Discussion Paper Series – CRC TR 224

Discussion Paper No. 340
Project B 05

Selective Exposure Reduces Voluntary Contributions: Experimental Evidence From the German Internet Panel

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March 2022

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Funding by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) through CRC TR 224 is gratefully acknowledged.

Selective Exposure Reduces Voluntary Contributions: Experimental Evidence from the German Internet Panel*

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February 21, 2022

Abstract

Can strategic information acquisition harm the provision of a public good? We investigate this question in an incentivized online experiment with a large and heterogeneous sample of the German population. The marginal returns of the public good are uncertain: it is either socially efficient to contribute or not. In the information treatment, participants can choose between two information sources with opposing biases. One source is more likely to report low marginal returns, whereas the other is more likely to report high marginal returns. Most participants select the source biased towards low marginal returns, independent of their prior beliefs. As a result, the information treatment significantly reduces contributions and increases free-riding. When contributing is socially efficient, the information treatment reduces social welfare by up to 5.3%. Moreover, social preferences affect information acquisition: socially-oriented participants are more likely to acquire information and to select the source that is biased towards low marginal returns. We corroborate our findings by showing that participants' behavior in our experiment is consistent with their attitudes towards actual public goods.

Keywords: Experiment, Information Avoidance, Limited Attention, Media Bias, Media Pluralism, Public Good, Selective Exposure, German Internet Panel.

JEL Classification: D12, D61, D83, H41

*We are grateful to Hans Peter Grüner for his encouragement and support. We thank Duk Gyoo Kim and Wladislaw Mill as well as seminar participants in Mannheim for their helpful comments. We are grateful to the GIP team for their collaboration in conducting the experiment. Federico Innocenti gratefully acknowledges funding by the German Research Foundation (DFG) through CRC TR 224 (Project B05). Linnéa Marie Rohde gratefully acknowledges funding by the German Research Foundation (DFG) through SFB 884 (Project A7).

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1 Introduction

In today's information-rich world, with many different sources of information available, individuals are unable to pay attention to all information. Therefore, each individual has to constantly select which sources are worthy of attention. Moreover, misleading or false information spreads easily on the Internet and especially on social media (Lazer et al., 2018). The fact that individuals selectively expose themselves to information that is not necessarily true, but confirms their own beliefs or aligns with their preferences, leads to the formation of echo chambers, which has been well established in the empirical literature (Del Vicario et al., 2016).

The consequences of selective exposure, however, depend on how the information obtained affects actions. On the one hand, if the information an individual receives affects only her own, private actions and individual outcomes, her selective exposure can only affect her well-being. On the other hand, if the individual engages in *collective* action, then the information she obtains and the way she reacts to this information will affect the collective outcome of all individuals involved as well as overall welfare. An important area of collective action where information might play a crucial role is the provision of public goods. Often the exact returns of the public good are uncertain in advance, which can lead to under-provision of the public good (Levati et al., 2009). At first glance, providing more information about the returns of the public good could mitigate the problem of under-provision. If however different information sources have opposing claims about the returns of the public good, and individuals strategically select the source which supports their selfish interests, they can use the information to justify lower contributions. Then, information provision backfires and, contrary to expectations, further reduces the provision of the public good.

Environmental protection and COVID-19 containment are two salient examples of public goods with uncertain returns, where information acquisition plays a crucial role. First, climate change denial is a well documented phenomenon (Björnberg et al., 2017). On the one side, science denial campaigns by politicians like Donald Trump have a negative impact on climate change awareness, whereas on the other side environmental activism of groups like Fridays for Future have a positive impact (Baiardi and Morana, 2020). Second, social distancing, tests, and vaccinations can be interpreted as contributions to the public good of COVID-19 containment. However, the returns to these containment measures were initially uncertain since it was not yet clear how the pandemic would evolve. Misleading and false information about the virus and the containment measures spread quickly - causing the World Health Organization to declare an "infodemic" in February 2020 (World Health Organization, 2020; Cinelli et al., 2020).

In this paper, we answer the following research question: What is the effect of strategic information acquisition on the level and efficiency of voluntary contributions to a public good, and on social welfare? To this end, we investigate how participants acquire information when facing unreliable, biased information sources. Specifically, we analyze how social preferences affect strategic information acquisition.

In our experiment, we implement a one-shot Voluntary Contribution Mechanism where the marginal returns of the public good are uncertain. There are two states of the world: If the marginal returns are high, it is socially efficient to contribute to the public good, whereas if they are low, it is socially inefficient. We employ two main treatments. In the *no info* treatment, there is no further information available such that participants make their contribution decision based on their prior beliefs. In the *info* treatment, participants have the opportunity to acquire one unit of costless information about the returns of the public good from two unreliable sources with opposing biases. The high-biased source is biased towards claiming that the returns of the public good are high, whereas the low-biased source is biased towards claiming that the returns of the public good are low. In particular, in a non-preferred state, a source will not necessarily reveal the truth, but might instead claim the preferred state. Within each treatment, we experimentally vary the prior beliefs about the state of the world.

When participants behave rationally and do not exhibit any social preferences, the equilibrium contribution to the public good in this game is zero – independent of beliefs. Then, information acquisition does not change the optimal level of contribution, such that an individual is indifferent towards all information as long as it is costless. However, if social preferences play a role, information might matter. On the one hand, an individual purely interested in maximizing efficiency aims to match her action to the state of the world and hence aims to find out the true state. To this end, the direction of optimal information acquisition should depend on prior beliefs (Che and Mierendorff, 2019). Our experimental design allows us to test how prior beliefs affect information acquisition. On the other hand, it has been established - especially in the literature on Dictator games - that participants strategically avoid information that compels them to be more generous (Dana et al., 2007), or strategically seek information that justifies less generous behavior (Spiekermann and Weiss, 2016). To gain insight into whether participants are selfish or socially oriented, we elicit the motives behind the contribution decision in a post-experimental question. Thus, we can investigate how social preferences affect information acquisition.

We conduct our experiment on the German Internet Panel (GIP), which is a long-term online study based on a random probability sample of the general population in Germany. The GIP reaches more than 4,000 participants and regularly asks them about a multitude of political topics as well as socio-demographic variables. Embedding our experiment in the GIP allows us to complement the results from our experiment with available GIP data so that we can investigate whether the social preferences revealed in our experiment are indicative of actual public good contributions. We use the two examples of public goods with uncertain returns introduced in the beginning, and analyze whether the information acquisition and contribution behavior in the experiment are correlated with the willingness to contribute to environmental protection and COVID-19 containment.

The results from our experiment yield several insights. Most participants in the *info* treatment choose to acquire information, but a sizeable share of 13% does not acquire any information. Among the participants who acquire information, a majority of 65% selects the low-biased source, with no significant differences between prior beliefs. The selective choice of this source causes the beliefs of most participants to decline. As a result, the *info* treatment significantly reduces average contributions compared to the *no info* treatment. The share of participants who free-ride increases significantly in the *info* treatment, whereas the share of participants who contribute their entire endowment decreases. In terms of efficiency, the treatment effect is positive only for those groups where the public good has low marginal returns, i.e. where it is indeed socially efficient to contribute zero. In that case, the increase in efficiency implies an increase in social welfare by up to 12.4%. However for those groups where the public good has high marginal returns, i.e. where it is socially efficient to contribute, the effect of the *info* treatment on the efficiency of contributions is negative. In that case, the reduction in efficiency implies a reduction in social welfare by up to 5.3%.

Furthermore, we find that those participants who indicate that they are interested in maximizing the payoff of their entire group are more likely to acquire information than participants with other motives. Among the participants who acquire information, those who indicate that they are interested in maximizing their own payoff are more likely to acquire information from the high-biased source than those interested in maximizing the payoff of their entire group. This result is consistent with the findings from the literature on self-image concerns and self-serving biases (in particular Spiekermann and Weiss, 2016; Grossman and van der Weele, 2016). If a relatively selfish individual still feels compelled to contribute as long as there is a positive probability that the returns of the public good are high, acquiring information from the high-biased source is attractive: If the source claims high marginal returns, the obligation to contribute is unchanged, but if the source reveals low marginal returns with certainty, it allows the individual to contribute less.[1]

We find robust evidence that the level of contributions in our experiment is correlated with the willingness to voluntarily contribute to environmental protection and COVID-19 containment. Moreover, we find that those who acquire information that is biased towards high marginal returns display a lower willingness to contribute to environmental protection than those who acquire information that is biased towards low marginal returns. This is coherent with our finding that more selfish participants acquire information that is biased towards high marginal returns.

Finally, we rationalize the results from our experiment in a theoretical model: An individual has an incentive to choose the low-biased source if she has social preferences (or, equivalently, has a preference for efficiency) and self-image concerns. In particular, each individual has a reference point for contributions she aims to match, which can be interpreted as the social obligation to contribute. We show that, if the social obligation to contribute increases when an individual becomes certain that the marginal returns of the public good are high, she acquires information from the low-biased source. Indeed, this source communicates that the marginal returns are high only if this is true. For a similar reason, an individual acquires information from the high-biased source if the social obligation to contribute decreases when the individual becomes certain that the marginal returns of the public good are low. This model connects two of our findings: the majority of participants have social preferences, but contributions are lower in the information treatment. The majority of participants in our experiment would like to find out that the public good has high marginal returns (i.e., it is efficient to provide it). However, to this end, they have to acquire information from the low-biased source, which in expectation reduces posterior beliefs. Overall, this reduces the amount of contributions and harms efficiency.

[1] Note that this behavior can be interpreted in the sense of a confirmation bias: The individual is actively seeking information that confirms that her preferred contribution level is socially desirable. Thus, a selfish individual seeks information that reveals that marginal returns are low with certainty, while a socially oriented individual seeks information that reveals that marginal returns are high with certainty.

2 Literature Review

Public Goods With Uncertainty

There exists a growing literature on environmental uncertainty in public good games. In contrast to strategic uncertainty, which arises endogenously because of imperfect information about the other participants' behavior, environmental uncertainty arises for instance if the marginal returns of the public good are uncertain (Levati et al., 2009; Levati and Morone, 2013; Björk et al., 2016). Their findings can be summarized as follows: Consider a standard linear public good game with risky marginal returns, where the expected marginal per capita return (MPCR) equals the MPCR in the control group game with certain marginal returns. If the risky MPCR is calibrated such that full contributions are socially efficient even for the lowest possible realization of the MPCR, the average unconditional contributions are largely unaffected (Levati and Morone, 2013; Björk et al., 2016). If however the risky returns are calibrated such that full contributions are not socially efficient for at least one of the possible realizations of the MPCR, the average unconditional contributions are significantly lower than in the game with certain marginal returns and there occurs significantly more full free-riding (Levati et al., 2009). The same pattern can be found if the stochastic returns are heterogeneous among the participants (Théroude and Zylbersztejn, 2020; Colasante et al., 2020), or if the participants observe different signals about the true value of the risky MPCR (Butera and List, 2017). Fischbacher et al. (2014) find that, in a game with heterogeneous returns, uncertainty about the own MPCR significantly lowers average *conditional* contributions.

A different approach considers a public good with a known MPCR which is provided only with a certain probability $p < 1$, independent of the aggregate contributions. In this case, full contributions are not socially efficient with probability $1-p$. In this setting, average contributions are significantly lower compared to a game with a certain provision of the public good (Dickinson, 1998; Gangadharan and Nemes, 2009). In particular, Gangadharan and Nemes (2009) find that allowing the participants to make a costly investment to reduce the uncertainty enhances cooperation.

We contribute to this literature by allowing for different priors about the risky MPCR and by adding the possibility to acquire (unreliable) information about the MPCR.

Strategic Information Acquisition

The idea that participants exploit a "moral wiggle room" by remaining ignorant about the consequences of their actions to justify selfish behavior was first established by Dana et al. (2007) in a dictator game. Strategic information avoidance and strategic information acquisition have been studied extensively in the dictator game context, providing different explanations for such behavior. If individuals are concerned about their self-image as an altruistic person, they face a trade-off between taking a costly pro-social action and being revealed as selfish. Therefore they reveal a perfectly informative signal only when they are sufficiently altruistic (Grossman and van der Weele, 2016). When facing a noisy signal, selfish individuals strategically seek information that validates the innocuousness of their selfishness (Chen and Heese, 2019). If individuals are duty-oriented but perceive moral responsibility as a burden, information that reveals that the socially optimal action is higher than expected is harmful and will be avoided (Nyborg, 2011). If participants feel compelled to perform an action implied by a norm, but use their participative beliefs to interpret these normative obligations, they can strategically acquire information to manipulate their beliefs to reduce the participative normative pressure (Spiekermann and Weiss, 2016).

Only a few papers study strategic information avoidance and strategic information acquisition in a public good setting. Aksoy and Krasteva (2020) conduct a public good game in which participants facing uncertain returns are *exogenously* uninformed about the true MPCR. They find that participants react differently to the information depending on their general level of generosity and depending on whether they receive "good news" or "bad news", i.e. whether the true MPCR is above or below the expected MPCR. Momsen and Ohndorf (2019, 2020) study endogenous information acquisition in a framed experiment with repeated carbon-offset purchasing decisions, where the externalities are uncertain. When the signal about the externalities is perfectly informative, participants strategically avoid this information only when it is costly, but not when it is costless. This result is consistent with the explanation that individuals use information costs as a situational excuse to avoid information that would prohibit them from selfish behavior. Moreover, participants avoid information more frequently if the externality is negative and affects other participants rather than the purchase of carbon offsets (Momsen and Ohndorf, 2020). In the same framing, Momsen and Ohndorf (2019) introduce stochastic, potentially unreliable information revelation. They also introduce two information sources to allow for selective exposure, where participants are allowed to acquire one signal from each source. In this case, they find evidence for information avoidance but not for selective exposure. Our experiment differs in several dimensions from Momsen and Ohndorf (2019). First, we study an unframed setting that allows us to investigate how underlying social preferences affect information acquisition and contribution behavior without an associated context. Second, in their setting, rational individuals have a preference to acquire all available information, while in our setting, rational (selfish) individuals are indifferent towards information acquisition. Therefore, information avoidance arises as a consequence of cognitive dissonance in their setting, but is a rational action in our setting. Third, while we employ a similar information revelation process, we allow participants to acquire only one signal. Thus, we can observe preferences for different types of information. Fourth, we test whether selective exposure depends on prior beliefs.

3 Experimental Design

We study a Voluntary Contribution Mechanism (VCM) in which the marginal per-capita return (MPCR) is stochastic. Participants interact in groups of $n = 4$. They receive an endowment e of which they can invest some amount $0 \leq g_i \leq e$ in Project A, which is the public account. The remaining amount $e - g_i$ is automatically invested in Project B, the private account. The VCM is played only for one round, i.e. participants make exactly one contribution decision. Let ω denote the MPCR of the public good, which is the same for all group members. Then the payoff of individual i is given by

$$\pi_i = e - g_i + \omega \sum_{j=1}^{4} g_j \tag{1}$$

such that, if $\omega \in (\frac{1}{4}, 1)$, it is socially efficient to contribute the entire endowment to the public good, but individually rational to contribute nothing. With a prior probability of μ, the MPCR is high, ω_h, and with a prior probability of $1 - \mu$, the MPCR is low, ω_l. We use a value of $\omega_h = 0.5$ for the high MPCR and a value of $\omega_l = 0.1$ for the low MPCR. Thus, the high MPCR ω_h creates a social dilemma situation, because it is socially efficient to contribute but not individually rational, while for the low MPCR ω_l, it is socially efficient not to contribute to the public good and there is no social dilemma situation. Therefore, selfish and social interests are aligned if the MPCR is low, but they diverge if the MPCR is high. To study the effect of priors, we consider three different prior probabilities $\mu \in \{0.25, 0.5, 0.75\}$. For a risk-neutral individual who makes her contribution decision according to the expected MPCR, full contributions are socially efficient when $\mu = 0.5$ or $\mu = 0.75$, but not when $\mu = 0.25$.

We have two main treatments: *no info* and *info*. In the *no info* treatment, which is our control group, participants do not have the opportunity to acquire further information about the payoff of the group project. They are informed about the prior probability of the high MPCR and then immediately make their contribution decision. In the *info* treatment, participants have the opportunity to reveal one unit of – potentially unreliable – information about the MPCR before making their contribution decision: They face two information sources with opposing bias, S_H and S_L, which send one of the two possible signals *high* or *low*. For this information revelation process, we follow Che and Mierendorff (2019). The *H-biased source*, S_H, is biased towards sending the signal that the MPCR is high: If the true MCPR is ω_h, the S_H source always sends the signal $\sigma_H = high$. If however the true MPCR is ω_l, the S_H source sends the signal $\sigma_H = low$ only with probability λ. With probability $1-\lambda$, it also sends the signal $\sigma_H = high$. Analogously, the *L-biased source*, S_L, is biased towards sending the signal that the MPCR is low: If the true MCPR is ω_l, the S_L source always sends the signal $\sigma_L = low$. If however the true MPCR is ω_h, the S_L source sends the signal $\sigma_L = high$ only with probability λ. With probability $1 - \lambda$, it also sends the signal $\sigma_L = low$. The probability $\lambda \in (0, 1)$ is the probability that a source reveals a non-preferred state and can be interpreted as the probability of receiving breakthrough-news (Che and Mierendorff, 2019). In our experiment, we use a value of $\lambda = 0.5$. Participants can acquire exactly one unit of information from one of the two sources, or decide not to acquire any further information about the MPCR. In the experiment, the information is costless.

