope	21.0%	24.1%	23.7%
	Open envelope	21.7%	27.1%	29.2%
-$1	Choose $2.5	57.7%	54.2%	53.2%
	Choose envelope	27.7%	26.4%	25.3%
	Open envelope	14.7%	19.4%	21.5%
-$2	Choose $2.5	60.7%	54.8%	56.7%
	Choose envelope	29.7%	29.1%	27.6%
	Open envelope	9.7%	16.1%	15.7%

E Structural Estimation

We structurally estimate the parameters of our theoretical model, using the experimental decisions in Experiment 1 and Experiment 2. As in our model, we assume individuals have CRRA utility with risk-aversion parameter r, such that $u(x) = x^r$. When individuals donate, they value the donation with α. When they choose the selfish option, knowing the envelope contains a certain donation, they suffer from the (additional) moral cost β. Because the decision structure of individuals involves two steps, we estimate a nested logit model with three branches (for details, see, e.g., Cameron and Trivedi, 2005, Ch. 12.6.2). Two branches are degenerate. First, if the individual decides to take the selfish payment of \$2.50 without opening, we denote the utility by $V^{c,0}$. Second, if she takes the envelope without opening it, we denote the utility as $V^{c,1}$.

The third branch is the choice to open the envelope. Then, knowing whether the envelope is full or empty, the individual decides whether to take the envelope. To specify the likelihood, denote the decision to take the envelope as $d \in \{0, 1\}$. The utility of d, conditional on opening, is $V^{d,f}$, where f indicates whether the envelope is full or empty. The likelihood of opening and taking the envelope is

$$p_{o,d} = p_o \times p_{d|o} = \frac{\exp(\rho I^o)}{\exp(\rho I^o) + \exp(V^{c,1}) + \exp(V^{c,0})} \times \frac{\exp(V^{d,f}/\rho)}{\sum_d \sum_f \exp(V^{d,f}/\rho)},$$

where $I^o = \ln(\sum_d \sum_f \exp(V^{d,f}/\rho))$, which is known as the inclusive value. The likelihood of leaving the envelope closed and taking it is

$$p_{c,1} = \frac{\exp(V^{c,1})}{\exp(\rho I^o) + \exp(V^{c,1}) + \exp(V^{c,0})},$$

and the likelihood of leaving the envelope closed and taking the \$2.50 payment is:

$$p_{c,0} = \frac{\exp(V^{c,0})}{\exp(\rho I^o) + \exp(V^{c,1}) + \exp(V^{c,0})}.$$

In all estimations, we include the payoff of the decision or resulting donation as well as the individual's show-up fee. This approach avoids negative payoffs in the rare cases where the individual opens the envelope and chooses the empty envelope.

The estimation of the nested logit includes an additional parameter, ρ, which is a function of the correlation between the error term in the decisions in the first stage (whether to open or not the envelope) and the error term in the decisions in the

second stage (donation, conditional on opening). Because ρ enters multiplicatively in the utility of choosing between the envelope (with a donation or not) and the outside payment of \$2.50, it cannot be separately identified from a Fechner error (see, e.g., von Gaudecker et al., 2011). Hence, we do not explicitly add Fechner errors to the model, and interpret ρ with care. The estimated ρ (and standard deviation) is 0.63 (0.06) in Experiment 1 and 0.69 (0.06) in Experiment 2. In the individual-level estimation of β we set $\rho = 1$ to facilitate the estimation procedure.

Table E.1: Individual-Level Estimated α and β

	Treatment		
Parameter	NoNorm	NormAvoid	NormSeek
Estimated altruism (α)			
Mean	0.294	0.373	0.335
25th percentile	0.022	0.022	0.022
Median	0.140	0.205	0.140
75th percentile	0.442	0.667	0.667
Estimated moral discounting (β)			
Mean	0.701	0.696	0.721
25th percentile	0.600	0.000	0.600
Median	1.000	1.000	1.000
75th percentile	1.000	1.000	1.000
N	160	158	163

To further examine the coherence of the estimated risk-aversion parameters in the Self treatments, we also estimated the implied CRRA parameters from the control measures, elicited through simple binary decisions, after the main part of the experiment. The estimated CRRA parameter from those decisions in the Self-10 treatment is 0.77 (sd=0.02), and that in the Self-5 treatment is 1.02 (sd=0.02). Hence, these parameters are closely in line with those estimated from the decisions in the main part of the experiment.

Finally, we note that we have explored the results of structural estimation when including all subjects as well as those who were inconsistent in their decisions. We find the results remain qualitatively similar and that the effects on social-norm information are strengthened (leading again to an increase in the altruism parameter and an increase in moral costs, measured as smaller β).

F Pre-registration Materials

ASPREDICTED CONFIDENTIAL - FOR PEER-REVIEW ONLY

WTP Avoidance - Study 1 (#9913)

Created: 04/16/2018 09:37 AM (PT)
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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
We aim to measure individual preferences for information in morally relevant settings. Specifically, we study an environment in which a subject chooses between a payment for herself versus a donation to fight Malaria. The donation is initially uncertain and only takes place with 50% probability. We investigate subjects' preferences to resolve the uncertainty. Our main hypothesis is that a significant fraction of subjects foregoes money in order to keep the donation uncertain.