If the participant acquires a signal from the S_H source and receives the signal $\sigma_H = low$ (i.e. breakthrough news), she updates her belief to $\mu'_H = Pr(\omega = \omega_h | \sigma_H = low) = 0$. If she receives the signal $\sigma_H = high$, she updates her belief to

$$\mu'_H = Pr(\omega = \omega_h | \sigma_H = high) = \frac{\mu}{\mu + (1 - \mu)(1 - \lambda)}$$

with $\mu'_H > \mu$ for all $\mu \in (0, 1)$. Using $\lambda = 0.5$, the posterior belief simplifies to $\mu'_H = \frac{2\mu}{1+\mu}$.

Analogously, when she acquires a signal from the S_L source and receives the signal $\sigma_L = high$ (i.e. breakthrough news), she updates her belief to $\mu'_L = Pr(\omega = \omega_h | \sigma_L = high) = 1$. If she receives the signal $\sigma_L = low$, she updates her belief to

$$\mu'_L = Pr(\omega = \omega_h | \sigma_L = low) = \frac{\mu(1-\lambda)}{\mu(1-\lambda) + (1-\mu)}$$

with $\mu'_L < \mu$ for all $\mu \in (0,1)$. Using $\lambda = 0.5$, the posterior belief simplifies to $\mu'_L = \frac{\mu}{2-\mu}$.

After having acquired information, the participants in the *info* treatment make their contribution decision based on their posterior belief.

3.1 The German Internet Panel

The German Internet Panel (GIP) is a long-term online study based on a random probability sample of the general population in Germany aged 16 to 75.[2] The GIP is an infrastructure project of the Collaborative Research Center (SFB) 884 "Political Economy of Reforms" at the University of Mannheim. It started in 2012, and refresher samples were recruited in 2014 and 2018, resulting in a current participant pool of over 6,000 potential participants. The participants are invited to take part in a survey on the first day of every other month, and the surveys remain open for the whole month. The questionnaires take 20-25 minutes and cover socio-demographic information as well as a multitude of topics including political attitudes. To incentivize participation, the participants receive 4 euros for each completed questionnaire plus a yearly bonus of 10 euros if they completed all surveys in that year, or 5 euros if they completed all but one survey of the year. The GIP data are publicly available in the GIP data archive at the GESIS-Leibniz Institute for the Social Sciences.

Our experiment was fielded in March 2021 in wave 52 of the GIP. From the same wave, we exploit a question which asked the participants how difficult they found the entire questionnaire, including our experiment. To address the question of how the experimental results relate to actual public good contributions, we use data on socio-demographics and attitudes towards environmental protection from several other waves of the GIP.[3] For the attitudes towards COVID-19 containment, we additionally exploit a sub-study of the GIP, the Mannheim Corona Study (MCS). For 16 weeks, from March 20 to July 10, 2020, around 3,600 participants of the GIP were interviewed about the impacts of the COVID-19 pandemic.[4] The study contains e.g. socio-economic aspects of the pandemic, frequency of social interactions, as well as attitudes towards containment measures. The MCS data are publicly available in the GIP data archive at the GESIS-Leibniz Institute for the Social Sciences as well.

3.2 Implementation of the Experiment

We implemented the experiment using five survey questions. In the GIP, participants are not used to incentivized economic experiments like ours. Therefore, we deliberately refrained from using

[2]For details on the GIP methodology, see Blom et al. (2015, 2016, 2017); Herzing and Blom (2019) and Cornesse et al. (2020).

[3]A detailed overview of the additional data used, including how variables were constructed, and a list of all questions used, can be found in appendix D.

[4]For details on the MCS methodology, see Blom et al. (2020a).

standard elements of public good experiments, such as elicitation of conditional contributions or repetition of the VCM over several rounds. Instead, we simplified the game to a one-shot decision that can be captured in a single survey question. Moreover, we adapted the instructions to be understandable for members of the general population,[5] who might be less able than students in the laboratory to deal with numbers and in particular with probabilities. Therefore, we presented all probabilities in terms of frequencies.[6] To reduce cognitive costs and avoid any non-Bayesian updating, we provided the correct Bayesian posterior beliefs to those participants who acquired information.

For the random allocation into treatments, we proceeded as follows: 25% of the participants were randomly selected to be in the *no info* treatment, and 75% of the participants were randomly selected to be in the *info* treatment.[7] Within each of these two treatments, one-third of the participants was randomly allocated to each prior $\mu \in \{0.25, 0.5, 0.75\}$. Within the groups for each prior belief, we randomly allocated the high MPCR to a share of the participants corresponding to μ, and the low MPCR to a share of $1 - \mu$. For the information revelation, we proceeded as follows: 50% of the participants were randomly allocated to the signal *high* and 50% were randomly allocated to signal the *low*. This variable then decided which signal the chosen source would reveal in the cases where the revelation of the true MCPR is possible, i.e. if the MPCR allocated to the participant is high and she acquires the signal σ_L, or if the MPCR allocated to the participant is low and she acquires the signal σ_H.

To incentivize the experiment, we paid out the payoffs from the game to 50 randomly selected groups of 4 participants each, i.e. to 200 participants in total. With an endowment of 10 euros (around 12 USD at the time the survey was fielded), it was possible to earn up to 25 euros depending on the MPCR and on the other group members' decisions. Compared to the payment of 4 euros for a completed questionnaire, or the German minimum hourly wage of 9.50 euros in 2021, both the endowment and the potential payoff of the experiment were quite sizable. On average, the participants who were randomly selected for payment earned 12.62 euros. The lowest payment was 1.70 euros, while the highest payment was 24.50 euro.

Our questionnaire contained the following parts:[8] First, the participants were informed about the payment procedure. Second, we explained the VCM. We told the participants that they would receive 10 euros on a virtual account and that they could decide how much of this amount to invest in a group project and how much to keep on their virtual account. To reduce the level of abstraction, we called the group project a "gold" project if the MPCR was $\omega_h = 0.5$, and a "silver" project if the MPCR was $\omega_l = 0.1$. We also provided an example of how to calculate the return from the group project in each case. Those in the *info* treatment were informed that they would later have the opportunity to potentially find out the true type of the group project.

[5] We also used abstract framing, neutral language and avoided possibly loaded words like "public good" or "bias", to be able to study the participants' underlying preferences without an associated context. A common problem in an online survey is that the participants might not be willing to read lengthy or complicated instructions so that we made an effort to reduce the instructions to a minimum.

[6] Note that since the participants are randomly split into groups of pre-determined size to allocate them into the treatments, the representation in terms of frequencies is mathematically correct and does not constitute deception.

[7] We chose to have a larger number of participants in the *info* treatment to have a sufficiently large number of observations for each posterior belief.

[8] An overview of the experimental stages, screenshots of the instructions and questions in German, as well as the English translations, can be found in Appendix E.

Then, those in the *no info* treatment directly proceeded to the contribution stage, while those in the *info* treatment were informed about the information revelation process. To again reduce the level of abstraction and increase plausibility, we presented them with four envelopes, as inspired by the design by Spiekermann and Weiss (2016). Two of the envelopes were gold, corresponding to the H-biased source, and two envelopes were silver, corresponding to the L-biased source. We told the participants that exactly one of them contained the correct information about the true type of the project, and carefully explained the interpretation of the envelopes. We also informed the participants that they would receive an exact explanation of how certain they can be about the type of their project if they choose to acquire information. Then, the participants answered a comprehension question about the interpretation of the content of the envelopes and afterwards, they made their information acquisition decision. They could choose between opening one of the four envelopes or indicating that they do not want to open any envelope. Depending on what they chose, we asked them for their minimum willingness to pay for the envelope they chose, or for their minimum willingness to accept to open an envelope if they chose not to. As the other parts of the experiment were already complex, we decided not to incentivize this question, but to ask it hypothetically.

Then, at the contribution stage, those in the *info* treatment received the information about the content of the envelope and the correct Bayesian posterior.[9] All participants were then asked to decide which amount between 0 and 10 euros they wanted to invest in the group project.

After the contribution decision, we elicited potential contribution types in a multiple-choice question by asking about the motives for the contribution decision. For the answer options, we follow the literature which finds that most participants in public good games are either free-riders, unconditional cooperators, or conditional cooperators (Fischbacher et al., 2001; Fischbacher and Gächter, 2010): Participants could indicate that they wanted to maximize their own payoff, maximize the payoff of the entire group, or that they wanted to contribute neither more nor less than other group members. We also included the option to indicate that they had other reasons.

4 Results

In total, 4,374 participants took part in GIP wave 52. Of those participants, 100 broke off the survey and several others decided not to take part in our experiment or completed only part of it. We dropped all participants who skipped the question on information acquisition or the question on the public good contribution, resulting in an overall sample size of 4,187 participants. In this sample, the average age is around 52 years, 48% of the participants are female, and 34% have an academic education, i.e. a Bachelor's degree or higher.

We now present the results of our experiment in terms of descriptive statistics. Then, we perform a regression analysis that shows how the contribution types elicited in our questionnaire affect information acquisition decisions, and how strategic information acquisition, in turn, affects voluntary contributions. Finally, we corroborate the findings from our experiment by investigating whether the information acquisition and contribution decisions in the experiment correlate

[9] Once the participants reached the contribution stage, it was not possible to go back to the information stage, making it impossible to open more than one envelope.

with the willingness to voluntarily contribute to two real-world public goods: environmental protection, and the containment of the COVID-19 pandemic.

4.1 Descriptive Results

Selective Exposure

Most participants in the *info* treatment (87%) choose to acquire a signal from either of the two sources, while only a small share (13%) chooses not to acquire any information. Among those participants who do acquire information, a majority of 65% chooses signal σ_L. A binomial test rejects the Null Hypothesis that participants are equally likely to choose σ_H and σ_L ($p < 0.0001$).[10] The finding that σ_L is the most frequent information acquisition choice is in line with the results of Spiekermann and Weiss (2016), whose experiment exploits the same information revelation process as ours. Between the three different prior beliefs, the signal choices do not differ significantly (figure 1).

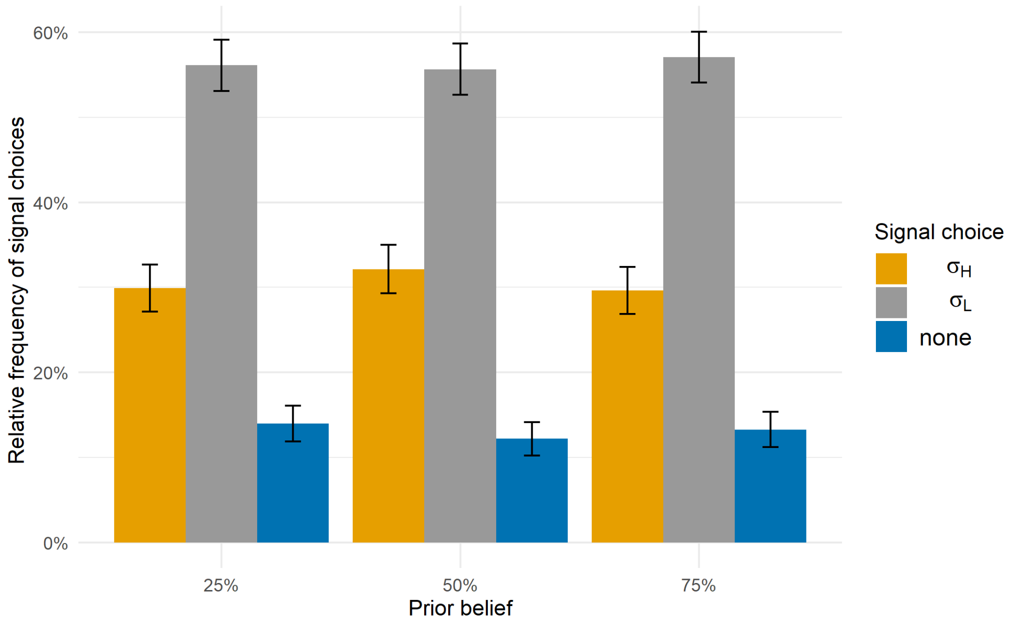


Figure 1: Information acquisition choices for the different prior beliefs. Error bars represent 95% confidence intervals.

Among the participants who acquired signal σ_H, the average willingness to pay for this signal is 4.12 euros, which is significantly higher than the average willingness to pay for signal σ_L of 3.51 euros among the participants who acquired this signal (Wilcoxon rank sum test, $p < 0.0001$). Among the participants who did not acquire information, the average willingness to accept to acquire signal σ_H is 3.83 euros, which however is not significantly different from the average willingness to accept to acquire signal σ_L of 3.32 euros (Wilcoxon rank sum test, $p = 0.11$). For both signal σ_H and signal σ_L, the willingness to pay is significantly different from the willingness to accept (Wilcoxon rank sum test, $p = 0.0048$ and $p = 0.0021$, respectively). These questions however were not incentivized, and therefore capture only hypothetical willingness to pay and willingness to accept.

[10] All statistical tests reported are two-sided.

To analyze how the information acquisition choices affect the voluntary contributions compared to those in the *no info* treatment, it is important to consider how the signal choice affects posterior beliefs. The selective choice of signal σ_L causes the beliefs of most (41%) of the participants in the *info* treatment to decline. Only 8% of the participants reveal that the true MPCR of the public good is low with certainty, while 15% reveal that the true MPCR is high with certainty. Figure 2 shows the changes in the posterior beliefs by prior.

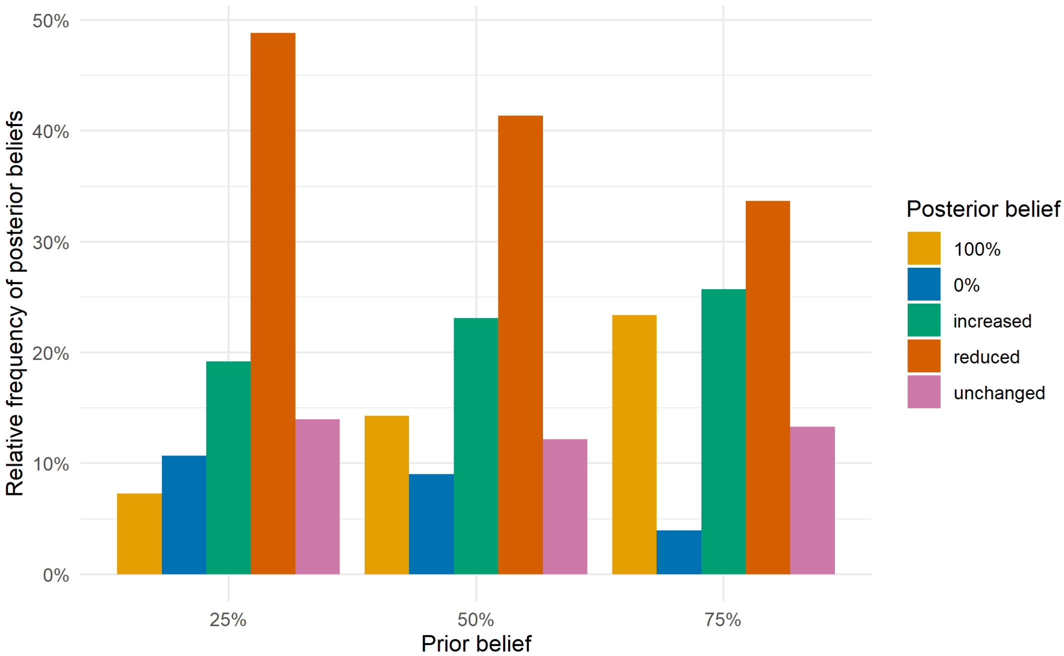


Figure 2: Changes in the posterior beliefs in the *info* treatment for each prior belief. An increase in the belief comes from the choice of signal σ_H and results in posterior beliefs $\mu'_H \in \{0.4, 0.67, 0.86\}$. A reduction in the belief comes from the choice of signal σ_L and results in posterior beliefs $\mu'_L \in \{0.14, 0.33, 0.6\}$. "Unchanged" means that the participants did not acquire information, such that their posterior belief is equal to their prior belief.

Voluntary Contributions

At the contribution stage, we are interested in how the information treatment affects three main features of the distribution of the voluntary contributions to the public good: average contributions, the share of free-riders who contribute zero, and the share of participants who contribute their entire endowment.

In the *no info* treatment, participants contribute on average 6.94 euros to the public good. The *info* treatment significantly reduces the average contributions to 6.13 euros (Wilcoxon rank sum test, $p < 0.0001$), which corresponds to a reduction by 8.1% of the endowment. Average contributions do not differ significantly between prior beliefs (figure 3).

Figure 4 displays the distribution of voluntary contributions to the public good in the two treatments. In both treatments, the most frequently chosen contribution levels are at 10 euros, which is the whole endowment, and at 5 euros, which is half of the endowment. Comparing the distribution of contributions in the *no info* to the *info* treatment, we observe a shift of the distribution to the left, resulting in lower contribution levels being chosen more frequently. In particular, only 6% of the participants contribute zero in the *no info* treatment, while this share

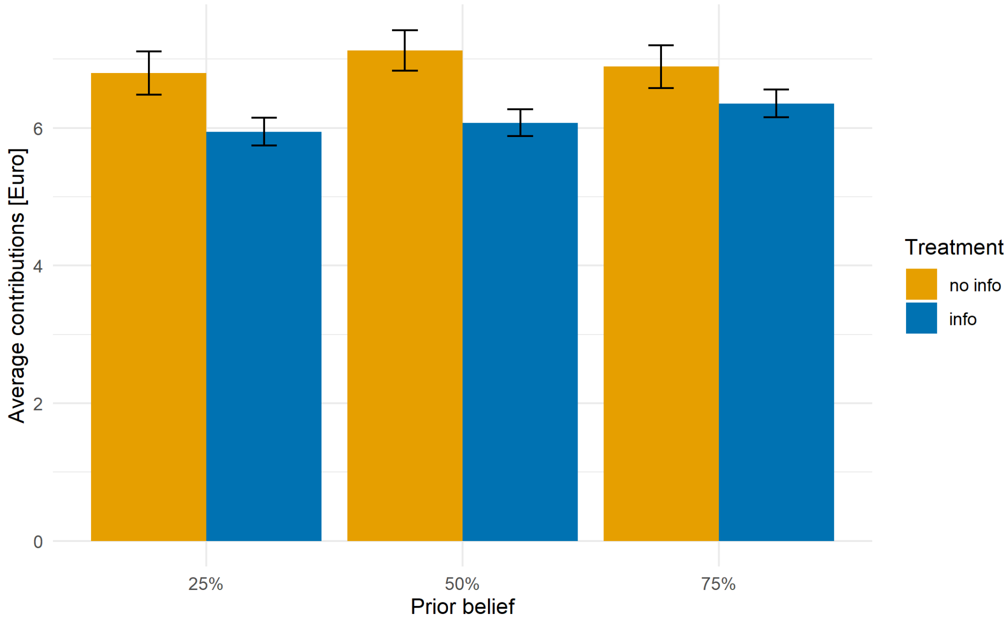


Figure 3: Average contributions to the public good in the two treatments, for each prior belief. Error bars represent 95% confidence intervals.

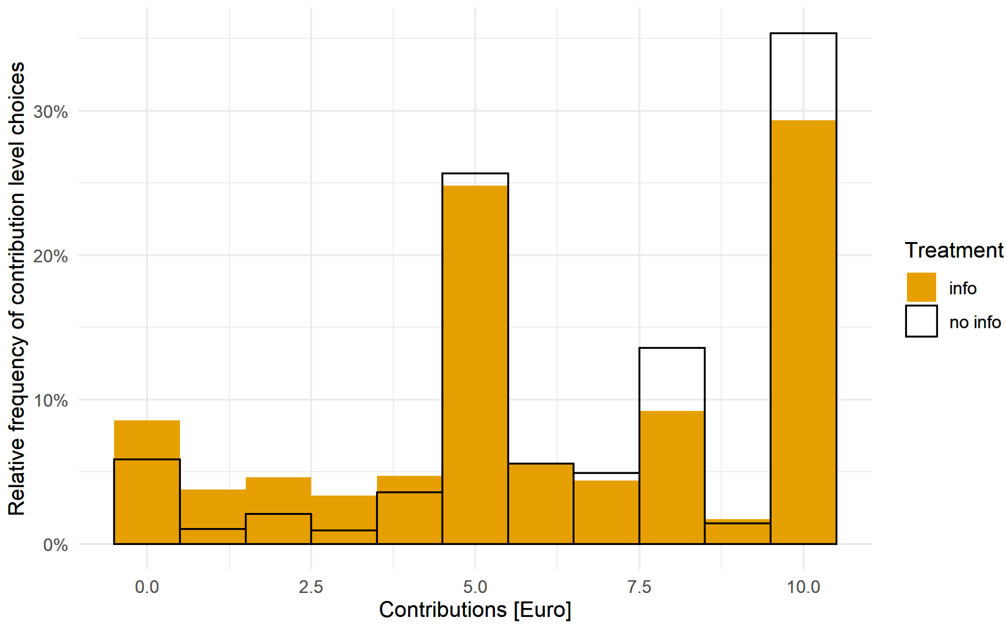


Figure 4: The distribution of contributions to the public good in the two treatments.

increases to 9% in the *info* treatment, which is a significant difference (two-proportions z-test, $p = 0.0066$). At the same time, the share of participants who contribute their entire endowment of 10 euros significantly decreases from 35% in the *no info* treatment to 29% in the *info* treatment (two-proportions z-test, $p = 0.0003$).

Comparing our results for the voluntary contributions to results from the literature on public good experiments, we find that our sample from the general population seems to be more generous than the typical sample of students in the laboratory.[11] Although we introduce uncertainty about

[11] Fischbacher et al. (2001) for example find that participants on average contribute about 33% of their endow-

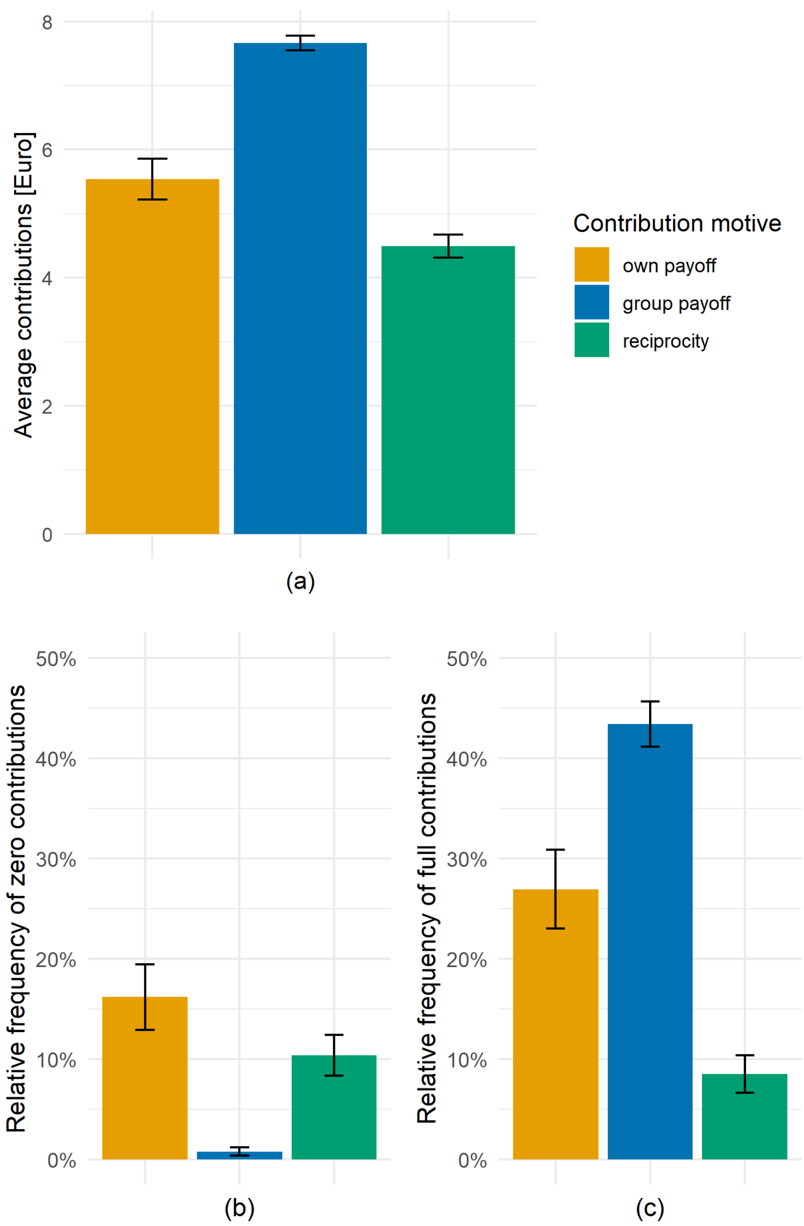


Figure 5: Contribution decisions by the three main contribution motives: (a) displays average contributions, (b) displays the relative frequency of zero contributions, (c) displays the relative frequency of full contributions of the whole endowment. "Own payoff" means that the participants indicated that they are only interested in maximizing their own payoff. "Group payoff" means that the participants indicated that they are only interested in maximizing the payoff of their entire group. "Reciprocity" means that the participants indicated that they are only interested in contributing neither more nor less than other group members. Error bars represent 95% confidence intervals.

the MPCR of the public good as well as the possibility that contributing zero is socially desirable, we observe only a comparably small share of participants who do not contribute.

Concerning the motives behind their contribution decision, the large majority of participants indicated exactly one motive only:[12] 12% want to maximize their own payoff, 45% want to

ment, while our participants contribute more than 60%. Moreover, they observe that about 30% of all participants are free-riders who contribute zero independent of others' contributions.

[12]When we designed the question which elicits potential contribution types by asking for the motives behind the contribution decision, we were interested in whether participants might have conflicting interests, in particular between the selfish interests and the social interests when the MPCR of the public good is high. Therefore, we

maximize the payoff of the entire group, 21% want to contribute neither more nor less than other group members, and 13% had "other reasons".[13] Among the 8% who indicated more than one of the three main motives, the combination of maximizing the own payoff and maximizing the group payoff is the most frequent one.

Because most participants exclusively chose one of the three main motives – maximizing their own payoff, maximizing the group payoff, or contributing neither more nor less than other group members – we will focus on these three groups in the further analysis.[14] Figure 5 shows how the contribution decisions differ by contribution motive. In line with the theoretical predictions, those who indicate that they are interested in maximizing the group payoff contribute the largest amount on average (figure 5). They are also least likely to contribute zero (figure 5b) and most likely to contribute the entire endowment (figure 5c).

Efficiency and Welfare

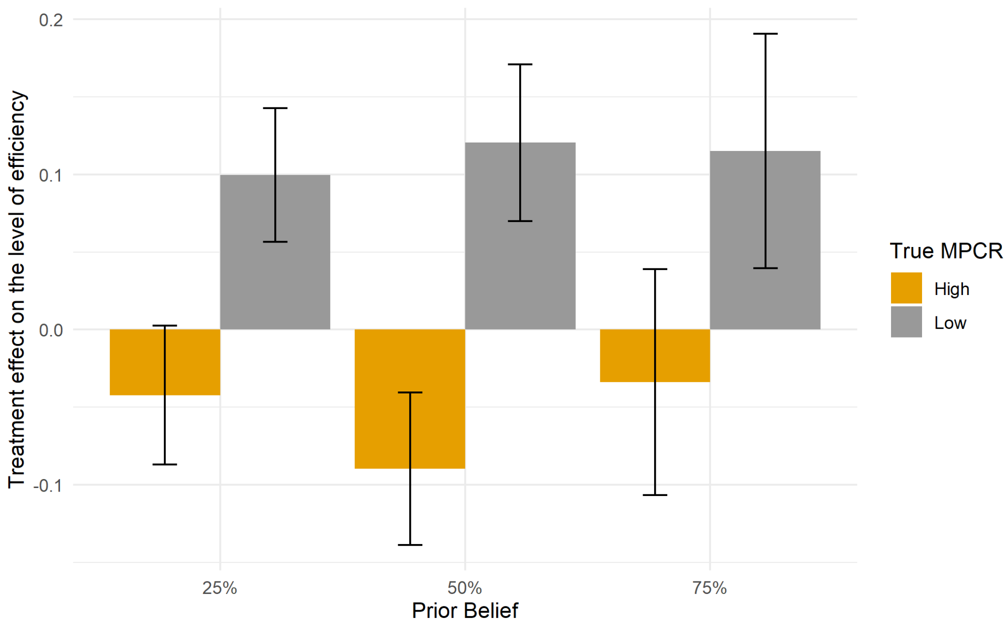


Figure 6: The treatment effect on the average level of efficiency is the difference between the average level of efficiency in the *info* treatment and the average level of efficiency in the *no info* treatment. If the true MPCR is high, it is socially efficient to contribute the entire endowment to the public good. If the true MPCR is low, it is socially efficient to contribute nothing. Error bars represent 95% confidence intervals.

Finally, we are interested in how the information treatment affects the level of efficiency of contributions – which in turn affects social welfare. Recall that, if the true MPCR is high, i.e.

used a multiple-choice instead of a single choice question.

[13]We included an open answer field for those who had "other reasons", to allow them to explain their contribution decision. Many participants indicate risk-averse behavior (not investing because of the uncertainty about the returns) or risk-seeking behavior (investing the entire endowment to gamble) or a tendency to evenly split the money between the private and public account, which might explain the high share of investments of 5 euros. Some participants also mention that they contribute for altruistic reasons. However, for the majority, the open answers indicated confusion and lack of comprehension. Therefore, we will not focus on the category of "other reasons" in the further analysis.

[14]In the following analysis, we interpret the motive "contributing neither more nor less than other group members" as reciprocity concerns, in the sense of conditional cooperation.

$\omega_h = 0.5$, it is socially efficient to contribute the entire endowment to the public good. If the true MPCR however islow, i.e. $\omega_l = 0.1$, it is socially efficient to contribute nothing. Therefore, define the level of efficiency of a contribution as

$$E(g_i, \omega) = \begin{cases} 1 - \frac{g_i}{10} & \text{if } \omega = \omega_l \\ \frac{g_i}{10} & \text{if } \omega = \omega_h \end{cases}$$

where $E \in [0, 1]$. We find that while the average level of efficiency is 0.51 in the *no info* treatment, it is 0.54 in the *info* treatment, where the difference is significantly different from zero (Wilcoxon rank sum test, $p = 0.0157$). This finding is surprising because we have seen that the information treatment reduces contributions. However, a reduction in contributions can only increase efficiency if the MPCR is low. Otherwise, it harms efficiency. Figure 6 shows that the treatment effect on efficiency is indeed only positive for those participants whose true MPCR is low. For those participants whose true MPCR is high, the treatment effect for prior beliefs of $\mu = 0.25$ and $\mu = 0.75$ is not significantly different from zero, but it is significant and negative for a prior belief of $\mu = 0.5$.

The effect of the information treatment on the level of efficiency of contributions has an immediate effect on social welfare. To calculate payoffs, we randomly partition the participants that share the same state of the world – i.e. the same true MPCR, the same prior, and the same treatment – into groups of four.[15] We then calculated the individual payoffs (equation 1) and social welfare, which is given by the sum of the payoffs of the four group members. To compare social welfare between treatments, we consider average social welfare across groups. We find that for those groups whose true MPCR is low, the increase in efficiency implies an increase in average social welfare ranging from 10% ($\mu = 0.25$) to 12.4% ($\mu = 0.5$). For those groups whose true MPCR is high, the reduction in efficiency implies a reduction in average social welfare ranging from 2% ($\mu = 0.75$) to 5.3% ($\mu = 0.5$).

4.2 Regression Analysis

We are interested in two main questions about the interplay of selective exposure and voluntary contributions in our experiment. First, how do contribution types affect information acquisition decisions? And second, how does strategic information acquisition affect voluntary contributions in the *info* treatment compared to the *no info* treatment? We address these using regression analysis.

Selective Exposure

The information acquisition decision consists of two separate decisions: First, each participant has to decide whether she wants to acquire a signal or not. Second, only if she decides to acquire information, she has to choose between σ_H and σ_L. Therefore, we estimate two probit regressions

[15] If the number of participants within a state of the world was not divisible by four, at most one group had less than four members. For this group, it was of course impossible to calculate payoffs.

Table 1: Probit model for the decision to acquire information.

	Dependent variable:			
	acquired information			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.018	−0.012	−0.011	−0.012
	(0.015)	(0.014)	(0.014)	(0.014)
prior = 0.75	−0.011	−0.012	−0.007	−0.008
	(0.015)	(0.014)	(0.014)	(0.014)
own payoff		−0.033*	−0.029*	−0.028
		(0.017)	(0.017)	(0.017)
reciprocity		−0.131***	−0.095***	−0.094***
		(0.017)	(0.015)	(0.016)
Constant	-	-	-	-
Further motives	No	Yes	Yes	Yes
Comprehension	No	No	Yes	Yes
Difficulty	No	No	No	Yes
Observations	3,127	3,111	3,111	3,100
Log Likelihood	−1,216.005	−1,122.230	−1,023.089	−1,018.124
Note:				*p<0.1; **p<0.05; ***p<0.01

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those in the *info* treatment. The dependent variable *acquired information* is a binary indicator variable which takes the value 1 if the participant chose to acquire either of the two signals, and the value 0 if the participant did not acquire any signal. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Own payoff*, *reciprocity* and *further motives* belong to the same categorical variable which captures the motives behind the contribution decision, with *group payoff* as the omitted reference category. The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

that model these two decisions separately.[16]

Table 1 presents the probit estimates of the marginal effects of priors and contribution motives on the decision whether to acquire information or not. Table 2 presents the effects on the decision whether to signal σ_H or signal σ_L among those who acquired information.

The tables highlight two main results. First, compared to those who indicated that they are interested in maximizing the payoff of their entire group, those who are care about reciprocity are less likely to acquire information. Second, again compared to those who indicated that they are interested in maximizing the payoff of their entire group, those who are care about their own payoff are more likely to acquire signal σ_H. Both effects remain significant at the 1% level when controlling for the comprehension of the experiment. Priors however affect neither information acquisition decision in a statistically significant manner.

We conduct several robustness checks to ensure that the effects are not driven by potential

[16] An alternative approach is to model the overall decision problem between the three options of acquiring no signal, acquiring σ_H, or acquiring σ_L using multinomial logit regression. The results of the multinomial logit regression are similar to the findings of the two separate probit regressions in terms of direction and significance of the coefficients (appendix table A.10).

Table 2: Probit model for the decision to acquire signal σ_H among those who acquire information.