3) Describe the key dependent variable(s) specifying how they will be measured.
The key dependent variable is individual's monetary value (willingness to pay) associated with keeping or resolving the uncertainty about the donation.

4) How many and which conditions will participants be assigned to?
Participants will be assigned to one of two conditions.
(a) Main: First, we elicit subjects' willingness to pay to keep/resolve the uncertainty about the donation.
(b) Benchmark: We substitute the decision to resolve uncertainty about the donation with a decision to resolve uncertainty about money for the subject. This morally neutral context serves as a benchmark for information preferences. In the Benchmark treatment, we will study information demand when the individual resolves uncertainty about a potential $5 payment. The goal is to illustrate that in a morally neutral counterpart context, subjects show a willingness to pay for information. In order to achieve a tighter comparison between the willingness to pay to avoid information in a morally relevant context (Main treatment) and the willingness to pay to obtain information in a morally neutral situation, more values other than the $5 amount in Benchmark may become necessary.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
For each treatment, we will test whether subjects forego money (willingness to pay) in order to keep the donation or their own payment uncertain.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will exclude participants who provide inconsistent answers in the elicitation of willingness to pay to resolve uncertainty, as well as the elicitation of preferences to donate under certainty and uncertainty.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We aim at collecting 400 observations for the Main treatment, and 200 for the Benchmark treatment, using Amazon Mechanical Turk participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
In the Main treatment, we will examine the relationship between willingness to pay to resolve uncertainty to (a) individual preferences for giving under certainty and uncertainty, (b) individual characteristics (gender, income, age, educational level), and (c) two personality scales related to information avoidance and moral behavior (Miller Behavioral Style Scale as in Miller (1987) and Mach IV inventory by Christie and Geis (1970)). We will perform a subsample analysis depending on whether an individual is above or below the median on these two scales.

We will further examine the external validity of our measure of willingness to pay to resolve uncertainty, by observing information demand of each subject in a different context one week after the experiment takes place. We will correlate information demand in this separate task to information demand about a donation decision in the Main treatment.

Verify authenticity:http://aspredicted.org/blind.php?x=2fr2ay

Version of AsPredicted Questions: 2.00

Wharton University of Pennsylvania CREDIBILITY LAB

WTP Avoidance - Norms Study (#12261)

Created: 06/27/2018 01:15 PM (PT)
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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
We aim to measure the influence of information about social norms on individual preferences for information in morally relevant settings. Specifically, we study an environment in which a subject chooses between a payment for herself versus a donation to fight Malaria. The donation is initially uncertain and only takes place with 50% probability. Our main hypothesis is that willingness to pay for information avoidance decreases significantly if individuals are presented information on social norms.

3) Describe the key dependent variable(s) specifying how they will be measured.
The key dependent variable is individual's willingness to pay to keep or resolve the uncertainty about the donation.

4) How many and which conditions will participants be assigned to?
Participants will be assigned to one of four conditions.
(a) Main: We elicit subjects' willingness to pay to keep/resolve the uncertainty about the donation.
(b) Norms: Subjects indicate what behavior in Main they think participants consider morally appropriate/inappropriate on a Likert scale. Subjects are monetarily incentivized to find what the overall norm is in the population of interest (à la Krupka and Weber, 2013).
(c) Information1: We equip subjects with information from the Norms treatment. Specifically, before they decide, individuals are informed that more than xx% of participants asked consider it morally inappropriate to take the money for oneself before resolving the uncertainty about the donation.
(d) Information2: We equip subjects with information from the Norms treatment. Specifically, before they decide, individuals are informed that more than xx% of participants asked consider it morally appropriate to first resolve the uncertainty about the donation.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
We will compare WTP for information avoidance in Main versus Information1 and Information2. Further, we will study whether the information treatments affect willingness to donate. Moreover, a comparison of these measures in Information1 and Information2 will be conducted to explore which intervention has a stronger impact on behavior.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We will exclude participants who provide inconsistent answers in the elicitation of willingness to pay to resolve uncertainty, as well as the elicitation of preferences to donate under certainty and uncertainty.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
We will collect 300 observations for Main, Information1 and Information2. We will collect 100 observations for Norms.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
For treatments Main, Information1 and Information2, we will examine the relationship between willingness to pay to resolve uncertainty to (i) individual preferences for giving under certainty and uncertainty, (ii) individual characteristics (gender, age, educational level), and (iii) two personality scales related to information avoidance and moral behavior (Miller Behavioral Style Scale as in Miller (1987) and Mach IV inventory by Christie and Geis (1970)). We will perform a subsample analysis depending on whether an individual is above or below the median on these two scales. For treatment Norms, we relate the according norm choices to (i), (ii), and (iii) in the analogous way.

We will further examine the external validity of our measure of willingness to pay to resolve uncertainty, by observing information demand of each subject in a different context one week after the experiment takes place. We will correlate information demand in this separate task to information preferences (for the treatment Norms on norms estimated) in the treatments.