	Dependent variable:			
	acquired σ_H			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.018	−0.016	−0.018	−0.019
	(0.023)	(0.023)	(0.022)	(0.022)
prior = 0.75	−0.024	−0.023	−0.028	−0.030
	(0.022)	(0.022)	(0.022)	(0.022)
own payoff		0.084^{***}	0.087^{***}	0.092^{***}
		(0.030)	(0.029)	(0.029)
reciprocity		0.045^{*}	0.027	0.032
		(0.025)	(0.025)	(0.025)
Constant				
Further motives	No	Yes	Yes	Yes
Comprehension	No	No	Yes	Yes
Difficulty	No	No	No	Yes
Observations	2,716	2,707	2,707	2,697
Log Likelihood	−1,761.147	−1,747.780	−1,699.499	−1,685.868
Note:		*p<0.1; **p<0.05; ***p<0.01		

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those who acquired information. The dependent variable is a binary indicator variable which takes the value 1 if the participant acquired signal σ_H, and the value 0 if the participant acquired signal σ_L. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Own payoff*, *reciprocity* and *further motives* belong to the same categorical variable which captures the motives behind the contribution decision, with *group payoff* as the omitted reference category. The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

comprehension problems. First, we re-run the regressions on the subsample of those participants who indicated that they did not find the questionnaire difficult. Second, we use the response times contained in the "paradata" of the survey, which capture the time a participant spent on each question page including the instructions. We drop the top 10% and the bottom 10% with respect to the time spent on the instructions for the public good game. Third, we use the subsample of those who answered the comprehension question about the information revelation process correctly. All tables for these robustness checks can be found in appendix B. The two main findings are robust to these modifications.

Voluntary Contributions

To analyze how strategic information acquisition affects voluntary contributions in the *info* treatment compared to the *no info* treatment, we performed several regressions with the signal choices as well as the revealed information as explanatory variables.

As we have seen in figure 4, the distribution of contributions displays two pileups at the endpoints, i.e. at $g_i = 0$ and $g_i = 10$, with a roughly continuous distribution in between. Therefore, we are interested in three main features of the distribution of contributions: the probability of contributing zero, the probability of contributing the entire endowment, and the average level of contributions for those who contribute $0 < g_i < 10$. We use a three-part model to model these three features of the distribution separately. This model provides the highest possible flexibility by allowing separate mechanisms to determine the three decisions of interest.[17]

Table 3 summarizes the three-part model.[18] We first use a probit regression to model the decision to contribute zero (columns 1 − 3). Then we use a truncated normal model for the contribution level on the subsample of participants who contribute $0 < g_i < 10$, with zero and full contributions truncated. The truncated model takes into account that there are no observations with $g_i \leq 0$ or $g_i \geq 10$ in the subsample. We then use another probit regression to model the decision to contribute the entire endowment.

[17] Alternative models potentially suitable for our type of data include the two-limit Tobit model (appendix table A.13) which takes into account the pileups at the endpoints but does not allow for separate mechanisms to determine the different decisions. Another alternative is the two-part hurdle model (appendix tables A.11 and A.12) which models only the participation decision separately from the amount decision, but it does not consider the decision to contribute the entire endowment. Our main results are robust to using these alternative models. Comparing the values of the log-Likelihood function reveals that the three-part model reported in this section provides the best model fit. Details about the model selection process can be found in the appendix section A.3.

[18] The full regression tables, including the coefficients for the contribution motives and difficulty, are in the appendix section A.1.

Table 3: Three-Part Model for Contributions.

	Dependent variable:								
	zero contribution			contributions			full contribution		
	probit			*Tobit*			*probit*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
info	0.026***			−0.648***			−0.061***		
	(0.009)			(0.083)			(0.017)		
prior = 0.25	0.029***	0.019**	0.018**	0.030	0.098	0.150*	−0.012	−0.0001	0.010
	(0.010)	(0.009)	(0.009)	(0.094)	(0.089)	(0.089)	(0.017)	(0.017)	(0.017)
prior = 0.75	0.018*	0.013	0.016*	0.145	0.168*	0.120	0.031*	0.033**	0.021
	(0.010)	(0.009)	(0.009)	(0.094)	(0.088)	(0.088)	(0.018)	(0.017)	(0.017)
acquired signal σ_H		−0.001			−0.476***			−0.011	
		(0.010)			(0.102)			(0.020)	
acquired signal σ_L		−0.003			−0.619***			−0.048***	
		(0.009)			(0.088)			(0.017)	
no signal acquired		0.164***	0.165***		−0.969***	−0.975***		−0.021	−0.025
		(0.019)	(0.019)		(0.160)	(0.160)		(0.028)	(0.028)
posterior = 1			−0.009			−0.018			0.073***
			(0.013)			(0.142)			(0.025)
posterior = 0			0.042**			−0.832***			−0.038
			(0.018)			(0.183)			(0.032)
posterior increased			−0.019*			−0.354***			−0.003
			(0.010)			(0.109)			(0.022)
posterior reduced			−0.001			−0.771***			−0.097***
			(0.010)			(0.092)			(0.018)
Constant	–	–	–	5.729***	6.236***	6.232***	–	–	–
				(0.087)	(0.121)	(0.121)			
Motives	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Difficulty	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	4,187	4,153	4,153	2,567	2,544	2,544	4,187	4,153	4,153
Log Likelihood	−1,141.922	−861.967	−855.206	−5,364.466	−5,155.317	−5,136.760	−2,577.495	−2,305.045	−2,278.855
Note:							*p<0.1; **p<0.05; ***p<0.01		

Robust standard errors in parentheses. Columns 1 – 3 and 7 – 9 report marginal effects. *Zero contribution* is a binary indicator variable which takes the value 1 if the participant did not contribute, and 0 otherwise. *Contributions* is the level of contributions (in euros) for the subset of participants who contributed an amount g_i with $0 < g_i < 10$. *Full contribution* is a binary indicator variable which takes the value 1 if the participant contributed the entire endowment, and 0 otherwise. The probit models in columns 1 – 3 and 7 – 9 are estimated on the entire sample. The truncated normal model in columns 4 – 6 is estimated on the subsample of those who contributed $0 < g_i < 10$. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Signal choice* and *posterior* are categorical variables with "no info treatment" as the omitted reference category. The control variable *motives* captures the difference contribution motives, and *difficulty* captures the perceived difficulty of the entire questionnaire. The varying number of observations is caused by participants who did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

For each part, we report three different specifications of the explanatory variables. First, we are interested in the overall effect of the *info* treatment on the three decisions, compared to the *no info* treatment (columns 1, 4, and 7). Second, to gain insight into the mechanisms behind this treatment effect, we include the signal choices (columns 2, 5, and 8), and the changes in the posterior beliefs (columns 3, 6, and 9).[19] Because the contribution motives affect both the signal choice and the contribution decisions, we include them as a control variables. We additionally control for the perceived difficulty of the questionnaire.

The three-part model highlights several results. Most importantly, the probability of contributing zero is higher in the *info* treatment than in the *no info* treatment, while both the amount contributed among those with $0 < g_i < 10$ and the probability to contribute the entire endowment are smaller in the *info* treatment than in the *no info* treatment. The increase in zero contributions in the *info* treatment is mainly driven by those who did not acquire information, whereas the decrease in full contributions is mainly driven by those who acquire signal σ_L. Among those who contribute $0 < g_i < 10$, both those who acquire any signal and those who do not acquire a signal reduce their contributions compared to those in the *no info* treatment. The changes in posterior beliefs mainly affect the contribution decisions in the expected direction. In particular, obtaining a posterior belief of $\mu'_L = 1$ (i.e. revealing that the true MPCR of the public good is high) significantly increases the probability of contributing the entire endowment compared to the *no info* treatment. Obtaining a posterior belief of $\mu'_H = 0$ (i.e. revealing that the true MPCR of the public good is low) significantly increases the probability of contributing zero, and significantly reduces the amount contributed among those with $0 < g_i < 10$, compared to the *no info* treatment. Only the negative effect of an increased posterior $\mu < \mu'_H < 1$ on the level of contributions is unexpected. This effect is most likely caused by the selection at the information stage – because those who acquire signal σ_H are generally less willing to contribute than those in the *no info* treatment.[20]

We also estimate the three-part model again on the two subsamples of those who acquired signal σ_H and those who acquired signal σ_L separately, using priors and changes in posterior beliefs as explanatory variables (appendix table A.9). Then, in each subsample, the information revelation is exogenous and random by construction. The results show that the participants react in the expected direction when they reveal the true state of the world.

[19] To test whether the effects of information on the contribution decisions differs by prior belief, we also estimated models for all three parts in which we included interactions between prior beliefs and signal choices, or prior beliefs and posterior beliefs (appendix tables A.3 – A.8). Our main results are robust to including these interaction effects. In each case, a Likelihood-Ratio test fails to reject the null hypothesis that the more complex model including the interaction effects fits the data as well as the nested model without the interactions. Therefore, we conclude that adding the interaction terms does not improve the model so that we focus on the simpler model here.

[20] Another potential explanation might be confusion among the participants concerning the information received. Our robustness checks address this potential problem. First, we re-run the regression analysis using the subsample of participants who did not find the questionnaire difficult (appendix table B.3). Second, we make use of the response times contained in the dataset, which capture how much time a respondent spent on each question page, for a regression where we drop from the sample the bottom 10% and top 10% with respect to the time spent on the instructions for the public good game (appendix table B.6). In both cases, the sign and significance of the coefficients remain the same. Therefore, we believe that it is unlikely that our results are driven by confusion or lack of understanding.

4.3 Additional Results

The results from our experiment suggest that both the information acquisition decision and the contribution decision are affected by social preferences. More selfish participants are less likely to acquire information, and if they do, they are more likely to acquire signal σ_H. They are also less likely to contribute, and if they do, they contribute less than more socially oriented participants. We so far draw these conclusions based on the *stated* preferences elicited in our final question about the contribution motives, which was specific to the setting of our experiment. If the behavior in our experiment was driven by underlying social preferences, we should observe similar behavior in real-world public good contexts as well. To explore this line of thought, we come back to the two salient examples of public goods with uncertain marginal returns introduced at the beginning: environmental protection and the containment of the COVID-19 pandemic.

Willingness to Voluntarily Contribute to Environmental Protection

To investigate the relationship between information acquisition and contribution decisions in our experiment and the willingness to voluntarily contribute to environmental protection, we exploit three questions that capture the individual, voluntary, and costly contributions in the most narrow sense. These questions ask whether the participants (i) support a carbon tax, (ii) changed their lifestyle in the past six months to protect the climate, and (iii) pursued sustainable activities such as volunteering for an environmental project or buying regional organic products in the past six months.[21] We conduct a Principal Component Analysis (PCA) to condense the answers to these three questions into the first standardized principal component, which we then take as a dependent variable (following Kerschbamer and Müller, 2020).[22] Higher values of the dependent variable are associated with a higher willingness to contribute to environmental protection. Table 4 presents the results of the OLS regression, both for the entire sample and for the subsample of those in the *info* treatment.[23]

The regression yields two main results. First, the level of contributions to the public good in the experiment is positively correlated with the willingness to contribute to environmental protection. The effect is robust to including including controls for socio-demographic variables and comprehension of the experiment. Thus, the contribution behavior observed in the experiment appears to be indicative of actual contributions to a public good, which suggests that our results concerning contribution behavior might be externally valid.

Second, those who acquired signal σ_L are significantly more likely to contribute to environmental protection than those in the *no info* treatment. Among the participants in the *info* treatment, those who acquired signal σ_H are significantly less likely to contribute to environmental protection than those who acquired signal σ_L.

To test that our results do not rely on the selection of the variables, we run two robustness checks, where we include several other questions (appendix tables A.24 and A.25). Our results remain robust to using these alternative variable specifications.

[21] See appendix D for a detailed description of why these questions were selected and how the variables were constructed, as well as for an overview of all questions used.

[22] We additionally report the regression results for every single variable in appendix tables A.17 – A.19.

[23] The full table including the coefficients for all control variables is appendix table A.15.

Table 4: OLS regression for the willingness to voluntarily contribute to environmental protection, measured by three variables.

	Dependent variable:				
	willingness to contribute to environmental protection				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	−0.135**	−0.097	−0.263***	−0.198***	−0.178***
	(0.066)	(0.070)	(0.061)	(0.065)	(0.066)
acquired signal σ_L	0.132**	0.107*			
	(0.059)	(0.062)			
no signal acquired	0.014	0.089	−0.136	−0.037	0.004
	(0.101)	(0.107)	(0.097)	(0.104)	(0.106)
contributions	0.029***	0.029***	0.020**	0.020**	0.018*
	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)
Constant	−0.211***	−0.691***	−0.023	−0.609***	−0.592***
	(0.072)	(0.145)	(0.070)	(0.169)	(0.169)
Difficulty	No	Yes	No	Yes	Yes
Comprehension	No	No	No	No	Yes
Controls	No	Yes	No	Yes	Yes
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,892	2,450	2,154	1,820	1,820
R^2	0.011	0.064	0.011	0.069	0.070
Adjusted R^2	0.010	0.060	0.009	0.064	0.065
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the first principle component of three variables capturing the willingness to contribute to environmental protection: (i) support of a carbon tax, (ii) lifestyle changes the past six months to protect the climate, and (iii) pursuing sustainable activities in the past six months. Higher levels of the dependent variable represent higher willingness to contribute to environmental protection. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the info treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 euros. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly. The other control variables include gender, age, income, and education.

Willingness to Voluntarily Contribute to COVID-19 Containment

To investigate the relationship between information acquisition and contribution decisions in our experiment and the willingness to contribute voluntarily to COVID-19 containment, we exploit four questions about the usage of the corona warning app. The questions ask whether the participants are (i) willing to enter test results in the app, (ii) intend to comply with the app's request to get tested or (iii) to quarantine, and (iv) whether the app was installed.[24] We again conduct a PCA to condense the answers to these four questions into the first standardized principal component, which we then take as a dependent variable.[25] Higher values of the dependent variable are associated with a higher willingness to contribute to COVID-19 containment.

Table 5 presents the results of the OLS regression.[26] The two main insights are in line with the results for environmental protection. First, the regression results show that the level of contributions in the experiment is positively correlated with the willingness to contribute to COVID-19 containment, and the effect remains significant at least at the 10% level when including controls.

Second, those who acquired signal σ_L are significantly more likely to contribute to COVID-19 containment than those in the *no info* treatment, although the effect is not robust to including controls. Among the participants in the *info* treatment, those who acquired signal σ_H and those who did not acquire information are less likely to contribute to COVID-19 containment than those who acquired signal σ_L, but the coefficients are not significant.

Thus, while the effects go in the same direction as in the regression for environmental protection, they are less significant in this regression. This could follow from the fact that the two public goods are very different, and that the willingness and ability to contribute to the public good are affected by more external factors in the case of COVID-19 than in the case of the environment. For instance, adopting a more sustainable lifestyle is a personal and free decision that is arguably unaffected by other circumstances. Compliance with the corona warning app's request to go into home quarantine however might be affected by the individual's circumstances, e.g. whether they can work from home.

All in all, these findings suggest that our results concerning the contribution behavior in the experiment can be extended to contributions to actual public goods. Moreover, they corroborate our result that underlying social preferences affect strategic information acquisition: It appears that more selfish individuals with a lower willingness to contribute to an actual public good are indeed selecting the H-biased source, while more socially oriented individuals with a higher willingness to contribute are selecting the L-biased source.

[24]See appendix D for a detailed description of why these questions were selected and how the variables were constructed, as well as for an overview of all questions used.

[25]We additionally report the regression results for every single variable in appendix tables A.20 – A.23.

[26]The full table including the coefficients for all control variables is appendix table A.16.

Table 5: OLS regression for the willingness to voluntarily contribute to COVID-19 containment, measured by four variables.

	Dependent variable:				
	willingness to contribute to COVID-19 containment				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	0.149	0.080	−0.058	−0.061	−0.051
	(0.107)	(0.115)	(0.093)	(0.100)	(0.101)
acquired signal σ_L	0.205**	0.133			
	(0.092)	(0.097)			
no signal acquired	0.117	−0.030	−0.078	−0.165	−0.145
	(0.144)	(0.152)	(0.132)	(0.142)	(0.147)
contributions	0.038***	0.021*	0.043***	0.025*	0.024*
	(0.012)	(0.013)	(0.013)	(0.014)	(0.014)
Constant	−0.374***	−1.928***	−0.201**	−1.803***	−1.794***
	(0.111)	(0.224)	(0.100)	(0.254)	(0.255)
Difficulty	No	Yes	No	Yes	Yes
Comprehension	No	No	No	No	Yes
Controls	No	Yes	No	Yes	Yes
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,377	2,080	1,779	1,550	1,550
R^2	0.006	0.051	0.007	0.049	0.049
Adjusted R^2	0.005	0.046	0.005	0.043	0.043
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the first principle component of four variables capturing the willingness to voluntarily contribute to COVID-19 containment via usage of the corona warning app: (i) willingness to enter test results in the app, (ii) compliance with the app's request to get tested or (iii) to quarantine, and (iv) having installed the app. Higher levels of the dependent variable represent higher willingness to contribute to COVID-19 containment. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 euros. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly. The other control variables include gender, age, income, and education.

5 A Theoretical Model

In this section, we offer a potential theoretical explanation for the behavior observed in the experiment. In particular, we look for a model that can rationalize the fact that a majority of participants choose to open a silver envelope in our experiment. From our regression analysis we find that this tendency cannot be explained by participants holding different priors, which is the prediction of Che and Mierendorff (2019), for instance. In this model individuals gain utility directly from their own monetary payoff, and – depending on the strength of their efficiency concerns – also from the payoff of the other group members. Moreover, they may have self-image concerns: Each individual has a reference point for the optimal contribution, which is a level of contribution she believes the society expects from her. This conjecture is not new in the literature (see e.g. Grossman and van der Weele, 2016; Nyborg, 2011). Depending on the strength of her self-image concerns, the individual loses utility when her contribution does not match the reference point.

In the *info* treatment, participants first decide whether to acquire information and what type of information. Then having information at their disposal, they decide how much to contribute. Similarly, our model has two stages: information acquisition and contribution. In the following, we study it using a backward induction logic.

Contribution Stage

Consider the Voluntary Contribution Mechanism described in section 3. Suppose that the MPCR is ω and let $\hat{g}$ denote a given expected contribution by any other participant. Then the utility of an individual who contributes an amount g to the public good is:

$$U(g,\hat{g},\omega) = u(g,\hat{g},\omega) + \alpha\ v(g,\hat{g},\omega) + \frac{\gamma}{2}\ l(g,g^*)$$

where u is the utility from monetary payoff, v is the utility from others' expected welfare given all others' expected contribution $\hat{g}$ and the individual's own contribution g, and l is a loss function representing self-image concerns. In particular, the utility is decreasing in the difference between the contribution of individual and what the society expect her to contribute g^*. The parameters α, γ describe the individual's type: α is the relative importance of social welfare compared to individual welfare, whereas γ is the relative importance of self-image. Let n be the total number of participants in a group. We will assume the following functional forms:

$$u(g,\hat{g},\omega) = e - (1-\omega)g + (n-1)\omega\hat{g}$$

$$v(g,\hat{g},\omega) = (n-1)[e + [(n-1)\omega - 1]\hat{g} + \omega g]$$

$$l(g,g^*) = -[g - g^*(\mu)]^2$$

We abstract from strategic considerations and therefore treat $\hat{g}$ as exogenous. The reference point $g^*(\mu)$ differs across individuals and is a function of beliefs μ. In particular, there are two types of individuals, L and H, and for each individual there are two possible reference points, $\bar{g}$ and $\underline{g}$, such that $0 \leq \underline{g} < \bar{g} \leq e$, and

$$g_L^*(\mu) = \begin{cases} \bar{g} & \text{if } \mu = 1 \\ \underline{g} & \text{otherwise} \end{cases} \qquad g_H^*(\mu) = \begin{cases} \underline{g} & \text{if } \mu = 0 \\ \bar{g} & \text{otherwise} \end{cases}$$

In words, each participant of type L feels socially obliged to contribute a higher amount $\bar{g}$ only if she is completely certain that it is socially efficient to contribute to the public good. In any other case, she will contribute $\underline{g}$. Instead, each participant of type H feels always contributes the high amount $\bar{g}$ unless she is completely certain that it is not socially efficient to contribute to the public good.

For a given belief μ, the expected utility of an individual is given by

$$\begin{aligned}\mathbb{E}[U(g,\hat{g},\mu)] &= \mu U(g,\hat{g},\omega_h) + (1-\mu)U(g,\hat{g},\omega_l) \\ &= e - [1-(\omega_l + \mu(\omega_h - \omega_l))]\, g + (n-1)\,(\omega_l + \mu(\omega_h - \omega_l))\,\hat{g} \\ &+ \alpha(n-1)\,\{e - [1-(n-1)\,(\omega_l + \mu(\omega_h - \omega_l))]\,\hat{g} + (\omega_l + \mu(\omega_h - \omega_l))\,g\} \\ &- \frac{\gamma}{2}\,[g - g^*(\mu)]^2\end{aligned}$$

The derivative of the expected utility with respect to the contribution g_i is:

$$\frac{\partial \mathbb{E}[U(g,\hat{g},\mu)]}{\partial g} = -[1-(\omega_l + \mu(\omega_h - \omega_l))] + \alpha(n-1)\,(\omega_l + \mu(\omega_h - \omega_l)) - \gamma\,[g - g^*(\mu)] \qquad (2)$$

The optimal contribution is a function of beliefs μ:

$$g(\mu) = \min\left\{\max\left\{g^*(\mu) + \frac{1}{\gamma}\,[(1+\alpha(n-1))\,(\omega_l + \mu(\omega_h - \omega_l)) - 1]\,,0\right\},10\right\} \qquad (3)$$

Information Acquisition Stage

Consider an individual with a current belief μ. If this individual does not acquire any further information, her belief μ implies her optimal contribution $g(\mu)$ which yields an expected utility $\mathbb{E}[U(\mu)] \equiv \mathbb{E}[U(g(\mu),\hat{g},\mu)]$. Let μ'_H denote the updated belief after using the H-biased source and μ'_L the updated belief after using the L-biased source. If the individual uses the H-biased source, and receives the signal $\sigma_H = low$ (i.e. breakthrough news), she updates her belief to $\mu'_H = Pr(\omega = \omega_h | \sigma_H = low) = 0$. If she receives the signal $\sigma_H = high$, she updates her belief to

$$\mu'_H = Pr(\omega = \omega_h | \sigma_H = high) = \frac{2\mu}{1+\mu}$$

with $\mu'_H > \mu$ for all $\mu \in (0,1)$. Therefore, the expected utility from acquiring one unit of information from the H-biased source is

$$\mathbb{E}_{\sigma_H}[U(\mu'_H)] \equiv \left(\frac{1+\mu}{2}\right)\, \mathbb{E}[U(g(\mu'_H),\hat{g},\mu'_H)] + \left(\frac{1-\mu}{2}\right)\, U(g(0),\hat{g},0).$$

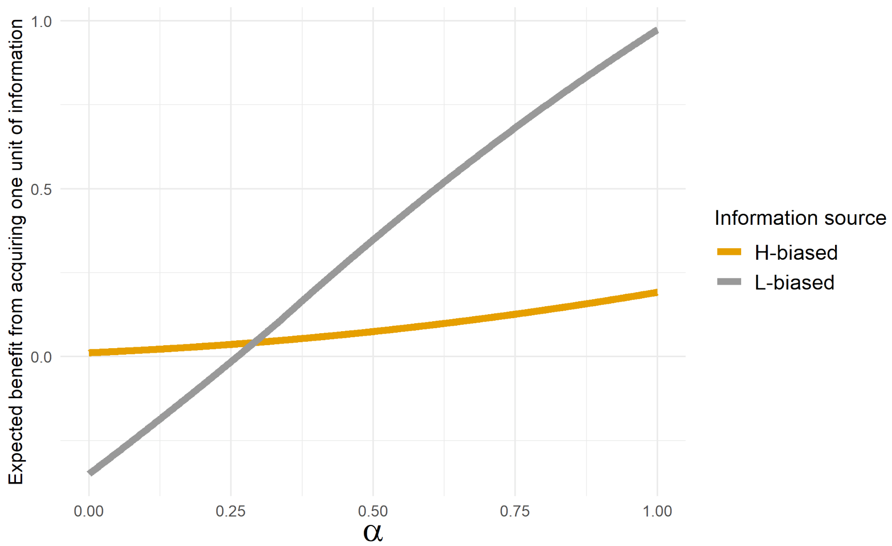
Analogously, when she uses the L-biased source and receives the signal $\sigma_L = high$ (i.e. breakthrough news), she updates her belief to $\mu'_L = Pr(\omega = \omega_h | \sigma_L = high) = 1$. If she receives the signal $\sigma_L = low$, she updates her belief to

$$\mu'_L = Pr(\omega = \omega_h | \sigma_L = low) = \frac{\mu}{2 - \mu}$$

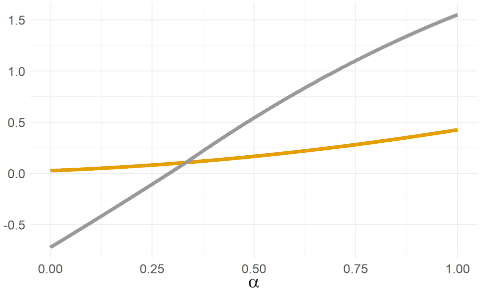
with $\mu'_L < \mu$ for all $\mu \in (0,1)$. Therefore, the expected utility from acquiring one unit of information from the L-biased is

$$\mathbb{E}_{\sigma_L}[U(\mu'_L)] \equiv \left(1 - \frac{\mu}{2}\right) \mathbb{E}[U((g(\mu'_L), \hat{g}, \mu'_L)] + \frac{\mu}{2} U(g(1), \hat{g}, 1).$$

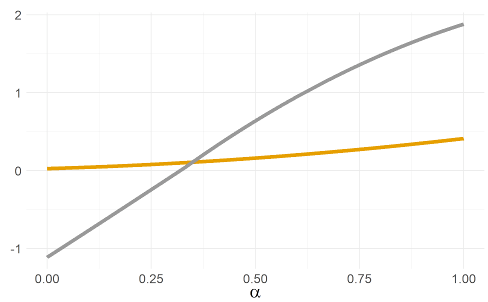
Then, compared to not acquiring further information, the expected gain from acquiring one unit of information from the H-biased source is given by $\phi_H \equiv \mathbb{E}_{\sigma_H}[U(\mu'_H)] - U(\mu)$ and the expected gain from acquiring one unit of information from the L-biased source is given by $\phi_L \equiv \mathbb{E}_{\sigma_L}[U(\mu'_L)] - U(\mu)$. The comparison of these two expression allows to determine which information source an individual wants to acquire a signal from.



(a) $\mu = 0.25$



(b) $\mu = 0.5$



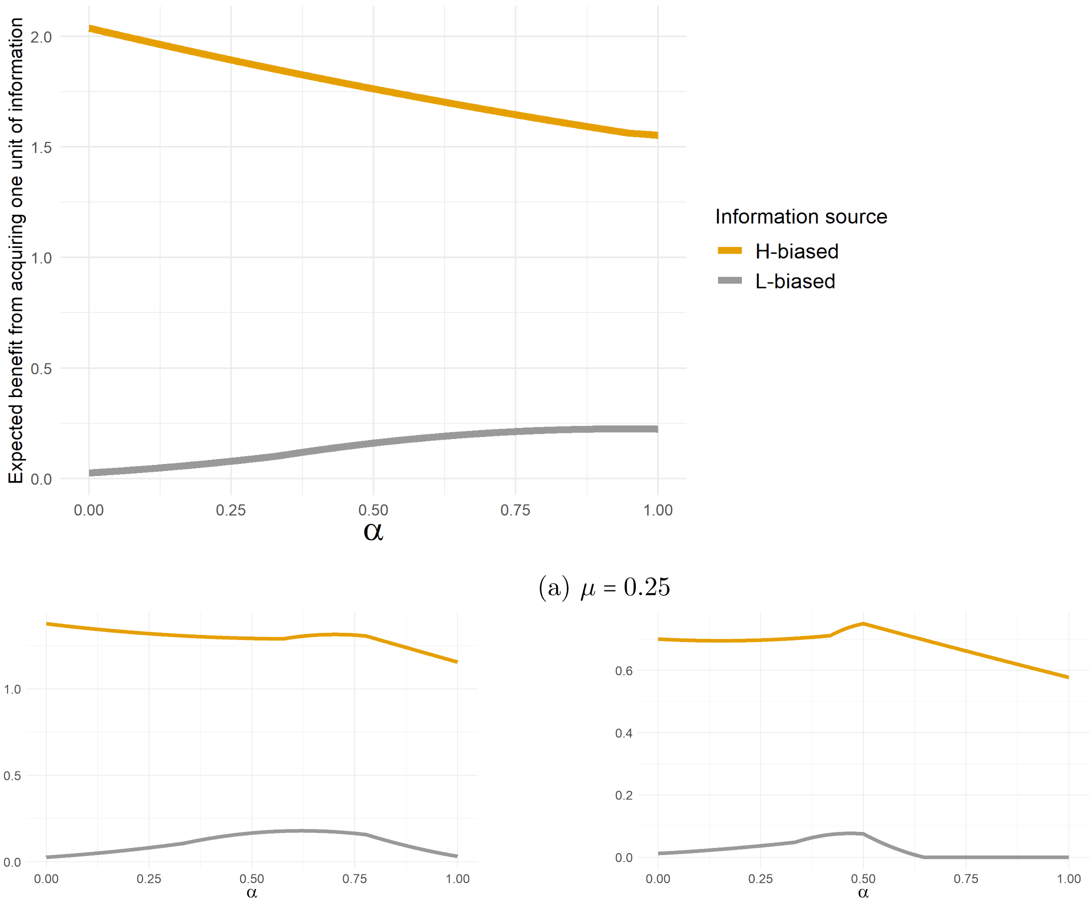
(c) $\mu = 0.75$

Figure 7: Net expected benefit from acquiring one unit of information from either source for type L and parameters $\gamma = 0.5$ $\hat{g} = 5$, $\underline{g} = 4$ and $\bar{g} = 10$.

A selfish individual (i.e. with $\alpha = \gamma = 0$) contributes zero independent of her belief μ. Therefore, updating the belief is meaningless for her such that she is indifferent towards all costless information. As soon as information acquisition entails at least marginal costs $\varepsilon > 0$, she prefers to remain uninformed. Hence even a small attention cost is sufficient to rationalize information avoidance.

When $\alpha > 0$ but $\gamma = 0$, an individual cares at least to some extent of the payoff of the other participants, but does not have any self-image concerns. In that case, the optimal contribution is a step function: it is either zero or the entire endowment. Whether an individual desires to contribute the entire endowment depends on her belief about the MPCR. Therefore, there is scope for belief updating. Whether it is optimal to devote attention to the L-biased source or to the H-biased source however depends on the prior belief μ as well. Thus, such a model would predict information acquisition choices that vary with the prior belief, as in Che and Mierendorff (2019) – but this is in contrast with the findings from our experiment.

Once self-image concerns play a role as well, i.e. when $\alpha > 0$ and $\gamma > 0$, we can rationalize our finding that information acquisition choices are independent of prior beliefs, as well as the finding that choices are affected by social preferences. Figures 7 and 8 display the net expected gains in expected utility from acquiring one unit of information from each source for increasing values of the social preferences α for the L-Type and the H-type, respectively, assuming that the individuals have self-image concerns of intermediate strength.[27]



(a) $\mu = 0.25$

(b) $\mu = 0.5$

(c) $\mu = 0.75$

Figure 8: Net expected benefit from acquiring one unit of information from either source for type H and parameters $\gamma = 0.5$ $\hat{g} = 5$, $\underline{g} = 4$ and $\bar{g} = 10$.

[27]The effects of varying the self-image concerns γ on the net gain in expected utility from acquiring one unit of information is displayed in appendix figure C.1 for the L-type and in appendix figure C.2 for the H-type.

The figures illustrate two insights: On the one hand, an individual of type L will acquire information from the L-biased source if her social preferences α are sufficiently large. Figure 7 shows that for the L-type, the expected gains from information from either source are increasing in her social preference α, making information acquisition more valuable. For low levels of social preferences, the H-biased source is preferred, but it yields only very low expected gains. Thus, for sufficiently high information costs, such an individual might prefer not to acquire information. There exists a threshold of the level of social preferences such that when the social preferences are sufficiently strong to exceed this threshold, the L-type prefers the L-biased source. On the other hand, an individual of type H will always acquire information from the H-biased source: Figure 8 shows that for the H-type, the expected gains from the H-biased source always exceed the expected gains from the L-biased source.

6 Conclusion

In this paper, we investigate whether strategic information acquisition can harm the provision of a public good. We find that the majority of participants acquires information that is biased towards low marginal returns, causing posterior beliefs to decline. Thus, average contributions decline and free-riding increases compared to the *no info* treatment. Moreover, we find that social preferences affect the information acquisition decision, such that more selfish participants are less likely to acquire information, and if they do so, they are more likely to acquire information that is biased towards high marginal returns than those who have more social preferences. They do so because this source might reveal that the marginal returns are low with certainty, thus allowing them to reduce their contributions.

The fact that participants avoid information that compels them to behave more generously, while they strategically seek information that justifies selfish behavior has already been documented in the literature about Dictator games. Observing the same behavior in a public good game has more far-reaching consequences. Social welfare in the Dictator Game is always equal to the endowment and therefore unaffected by the participants' actions. Instead, social welfare in the public good game depends directly on participants' actions. Therefore, we find that selective exposure leading to more selfish behavior has a detrimental effect on social welfare when contributions are required for efficiency.

Embedding our experiment in the GIP allows us to relate the preferences revealed in our incentivized experiment to self-reported field behavior. Thus, we contribute to the question of the external validity of experimental results (see e.g. Kerschbamer and Müller, 2020) and provide insights that are valuable beyond the abstract setting of our unframed experiment. In particular, we find robust evidence that the public good contributions in the experiment are correlated with the willingness to contribute to two actual public goods: environmental protection and COVID-19 containment. We also find that those who select different information sources in our experiment also differ in their willingness to contribute to environmental protection, which suggests that underlying social preferences indeed affect the information acquisition behavior.

All in all, our results show that more information is not always better. Compared to the case where no further information is available, strategic information acquisition can harm efficiency and social welfare. Therefore, a policymaker concerned with the provision of a public good that requires citizens' investments, such as the improvement of environmental quality or the containment of a virus, should take the information environment into account. Media diversity can be exploited by citizens to lower their contributions to a public good without suffering a loss in terms of their self-image. This leaves an open question for future research: How can desirable collective outcomes, such as the provision of a public good, be reached despite strategic information acquisition? Moreover, it might be the case that a policymaker is more informed about the actual state of the world than the citizens – e.g. because she is directly in contact with scientists – and that she might want to persuade citizens of her belief. How can she credibly convey her information, when other information sources might make different, unreliable claims? This question is especially relevant during times of low trust in governments and general skepticism towards science.

Acknowledgments

This article uses data from waves 38, 41, 44, 48, 49, and 52 of the German Internet Panel (DOIs: 10.4232/1.13391, 10.4232/1.13464, 10.4232/1.13614, 10.4232/1.13681, 10.4232/1.13682, 10.4232/1.13794), (Blom et al., 2019, 2020b,c, 2021b,c,d). A study description can be found in Blom et al. (2015). Moreover, this article uses data of the Mannheim Corona Study (MCS), (DOI: 10.4232/1.13700), (Blom et al., 2021a). A description of the MCS can be found in Blom et al. (2020a). The MCS is part of the German Internet Panel, which is part of the Collaborative Research Center 884 (SFB 884) funded by the German Research Foundation (DFG) – Project Number 139943784 – SFB 884. Additional funding for the MCS was provided by the German Federal Ministry for Labor and Social Affairs (BAMS).

References

Aksoy, B. and Krasteva, S. (2020). When does less information translate into more giving to public goods? *Experimental Economics*.

Baiardi, D. and Morana, C. (2020). Climate change awareness: Empirical evidence for the European Union. Working Papers 426, University of Milano-Bicocca, Department of Economics.

Björk, L., Kocher, M., Martinsson, P., and Nam Khanh, P. (2016). Cooperation under risk and ambiguity. Working Papers in Economics 683, University of Gothenburg, Department of Economics.

Björnberg, K. E., Karlsson, M., Gilek, M., and Hansson, S. O. (2017). Climate and environmental science denial: A review of the scientific literature published in 1990–2015. *Journal of Cleaner Production*, 167:229 – 241.

Blom, A. G., Bosnjak, M., Cornilleau, A., Cousteaux, A.-S., Das, M., Douhou, S., and Krieger, U. (2016). A comparison of four probability-based online and mixed-mode panels in europe. *Social Science Computer Review*, 34(1):8–25.

Blom, A. G., Cornesse, C., Friedel, S., Krieger, U., Fikel, M., Rettig, T., Wenz, A., Juhl, S., Lehrer, R., Möhring, K., Naumann, E., Reifenscheid, M., and SFB 884 ´Political Economy of Reforms´, Universität Mannheim (2021a). Mannheim Corona Study. GESIS Data Archive, Cologne. ZA7745 Data file Version 1.0.0, https://doi.org/10.4232/1.13700.

Blom, A. G., Cornesse, C., Friedel, S., Krieger, U., Fikel, M., Rettig, T., Wenz, A., Juhl, S., Lehrer, R., Möhring, K., Naumann, E., and Reifenscheid, M. (2020a). High frequency and high quality survey data collection. *Survey Research Methods*, 14(2):171–178.

Blom, A. G., Fikel, M., Friedel, S., Höhne, J. K., Krieger, U., Rettig, T., Wenz, A., and SFB 884 ´Political Economy of Reforms´, Universität Mannheim (2019). German Internet Panel, Wave 38 (November 2018). GESIS Data Archive, Cologne. ZA6958 Data file Version 1.0.0, https://doi.org/10.4232/1.13391.

Blom, A. G., Fikel, M., Friedel, S., Höhne, J. K., Krieger, U., Rettig, T., Wenz, A., and SFB 884 ´Political Economy of Reforms´, Universität Mannheim (2020b). German Internet Panel, Wave 41 (May 2019). GESIS Data Archive, Cologne. ZA7590 Data file Version 1.0.0, https://doi.org/10.4232/1.13464.

Blom, A. G., Fikel, M., Friedel, S., Höhne, J. K., Krieger, U., Rettig, T., Wenz, A., and SFB 884 ´Political Economy of Reforms´, Universität Mannheim (2020c). German Internet Panel, Wave 44 (November 2019). GESIS Data Archive, Cologne. ZA7593 Data file Version 1.1.0, https://doi.org/10.4232/1.13614.

Blom, A. G., Fikel, M., Friedel, S., Krieger, U., Rettig, T., and SFB 884 ´Political Economy of Reforms´, Universität Mannheim (2021b). German Internet Panel, Wave 48 (July 2020). GESIS Data Archive, Cologne. ZZA7645 Data file Version 1.0.0, https://doi.org/10.4232/1.13681.

Blom, A. G., Fikel, M., Friedel, S., Krieger, U., Rettig, T., and SFB 884 ´Political Economy of Reforms´, Universität Mannheim (2021c). German Internet Panel, Wave 49 - Core Study (September 2020). GESIS Data Archive, Cologne. ZA7646 Data file Version 1.0.0, https://doi.org/10.4232/1.13682.

Blom, A. G., Gathmann, C., and Krieger, U. (2015). Setting up an online panel representative of the general population: The german internet panel. *Field Methods*, 27(4):391–408.

Blom, A. G., Gonzalez Ocanto, M., Fikel, M., Friedel, S., Krieger, U., Rettig, T., and SFB 884 ´Political Economy of Reforms´, Universität Mannheim (2021d). German Internet Panel, Wave 52 (March 2021). GESIS Data Archive, Cologne. ZA7760 Data file Version 1.0.0, https://doi.org/10.4232/1.13794.

Blom, A. G., Herzing, J. M. E., Cornesse, C., Sakshaug, J. W., Krieger, U., and Bossert, D. (2017). Does the recruitment of offline households increase the sample representativeness of probability-based online panels? evidence from the german internet panel. *Social Science Computer Review*, 35(4):498–520.

Butera, L. and List, J. A. (2017). An economic approach to alleviate the crises of confidence in science: With an application to the public goods game. Working Paper 23335, National Bureau of Economic Research.

Che, Y.-K. and Mierendorff, K. (2019). Optimal dynamic allocation of attention. *American Economic Review*, 109(8):2993–3029.

Chen, S. and Heese, C. (2019). Motivated information acquisition in social decisions. Working paper.

Cinelli, M., Quattrociocchi, W., Galeazzi, A., Valensise, C. M., Brugnoli, E., Schmidt, A. L., Zola, P., Zollo, F., and Scala, A. (2020). The covid-19 social media infodemic. *Scientific Reports*, 10(1):1–10.

Colasante, A., García-Gallego, A., Georgantzis, N., and Morone, A. (2020). Voluntary contributions in a system with uncertain returns: a case of systemic risk. *Journal of Economic Interaction and Coordination*, 15(1):111–132.

Cornesse, C., Blom, A. G., Dutwin, D., Krosnick, J. A., De Leeuw, E. D., Legleye, S., Pasek, J., Pennay, D., Phillips, B., Sakshaug, J. W., Struminskaya, B., and Wenz, A. (2020). A Review of Conceptual Approaches and Empirical Evidence on Probability and Nonprobability Sample Survey Research. *Journal of Survey Statistics and Methodology*, 8(1):4–36.

Dana, J., Weber, R. A., and Kuang, J. X. (2007). Exploiting moral wiggle room: experiments demonstrating an illusory preference for fairness. *Economic Theory*, 33(1):67–80.

Del Vicario, M., Bessi, A., Zollo, F., Petroni, F., Scala, A., Caldarelli, G., Stanley, H. E., and Quattrociocchi, W. (2016). The spreading of misinformation online. *Proceedings of the National Academy of Sciences*, 113(3):554–559.

Dickinson, D. L. (1998). The voluntary contributions mechanism with uncertain group payoffs. *Journal of Economic Behavior & Organization*, 35(4):517 – 533.

Fischbacher, U. and Gächter, S. (2010). Social preferences, beliefs, and the dynamics of free riding in public goods experiments. *American Economic Review*, 100(1):541–56.

Fischbacher, U., Gächter, S., and Fehr, E. (2001). Are people conditionally cooperative? evidence from a public goods experiment. *Economics Letters*, 71(3):397–404.

Fischbacher, U., Schudy, S., and Teyssier, S. (2014). Heterogeneous reactions to heterogeneity in returns from public goods. *Social Choice and Welfare*, 43(1):195–217.

Gangadharan, L. and Nemes, V. (2009). Experimental analysis of risk and uncertainty in provisioning private and public goods. *Economic Inquiry*, 47(1):146–164.

Grossman, Z. and van der Weele, J. J. (2016). Self-Image and Willful Ignorance in Social Decisions. *Journal of the European Economic Association*, 15(1):173–217.

Herzing, J. M. E. and Blom, A. G. (2019). The influence of a person's digital affinity on unit nonresponse and attrition in an online panel. *Social Science Computer Review*, 37(3):404–424.

Kerschbamer, R. and Müller, D. (2020). Social preferences and political attitudes: An online experiment on a large heterogeneous sample. *Journal of Public Economics*, 182:104076.

Lazer, D. M. J., Baum, M. A., Benkler, Y., Berinsky, A. J., Greenhill, K. M., Menczer, F., Metzger, M. J., Nyhan, B., Pennycook, G., Rothschild, D., Schudson, M., Sloman, S. A., Sunstein, C. R., Thorson, E. A., Watts, D. J., and Zittrain, J. L. (2018). The science of fake news. *Science*, 359(6380):1094–1096.

Levati, M., Morone, A., and Fiore, A. (2009). Voluntary contributions with imperfect information: An experimental study. *Public Choice*, 138(1):199–216.

Levati, M. V. and Morone, A. (2013). Voluntary Contributions with Risky and Uncertain Marginal Returns: The Importance of the Parameter Values. *Journal of Public Economic Theory*, 15(5):736–744.

Momsen, K. and Ohndorf, M. (2019). Information Avoidance, Selective Exposure, and Fake(?) News-A Green Market Experiment. Working Papers 2019-18, Faculty of Economics and Statistics, University of Innsbruck.

Momsen, K. and Ohndorf, M. (2020). When do people exploit moral wiggle room? an experimental analysis of information avoidance in a market setup. *Ecological Economics*, 169:106479.

Nyborg, K. (2011). I don't want to hear about it: Rational ignorance among duty-oriented consumers. *Journal of Economic Behavior & Organization*, 79(3):263 – 274.

Spiekermann, K. and Weiss, A. (2016). Objective and subjective compliance: A norm-based explanation of 'moral wiggle room'. *Games and Economic Behavior*, 96(C):170–183.

Théroude, V. and Zylbersztejn, A. (2020). Cooperation in a risky world. *Journal of Public Economic Theory*, 22(2):388–407.

World Health Organization (2020). Novel Coronavirus(2019-nCoV) Situation Report - 13 . https://www.nature.com/articles/s41598-020-73510-5. Last accessed: 10/14/2021.

A Additional Regression Tables

First, we provide the full regression tables that correspond to the shortened versions in section 4.2. Tables A.1 and A.2 report the marginal effects of the probit regressions for the information stage. Tables A.3, A.5 and A.7 report the coefficients for the three-part model where the signal choice is the main explanatory variable, including a specification with interaction effects. Tables A.4, A.6 and A.8 report the coefficients for the three-part model where the posterior belief is the main explanatory variable, including a specification with interaction effects. Table A.9 shows the three-part model estimated separately on the subsets of those who acquired signal σ_H and those who acquired signal σ_L.

Then we present alternative model specifications. Table A.10 reports the results of a multinomial logistic regression for the information acquisition decision. Table A.11 and table A.12 form a two-part hurdle model for the contribution decision. The probit regression in table A.11 models the participation decision, i.e. the decision whether to contribute zero or a positive amount. The censored regression in table A.12 models the amount decision among those who decide to contribute, i.e. those with $0 < g_i < 10$. Table A.13 presents a two-limit Tobit model for the contribution decision, which is a censored regression on the complete sample that takes into account that contributions cannot be below 0 or above 10.

In section A.3, we explain how we selected the model for the contribution decision among the three possible models.

Finally we provide the additional regression tables for section 4.3. Tables A.15 and A.16 are the full tables corresponding to the shortened versions in section 4.3. Tables A.17 – A.23 present the regression results for the single variables employed in our main specifications separately. Tables A.24 and A.25 present the regression results for alternative specifications, in which further variables that capture willingness to contribute to environmental protection are added.

A.1 Regression Tables: Experimental Results

Table A.1: Probit model for the decision to acquire information.

	Dependent variable:			
	acquired information			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.018	−0.012	−0.011	−0.012
	(0.015)	(0.014)	(0.014)	(0.014)
prior = 0.75	−0.011	−0.012	−0.007	−0.008
	(0.015)	(0.014)	(0.014)	(0.014)
own payoff		-0.033^{*}	-0.029^{*}	−0.028
		(0.017)	(0.017)	(0.017)
reciprocity		-0.131^{***}	-0.095^{***}	-0.094^{***}
		(0.017)	(0.015)	(0.016)
own payoff and group payoff		0.070^{***}	0.070^{***}	0.070^{***}
		(0.010)	(0.015)	(0.015)
own payoff and reciprocity		0.009	0.027	0.025
		(0.070)	(0.060)	(0.062)
group payoff and reciprocity		-0.129^{**}	-0.134^{**}	-0.134^{**}
		(0.063)	(0.061)	(0.062)
own payoff, reciprocity, and group payoff		0.076^{***}	0.084^{***}	0.084^{***}
		(0.007)	(0.008)	(0.008)
other motives		-0.165^{***}	-0.141^{***}	-0.141^{***}
		(0.022)	(0.019)	(0.019)
no comprehension			-0.158^{***}	-0.156^{***}
			(0.011)	(0.011)
difficulty = 2				−0.001
				(0.018)
difficulty = 3				−0.001
				(0.017)
difficulty = 4				−0.038
				(0.024)
Constant	–	–	–	–
Observations	3,127	3,111	3,111	3,100
Log Likelihood	−1,216.005	−1,122.230	−1,023.089	−1,018.124
Note:				*p<0.1; **p<0.05; ***p<0.01

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those in the *info* treatment. The dependent variable *acquired information* is a binary indicator variable which takes the value 1 if the participant chose to acquire either of the two signals, and the value 0 if the participant did not acquire any signal. *Prior* is a categorical variable with 0.5 as the reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff.* The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

Table A.2: Probit model for the decision to acquire signal σ_H among those who acquire information.

	Dependent variable:			
	acquired signal σ_H			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.018	−0.016	−0.018	−0.019
	(0.023)	(0.023)	(0.022)	(0.022)
prior = 0.75	−0.024	−0.023	−0.028	−0.030
	(0.022)	(0.022)	(0.022)	(0.022)
own payoff		0.084^{***}	0.087^{***}	0.092^{***}
		(0.030)	(0.029)	(0.029)
reciprocity		0.045^{*}	0.027	0.032
		(0.025)	(0.025)	(0.025)
own payoff and group payoff		0.015	0.046	0.044
		(0.041)	(0.041)	(0.040)
own payoff and reciprocity		−0.051	−0.070	−0.068
		(0.132)	(0.119)	(0.119)
group payoff and reciprocity		0.033	0.052	0.056
		(0.085)	(0.090)	(0.090)
own payoff, reciprocity, and group payoff		−0.114	−0.085	−0.071
		(0.105)	(0.111)	(0.111)
other motives		−0.038	−0.036	−0.036
		(0.028)	(0.028)	(0.028)
no comprehension			0.184^{***}	0.189^{***}
			(0.018)	(0.018)
difficulty = 2				−0.006
				(0.028)
difficulty = 3				-0.067^{**}
				(0.028)
difficulty = 4				-0.078^{**}
				(0.037)
Constant	–	–	–	–
Observations	2,716	2,707	2,707	2,697
Log Likelihood	−1,761.147	−1,747.780	−1,699.499	−1,685.868
Note:				*p<0.1; **p<0.05; ***p<0.01

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those in the *info* treatment. The dependent variable *acquired information* is a binary indicator variable which takes the value 1 if the participant chose to acquire either of the two signals, and the value 0 if the participant did not acquire any signal. *Prior* is a categorical variable with 0.5 as the reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff.* The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

Table A.3: Probit Model for the decision to contribute zero. Signal choice as main explanatory variable. With interactions.

	Dependent variable:			
	zero contribution			
	probit			
	(1)	(2)	(3)	(4)
info	0.196***			
	(0.070)			
prior = 0.25	0.200***	0.199***	0.170**	0.168
	(0.071)	(0.074)	(0.083)	(0.175)
prior = 0.75	0.130*	0.120	0.120	0.167
	(0.072)	(0.075)	(0.084)	(0.178)
acquired signal σ_H		−0.024	−0.011	0.034
		(0.091)	(0.104)	(0.183)
acquired signal σ_L		−0.074	−0.031	−0.061
		(0.080)	(0.093)	(0.172)
no signal acquired		1.047***	0.971***	1.037***
		(0.090)	(0.102)	(0.189)
own payoff			1.455***	1.462***
			(0.124)	(0.124)
reciprocity			1.038***	1.042***
			(0.117)	(0.118)
own payoff and group payoff			0.455**	0.457**
			(0.230)	(0.231)
own payoff and reciprocity			−2.956***	−2.997***
			(0.708)	(0.816)
group payoff and reciprocity			0.029	0.043
			(0.442)	(0.447)
all reasons			−2.647***	−2.645***
			(0.114)	(0.115)
other reasons			1.550***	1.550***
			(0.116)	(0.116)
difficulty = 2			−0.139	−0.142
			(0.098)	(0.098)
difficulty = 3			−0.076	−0.073
			(0.099)	(0.099)
difficulty = 4			−0.133	−0.133
			(0.135)	(0.137)
prior = 0.25 * acquired signal σ_H				0.057
				(0.248)
prior = 0.75 * acquired signal σ_H				−0.226
				(0.261)
prior = 0.25 * acquired signal σ_L				0.070
				(0.224)
prior = 0.75 * acquired signal σ_L				0.008
				(0.233)
prior = 0.25 * no signal acquired				−0.146
				(0.253)
prior = 0.75 * no signal acquired				−0.034
				(0.248)
Constant	−1.682***	−1.678***	−2.546***	−2.564***
	(0.076)	(0.077)	(0.134)	(0.170)
Observations	4,187	4,187	4,153	4,153
Log Likelihood	−1,141.922	−1,041.278	−861.967	−860.379
Note:				*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. *Zero contribution* is a binary indicator variable which takes the value 1 if the participant did not contribute, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Signal choice* is a categorical variable with "no info treatment" as the omitted reference category.

Table A.4: Probit Model for the decision to contribute zero. Posterior beliefs as main explanatory variable. With interactions.

	Dependent variable:			
	zero contribution			
	probit			
	(1)	(2)	(3)	(4)
info	0.196***			
	(0.070)			
prior = 0.25	0.200***	0.188**	0.168**	0.169
	(0.071)	(0.075)	(0.083)	(0.175)
prior = 0.75	0.130*	0.157**	0.147*	0.167
	(0.072)	(0.076)	(0.084)	(0.178)
posterior = 1		−0.254**	−0.097	−0.277
		(0.128)	(0.149)	(0.308)
posterior = 0		0.366***	0.343**	0.484**
		(0.124)	(0.136)	(0.220)
posterior increased		−0.242**	−0.224*	−0.363
		(0.109)	(0.127)	(0.246)
posterior reduced		−0.020	−0.015	−0.016
		(0.084)	(0.097)	(0.179)
no signal acquired		1.047***	0.970***	1.036***
		(0.090)	(0.102)	(0.189)
own payoff			1.446***	1.462***
			(0.126)	(0.126)
reciprocity			1.032***	1.038***
			(0.120)	(0.120)
own payoff and group payoff			0.476**	0.478**
			(0.232)	(0.234)
own payoff and reciprocity			−2.980***	−3.004***
			(0.455)	(0.795)
group payoff and reciprocity			0.029	0.044
			(0.446)	(0.451)
all reasons			−2.621***	−2.633***
			(0.119)	(0.120)
other reasons			1.540***	1.548***
			(0.117)	(0.118)
difficulty = 2			−0.131	−0.129
			(0.098)	(0.098)
difficulty = 3			−0.066	−0.057
			(0.099)	(0.099)
difficulty = 4			−0.125	−0.120
			(0.136)	(0.138)
prior = 0.25 * posterior = 1				0.289
				(0.424)
prior = 0.75 * posterior = 1				0.209
				(0.375)
prior = 0.25 * posterior = 0				−0.342
				(0.309)
prior = 0.75 * posterior = 0				0.004
				(0.371)
prior = 0.25 * posterior increased				0.417
				(0.317)
prior = 0.75 * posterior increased				−0.068
				(0.327)
prior = 0.25 * posterior reduced				0.020
				(0.231)
prior = 0.75 * posterior reduced				−0.034
				(0.250)
prior = 0.25 * no signal acquired				−0.148
				(0.253)
prior = 0.75 * no signal acquired				−0.034
				(0.248)
Constant	−1.682***	−1.687***	−2.555***	−2.573***
	(0.076)	(0.077)	(0.135)	(0.171)
Observations	4,187	4,187	4,153	4,153
Log Likelihood	−1,141.922	−1,030.113	−855.206	−851.004
Note:				*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. *Zero contribution* is a binary indicator variable which takes the value 1 if the participant did not contribute, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Posterior* is a categorical variable with "no info treatment" as the omitted reference category.

Table A.5: Probit Model for the decision to contribute the entire endowment. Signal choice as main explanatory variable. With interactions.

	Dependent variable:			
	full contribution			
	probit			
	(1)	(2)	(3)	(4)
info	−0.169***			
	(0.046)			
prior = 0.25	−0.034	−0.030	−0.0002	−0.077
	(0.050)	(0.050)	(0.053)	(0.102)
prior = 0.75	0.088*	0.091*	0.105**	−0.026
	(0.050)	(0.050)	(0.052)	(0.102)
acquired signal σ_H		−0.083	−0.034	−0.065
		(0.058)	(0.062)	(0.105)
acquired signal σ_L		−0.174***	−0.153***	−0.313***
		(0.051)	(0.054)	(0.094)
no signal acquired		−0.368***	−0.066	−0.042
		(0.079)	(0.087)	(0.151)
own payoff			−0.443***	−0.441***
			(0.067)	(0.068)
reciprocity			−1.187***	−1.185***
			(0.069)	(0.069)
own payoff and group payoff			0.247***	0.248***
			(0.092)	(0.092)
own payoff and reciprocity			−4.867***	−4.862***
			(0.091)	(0.085)
group payoff and reciprocity			−0.572***	−0.569***
			(0.183)	(0.185)
all reasons			−0.058	−0.058
			(0.274)	(0.273)
other reasons			−0.608***	−0.608***
			(0.065)	(0.065)
difficulty = 2			−0.237***	−0.238***
			(0.058)	(0.058)
difficulty = 3			−0.379***	−0.378***
			(0.061)	(0.061)
difficulty = 4			−0.284***	−0.278***
			(0.093)	(0.093)
prior = 0.25 * acquired signal σ_H				0.025
				(0.151)
prior = 0.75 * acquired signal σ_H				0.065
				(0.151)
prior = 0.25 * acquired signal σ_L				0.174
				(0.131)
prior = 0.75 * acquired signal σ_L				0.301**
				(0.130)
prior = 0.25 * no signal acquired				0.016
				(0.212)
prior = 0.75 * no signal acquired				−0.084
				(0.210)
Constant	−0.393***	−0.395***	0.112*	0.180**
	(0.049)	(0.049)	(0.066)	(0.083)
Observations	4,187	4,187	4,153	4,153
Log Likelihood	−2,577.495	−2,571.111	−2,305.045	−2,301.016
Note:				*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. *Full contribution* is a binary indicator variable which takes the value 1 if the participant contributed the entire endowment, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Posterior* is a categorical variable with "no info treatment" as the omitted reference category.

Table A.6: Probit Model for the decision to contribute the entire endowment. Posterior beliefs as main explanatory variable. With interactions.

	Dependent variable:			
	full contribution			
	probit			
	(1)	(2)	(3)	(4)
info	−0.169***			
	(0.046)			
prior = 0.25	−0.034	0.009	0.032	−0.077
	(0.050)	(0.051)	(0.054)	(0.101)
prior = 0.75	0.088*	0.043	0.067	−0.027
	(0.050)	(0.050)	(0.053)	(0.102)
posterior = 1		0.288***	0.216***	−0.001
		(0.071)	(0.074)	(0.131)
posterior = 0		−0.192**	−0.118	−0.135
		(0.094)	(0.102)	(0.168)
posterior increased		−0.047	−0.009	−0.041
		(0.063)	(0.067)	(0.114)
posterior reduced		−0.367***	−0.316***	−0.450***
		(0.055)	(0.059)	(0.103)
no signal acquired		−0.368***	−0.077	−0.052
		(0.079)	(0.087)	(0.150)
own payoff			−0.427***	−0.428***
			(0.068)	(0.068)
reciprocity			−1.162***	−1.160***
			(0.070)	(0.070)
own payoff and group payoff			0.221**	0.223**
			(0.092)	(0.093)
own payoff and reciprocity			−4.842***	−4.851***
			(0.097)	(0.098)
group payoff and reciprocity			−0.541***	−0.537***
			(0.184)	(0.186)
all reasons			−0.070	−0.088
			(0.267)	(0.270)
other reasons			−0.590***	−0.591***
			(0.065)	(0.065)
difficulty = 2			−0.243***	−0.245***
			(0.058)	(0.059)
difficulty = 3			−0.373***	−0.373***
			(0.061)	(0.061)
difficulty = 4			−0.267***	−0.264***
			(0.094)	(0.094)
prior = 0.25 * posterior = 1				0.403*
				(0.208)
prior = 0.75 * posterior = 1				0.293*
				(0.170)
prior = 0.25 * posterior = 0				0.047
				(0.228)
prior = 0.75 * posterior = 0				−0.038
				(0.294)
prior = 0.25 * posterior increased				0.026
				(0.168)
prior = 0.75 * posterior increased				0.065
				(0.159)
prior = 0.25 * posterior reduced				0.211
				(0.140)
prior = 0.75 * posterior reduced				0.191
				(0.146)
prior = 0.25 * no signal acquired				0.015
				(0.211)
prior = 0.75 * no signal acquired				−0.084
				(0.209)
Constant	−0.393***	−0.392***	0.109	0.176**
	(0.049)	(0.049)	(0.066)	(0.083)
Observations	4,187	4,187	4,153	4,153
Log Likelihood	−2,577.495	−2,527.262	−2,278.855	−2,275.053
Note:			*p<0.1; **p<0.05; ***p<0.01	

Robust standard errors in parentheses. *Full contribution* is a binary indicator variable which takes the value 1 if the participant contributed the entire endowment, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Posterior* is a categorical variable with "no info treatment" as the omitted reference category.

Table A.7: Truncated normal model on the sample with 0<gi<10. Signal choice as main explanatory variable. With interactions.

	Dependent variable:			
	contributions			
	Tobit			
	(1)	(2)	(3)	(4)
info	−0.648***			
	(0.083)			
prior = 0.25	0.030	0.038	0.098	−0.007
	(0.094)	(0.094)	(0.089)	(0.158)
prior = 0.75	0.145	0.149	0.168*	0.027
	(0.094)	(0.093)	(0.088)	(0.158)
acquired signal σ_H		−0.477***	−0.476***	−0.497***
		(0.108)	(0.102)	(0.166)
acquired signal σ_L		−0.645***	−0.619***	−0.744***
		(0.091)	(0.088)	(0.145)
no signal acquired		−1.191***	−0.969***	−1.292***
		(0.165)	(0.160)	(0.282)
own payoff			−0.927***	−0.934***
			(0.136)	(0.136)
reciprocity			−1.451***	−1.459***
			(0.086)	(0.086)
own payoff and group payoff			0.273	0.269
			(0.180)	(0.180)
own payoff and reciprocity			−1.762***	−1.738***
			(0.540)	(0.547)
group payoff and reciprocity			−0.293	−0.286
			(0.269)	(0.267)
all reasons			−1.030***	−1.028***
			(0.304)	(0.297)
other reasons			−1.005***	−1.012***
			(0.116)	(0.116)
difficulty = 2			0.201*	0.214*
			(0.114)	(0.114)
difficulty = 3			0.029	0.042
			(0.116)	(0.116)
difficulty = 4			0.014	0.045
			(0.161)	(0.161)
prior = 0.25 * acquired signal σ_H				−0.009
				(0.249)
prior = 0.75 * acquired signal σ_H				0.062
				(0.241)
prior = 0.25 * acquired signal σ_L				0.120
				(0.209)
prior = 0.75 * acquired signal σ_L				0.256
				(0.208)
prior = 0.25 * no signal acquired				0.706*
				(0.385)
prior = 0.75 * no signal acquired				0.197
				(0.387)
Constant	5.729***	5.725***	6.236***	6.310***
	(0.087)	(0.087)	(0.121)	(0.143)
Observations	2,567	2,567	2,544	2,544
Log Likelihood	−5,364.466	−5,354.735	−5,155.317	−5,152.238
Note:				*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The sample is the subsample of those who contributed $0 < g_i < 10$. The dependent variable is the contribution level. *Signal choice* is a categorical variable with "no info treatment" as the omitted reference category .

Table A.8: Truncated normal model on the sample with 0<gi<10. Posterior beliefs as main explanatory variable. With interactions.

	Dependent variable:			
	contributions			
	Tobit			
	(1)	(2)	(3)	(4)
info	−0.648***			
	(0.083)			
prior = 0.25	0.030	0.106	0.150*	−0.009
	(0.094)	(0.093)	(0.089)	(0.158)
prior = 0.75	0.145	0.089	0.120	0.028
	(0.094)	(0.093)	(0.088)	(0.158)
posterior = 1		0.131	−0.018	−0.156
		(0.148)	(0.142)	(0.230)
posterior = 0		−0.884***	−0.832***	−0.825***
		(0.185)	(0.183)	(0.274)
posterior increased		−0.342***	−0.354***	−0.379**
		(0.117)	(0.109)	(0.179)
posterior reduced		−0.842***	−0.771***	−0.899***
		(0.095)	(0.092)	(0.151)
no signal acquired		−1.193***	−0.975***	−1.291***
		(0.165)	(0.160)	(0.282)
own payoff			−0.894***	−0.902***
			(0.135)	(0.134)
reciprocity			−1.413***	−1.422***
			(0.087)	(0.087)
own payoff and group payoff			0.266	0.255
			(0.176)	(0.176)
own payoff and reciprocity			−1.678***	−1.674***
			(0.558)	(0.560)
group payoff and reciprocity			−0.250	−0.250
			(0.263)	(0.264)
all reasons			−0.989***	−1.023***
			(0.296)	(0.296)
other reasons			−0.958***	−0.963***
			(0.116)	(0.115)
difficulty = 2			0.172	0.180
			(0.113)	(0.113)
difficulty = 3			0.008	0.009
			(0.115)	(0.114)
difficulty = 4			−0.004	0.019
			(0.159)	(0.159)
prior = 0.25 * posterior = 1				0.676
				(0.413)
prior = 0.75 * posterior = 1				0.047
				(0.310)
prior = 0.25 * posterior = 0				0.228
				(0.394)
prior = 0.75 * posterior = 0				−0.674
				(0.519)
prior = 0.25 * posterior increased				−0.070
				(0.274)
prior = 0.75 * posterior increased				0.103
				(0.252)
prior = 0.25 * posterior reduced				0.173
				(0.215)
prior = 0.75 * posterior reduced				0.238
				(0.222)
prior = 0.25 * no signal acquired				0.698*
				(0.385)
prior = 0.75 * no signal acquired				0.194
				(0.387)
Constant	5.729***	5.722***	6.232***	6.316***
	(0.087)	(0.087)	(0.121)	(0.142)
Observations	2,567	2,567	2,544	2,544
Log Likelihood	−5,364.466	−5,327.867	−5,136.760	−5,130.249
Note:				*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The sample is the subsample of those who contributed $0 < g_i < 10$. The dependent variable is the contribution level. *Posterior* is a categorical variable with "no info treatment" as the omitted reference category .

Table A.9: Separate three-Part Models for those who acquired signal σ_H or signal σ_L.

	acquired signal σ_H			acquired signal σ_L		
	zero_contribution	contributions	full_contribution	zero_contribution	contributions	full_contribution
	probit	*Tobit*	*probit*	*probit*	*Tobit*	*probit*
	(1)	(2)	(3)	(4)	(5)	(6)
prior = 0.25	0.022	0.031	−0.008	0.019*	0.200	0.054**
	(0.017)	(0.193)	(0.036)	(0.012)	(0.137)	(0.025)
prior = 0.75	0.004	−0.014	0.007	0.016	0.201	0.057**
	(0.017)	(0.182)	(0.036)	(0.012)	(0.135)	(0.025)
posterior = 0	0.056***	−0.512***	−0.034			
	(0.019)	(0.195)	(0.035)			
posterior = 1				−0.010	0.753***	0.160***
				(0.012)	(0.145)	(0.025)
Constant	–	6.168***	–	–	5.215***	–
		(0.230)			(0.192)	
Motives	Yes	Yes	Yes	Yes	Yes	Yes
Difficulty	Yes	Yes	Yes	Yes	Yes	Yes
Observations	950	590	950	1,747	1,145	1,747
Log Likelihood	−158.828	−1,204.320	−550.716	−289.839	−2,341.271	−892.781
Note:						*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. Columns 1 – 3 present the three part model for the subset of those participants who acquired signal σ_H. Columns 4 – 6 present the three part model for the subset of those participants who acquired signal σ_L. Columns 1, 3, 4 and 6 report marginal effects. *Zero contribution* is a binary indicator variable which takes the value 1 if the participant did not contribute, and 0 otherwise. *Contributions* is the level of contributions (in euros) for the subset of participants who contributed an amount g_i with $0 < g_i < 10$. *Full contribution* is a binary indicator variable which takes the value 1 if the participant contributed the entire endowment, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Posterior* is a categorical variable with "increased posterior" as the omitted reference category when signal σ_H was acquired (columns 1-3), and "reduced posterior" omitted when signal σ_L was acquired (columns 4 – 6). The control variable *motives* captures the difference contribution motives, and *difficulty* captures the perceived difficulty of the entire questionnaire. The varying number of observations is caused by participants who did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

A.2 Alternative Models

Table A.10: Alternative model: Multinomial logit model for the information acquisition decision.

	Dependent variable:							
	signal σ_H	none	signal σ_H	none	signal σ_H	none	signal σ_H	none
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
prior = 0.25	−0.080	0.127	−0.081	0.101	−0.085	0.076	−0.094	0.078
	(0.098)	(0.135)	(0.099)	(0.139)	(0.100)	(0.147)	(0.101)	(0.147)
prior = 0.75	−0.106	0.061	−0.103	0.095	−0.128	0.026	−0.134	0.029
	(0.098)	(0.136)	(0.099)	(0.141)	(0.100)	(0.148)	(0.101)	(0.148)
own payoff			0.357^{***}	0.537^{***}	0.369^{***}	0.563^{***}	0.389^{***}	0.559^{***}
			(0.124)	(0.197)	(0.126)	(0.206)	(0.126)	(0.206)
reciprocity			0.199^{*}	1.230^{***}	0.106	1.025^{***}	0.133	1.026^{***}
			(0.108)	(0.145)	(0.111)	(0.153)	(0.111)	(0.153)
own payoff and group payoff			0.067	-2.528^{**}	0.220	-2.117^{**}	0.203	-2.127^{**}
			(0.178)	(1.010)	(0.181)	(1.014)	(0.182)	(1.014)
own payoff and reciprocity			−0.244	−0.218	−0.351	−0.475	−0.328	−0.431
			(0.595)	(1.054)	(0.604)	(1.080)	(0.605)	(1.080)
group payoff and reciprocity			0.147	1.194^{***}	0.211	1.352^{***}	0.226	1.354^{***}
			(0.355)	(0.409)	(0.359)	(0.438)	(0.360)	(0.438)
own payoff, reciprocity, and group payoff			−0.574	−11.547	−0.440	−10.937	−0.372	−11.102
			(0.570)	(243.138)	(0.576)	(213.374)	(0.576)	(214.963)
other motives			−0.176	1.296^{***}	−0.217	1.241^{***}	−0.200	1.236^{***}
			(0.133)	(0.156)	(0.136)	(0.165)	(0.136)	(0.165)
no comprehension					0.836^{***}	1.976^{***}	0.855^{***}	1.965^{***}
					(0.085)	(0.130)	(0.086)	(0.131)
difficulty = 2							−0.032	−0.010
							(0.124)	(0.192)
difficulty = 3							-0.306^{**}	−0.136
							(0.124)	(0.188)
difficulty = 4							-0.341^{**}	0.171
							(0.173)	(0.230)
Constant	-0.549^{***}	-1.519^{***}	-0.615^{***}	-2.152^{***}	-0.902^{***}	-3.094^{***}	-0.755^{***}	-3.052^{***}
	(0.069)	(0.098)	(0.081)	(0.133)	(0.088)	(0.162)	(0.128)	(0.217)
Observations	3,127	3,127	3,111	3,111	3,100	3,100	3,100	3,100
AIC	5,966.304	5,966.304	5,779.635	5,779.635	5,461.605	5,461.605	5,457.775	5,457.775

Note: *p<0.1; **p<0.05; ***p<0.01

The model is estimated on the subsample of those in the *info treatment*. The dependent variable is the information acquisition decision, with "signal σ_L" as the omitted reference category. *Prior* is a categorical variable with 0.5 as the omitted reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. AIC is the Akaike Information Criterion.

Table A.11: Probit model for the decision to contribute zero.

	Dependent variable:				
	zero contribution				
	probit				
	(1)	(2)	(3)	(4)	(5)
info	0.026***				
	(0.009)				
prior = 0.25	0.029***	0.026***	0.019**	0.024**	0.018**
	(0.010)	(0.010)	(0.009)	(0.010)	(0.009)
prior = 0.75	0.018*	0.015	0.013	0.020**	0.016*
	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
acquired signal σ_H		−0.003	−0.001		
		(0.010)	(0.010)		
acquired signal σ_L		−0.008	−0.003		
		(0.009)	(0.009)		
no signal acquired		0.242***	0.164***	0.242***	0.165***
		(0.024)	(0.019)	(0.024)	(0.019)
posterior = 1				−0.024**	−0.009
				(0.011)	(0.013)
posterior = 0				0.056**	0.042**
				(0.022)	(0.018)
posterior increased				−0.023**	−0.019*
				(0.010)	(0.010)
posterior reduced				−0.002	−0.001
				(0.010)	(0.010)
own payoff			0.156***		0.154***
			(0.017)		(0.017)
reciprocity			0.077***		0.076***
			(0.009)		(0.009)
own payoff and group payoff			0.019		0.020
			(0.013)		(0.013)
own payoff and reciprocity			−0.011***		−0.011***
			(0.003)		(0.003)
group payoff and reciprocity			0.001		0.001
			(0.012)		(0.012)
own payoff, reciprocity, and group payoff			−0.011***		−0.011***
			(0.003)		(0.003)
other motives			0.179***		0.176***
			(0.015)		(0.015)
difficulty = 2			−0.016		−0.015
			(0.012)		(0.011)
difficulty = 3			−0.009		−0.008
			(0.012)		(0.012)
difficulty = 4			−0.015		−0.014
			(0.015)		(0.015)
Constant	–	–	–	–	–
Observations	4,187	4,187	4,153	4,187	4,153
Log Likelihood	−1,141.922	−1,041.278	−861.967	−1,030.113	−855.206
Note:					*p<0.1; **p<0.05; ***p<0.01

All columns report marginal effects, with robust standard errors in parentheses. *Zero contribution* is a binary indicator variable which takes the value 1 if the participant did not contribute, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Signal choice* and *posterior* are categorical variables with "no info treatment" as the omitted reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff.* The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, with the level 1 (not difficult) as the omitted reference category. The varying number of observations is caused by participants who did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

Table A.12: Alternative model: Censored regression on the sample with $0 < g_i \leq 10$.

	Dependent variable:				
	contributions				
	Tobit				
	(1)	(2)	(3)	(4)	(5)
info	−0.889***				
	(0.147)				
prior = 0.25	0.003	0.010	0.119	0.166	0.231
	(0.157)	(0.157)	(0.144)	(0.155)	(0.143)
prior = 0.75	0.420***	0.424***	0.430***	0.243	0.297**
	(0.159)	(0.159)	(0.145)	(0.157)	(0.144)
acquired signal σ_H		−0.594***	−0.433**		
		(0.185)	(0.170)		
acquired signal σ_L		−0.989***	−0.814***		
		(0.159)	(0.147)		
no signal acquired		−1.224***	−0.403	−1.226***	−0.443*
		(0.283)	(0.268)	(0.280)	(0.266)
posterior = 1				0.909***	0.587***
				(0.241)	(0.221)
posterior = 0				−1.045***	−0.831***
				(0.306)	(0.292)
posterior increased				−0.444**	−0.309*
				(0.198)	(0.181)
posterior reduced				−1.624***	−1.289***
				(0.163)	(0.152)
own payoff			−1.479***		−1.403***
			(0.214)		(0.211)
reciprocity			−3.536***		−3.400***
			(0.135)		(0.135)
own payoff and group payoff			1.000***		0.902***
			(0.302)		(0.296)
own payoff and reciprocity			−4.415***		−4.190***
			(0.548)		(0.595)
group payoff and reciprocity			−1.660***		−1.524***
			(0.423)		(0.415)
own payoff, reciprocity, and group payoff			−0.871		−0.874
			(0.809)		(0.769)
other motives			−1.847***		−1.748***
			(0.191)		(0.188)
difficulty = 2			−0.544***		−0.563***
			(0.181)		(0.178)
difficulty = 3			−1.002***		−0.981***
			(0.183)		(0.181)
difficulty = 4			−0.811***		−0.767***
			(0.265)		(0.262)
Constant	8.186***	8.180***	9.677***	8.164***	9.623***
	(0.159)	(0.158)	(0.203)	(0.157)	(0.200)
Observations	3,859	3,859	3,831	3,859	3,831
Log Likelihood	−8,303.484	−8,299.542	−7,909.705	−8,235.291	−7,868.041
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The model is estimated on the subsample of those who contributed $0 < g_i \leq 10$, such that the sample is truncated from below and censored from above. The dependent variable is the contribution level. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Signal choice* and *posterior* are categorical variables with "no info treatment" as the omitted reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, with the level 1 (not difficult) as the omitted reference category. The varying number of observations is caused by participants who did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

Table A.13: Alternative model: Two-limit Tobit model on the entire sample.

	Dependent variable:				
	contributions				
	Tobit				
	(1)	(2)	(3)	(4)	(5)
info	−1.168***				
	(0.181)				
prior = 0.25	−0.309	−0.263	−0.067	−0.083	0.054
	(0.191)	(0.189)	(0.171)	(0.187)	(0.170)
prior = 0.75	0.221	0.252	0.290*	0.029	0.132
	(0.194)	(0.190)	(0.171)	(0.188)	(0.170)
acquired signal σ_H		−0.552**	−0.420**		
		(0.223)	(0.202)		
acquired signal σ_L		−0.896***	−0.796***		
		(0.191)	(0.175)		
no signal acquired		−3.762***	−2.434***	−3.738***	−2.466***
		(0.346)	(0.316)	(0.343)	(0.314)
posterior = 1				1.251***	0.698***
				(0.291)	(0.265)
posterior = 0				−1.601***	−1.247***
				(0.371)	(0.341)
posterior increased				−0.181	−0.134
				(0.236)	(0.214)
posterior reduced				−1.605***	−1.291***
				(0.196)	(0.181)
own payoff			−3.048***		−2.943***
			(0.263)		(0.259)
reciprocity			−4.312***		−4.170***
			(0.164)		(0.165)
own payoff and group payoff			0.831**		0.715**
			(0.354)		(0.347)
own payoff and reciprocity			−4.658***		−4.392***
			(0.570)		(0.622)
group payoff and reciprocity			−1.707***		−1.575***
			(0.477)		(0.468)
own payoff, reciprocity, and group payoff			−0.948		−0.970
			(0.902)		(0.859)
other motives			−3.793***		−3.663***
			(0.237)		(0.235)
difficulty = 2			−0.424**		−0.454**
			(0.214)		(0.211)
difficulty = 3			−0.927***		−0.917***
			(0.217)		(0.214)
difficulty = 4			−0.693**		−0.663**
			(0.314)		(0.311)
Constant	7.999***	7.950***	10.031***	7.942***	9.981***
	(0.192)	(0.189)	(0.240)	(0.187)	(0.237)
Observations	4,187	4,187	4,153	4,187	4,153
Log Likelihood	−9,311.650	−9,248.869	−8,780.779	−9,189.193	−8,744.930
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the contribution level. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Signal choice* and *posterior* are categorical variables with "no info treatment" as the omitted reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, with the level 1 (not difficult) as the omitted reference category. The varying number of observations is caused by participants who did not answer the question about the contribution motives or the question about the difficulty of the questionnaire.

A.3 Model Selection

To select the best model between the 3-part model, the 2-part model, and the simple two-limit Tobit model, we compared the models according to their value of the log-Likelihood function. Moreover, to select the best specification of explanatory variables we compared the models according to the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). Note that the log-Likelihood of the 3-part and 2-part models is calculated by adding up the log-Likelihood of the separate parts. Table A.14 displays the values of the log-Likelihood and the information criteria for the specifications of explanatory variables we employed. Column 1 is the basic specification containing only prior beliefs and the information treatment dummy as explanatory variables. Instead of the information treatment, columns 2 and 3 employ the signal choice, while columns 4 and 5 employ the posterior beliefs. Columns 3 and 5 add contribution motives and difficulty as control variables.

Table A.14 shows that the 3-part model clearly provides the best model fit for each specification. Concerning the specification of explanatory variables, including signal choices or posterior beliefs improves the model fit compared to the model with the information treatment dummy. Adding contribution motives and difficulty as control variables further improves the model fit. The preferred model is the 3-part model in column 5, which contains prior and posterior beliefs as main explanatory variables, and contribution motives and difficulty as control variables.

Table A.14: Model comparison

		Model specification				
		(1)	(2)	(3)	(4)	(5)
log-Likelihood	3-part model	−9,083.882	−8,967.124	−8,322.329	−8,885.242	−8,270.821
	2-part model	−9,445.405	−9,340.820	−8,771.672	−9,265.404	−8,723.246
	two-limit Tobit	−9,311.650	−9,248.869	−8,780.779	−9,189.193	−8,744.930
AIC	3-part model	18,177.760	17,948.250	16,678.660	17,788.480	16,579.640
	2-part model	18,900.810	18,695.640	17,577.340	18,548.810	17,484.490
	two-limit Tobit	18,633.300	18,511.740	17,595.560	18,396.380	17,527.860
BIC	3-part model	18,209.460	17,992.630	16,786.300	17,845.540	16,699.940
	2-part model	18,932.510	18,740.020	17,684.980	18,605.870	17,604.790
	two-limit Tobit	18,665.000	18,556.120	17,703.190	18,453.440	17,648.160

Comparison of model fit according to the value of the log-Likelihood function, the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). The 3-part model consists of a probit model for zero contributions, a probit for full contributions and a truncated normal model for the contribution level on the subsample of those who contributed $0 < g_i < 10$, which is truncated from below and above. The 2-part model consists of a probit model for zero contributions, and a censored regression model for the contribution level on the subsample of those who contributed $0 < g_i \leq 10$, which is truncated from below and censored from above. The two-limit Tobit model is a censored regression model for contributions on the entire sample. The model specification includes *info* and *prior* as explanatory variables in column 1, *prior* and *signal choice* in column 2, *prior*, *signal choice*, *motives* and *difficulty* in column 3, *prior* and *posterior* in column 4, and *prior*, *posterior*, *motives* and *difficulty* in column 5.

A.4 Regression Tables: Additional Results

Table A.15: OLS regression for the willingness to voluntarily contribute to environmental protection, measured by 3 variables.

	Dependent variable:				
	willingness to contribute to environmental protection				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	-0.135^{**}	-0.097	-0.263^{***}	-0.198^{***}	-0.178^{***}
	(0.066)	(0.070)	(0.061)	(0.065)	(0.066)
acquired signal σ_L	0.132^{**}	0.107^{*}			
	(0.059)	(0.062)			
no signal acquired	0.014	0.089	−0.136	−0.037	0.004
	(0.101)	(0.107)	(0.097)	(0.104)	(0.106)
contributions	0.029^{***}	0.029^{***}	0.020^{**}	0.020^{**}	0.018^{*}
	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)
difficult = 2		−0.016		−0.030	−0.030
		(0.074)		(0.094)	(0.094)
difficult = 3		0.120		0.106	0.108
		(0.077)		(0.095)	(0.095)
difficult = 4		0.039		0.087	0.094
		(0.112)		(0.128)	(0.128)
no comprehension					−0.096
					(0.065)
female		0.360^{***}		0.376^{***}	0.376^{***}
		(0.051)		(0.060)	(0.060)
age		0.003		0.003	0.004^{*}
		(0.002)		(0.002)	(0.002)
income		−0.00000		0.00000	0.00000
		(0.00002)		(0.00002)	(0.00002)
academic education		0.502^{***}		0.551^{***}	0.543^{***}
		(0.056)		(0.067)	(0.068)
Constant	-0.211^{***}	-0.691^{***}	−0.023	-0.609^{***}	-0.592^{***}
	(0.072)	(0.145)	(0.070)	(0.169)	(0.169)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,892	2,450	2,154	1,820	1,820
R^2	0.011	0.064	0.011	0.069	0.070
Adjusted R^2	0.010	0.060	0.009	0.064	0.065
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the first principle component of three variables capturing the willingness to contribute to environmental protection: *lifestyle changes*, *support carbon tax*, and *sustainable activities*. Higher levels of the dependent variable represent higher willingness to contribute to environmental protection. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the info treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.16: OLS regression for the willingness to voluntarily contribute to COVID-19 containment, measured by 4 variables.

	Dependent variable:				
	willingness to contribute to COVID-19 containment				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	0.149	0.080	−0.058	−0.061	−0.051
	(0.107)	(0.115)	(0.093)	(0.100)	(0.101)
acquired signal σ_L	0.205**	0.133			
	(0.092)	(0.097)			
no signal acquired	0.117	−0.030	−0.078	−0.165	−0.145
	(0.144)	(0.152)	(0.132)	(0.142)	(0.147)
contributions	0.038***	0.021*	0.043***	0.025*	0.024*
	(0.012)	(0.013)	(0.013)	(0.014)	(0.014)
difficult = 2		0.111		0.196	0.195
		(0.120)		(0.150)	(0.150)
difficult = 3		0.196		0.210	0.210
		(0.120)		(0.148)	(0.149)
difficult = 4		0.118		0.310*	0.316*
		(0.170)		(0.187)	(0.188)
no comprehension					−0.052
					(0.095)
female		0.162**		0.186**	0.187**
		(0.077)		(0.087)	(0.087)
age		0.021***		0.019***	0.020***
		(0.003)		(0.003)	(0.003)
income		0.0001***		0.0001***	0.0001***
		(0.00002)		(0.00003)	(0.00003)
academic education		0.255***		0.183*	0.178*
		(0.083)		(0.097)	(0.097)
Constant	−0.374***	−1.928***	−0.201**	−1.803***	−1.794***
	(0.111)	(0.224)	(0.100)	(0.254)	(0.255)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,377	2,080	1,779	1,550	1,550
R^2	0.006	0.051	0.007	0.049	0.049
Adjusted R^2	0.005	0.046	0.005	0.043	0.043
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the first principle component of four variables capturing the willingness to voluntarily contribute to COVID-19 containment via usage of the corona warning app: *app installed*, *app test results*, *app compliance test*, and *app compliance quarantine*. Higher levels of the dependent variable represent higher willingness to contribute to COVID-19 containment. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly. Other control variables include gender, age, income, and education.

Table A.17: OLS regression for the support for a carbon tax.

	Dependent variable:				
	support for carbon tax				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	−0.085	−0.024	−0.162***	−0.090	−0.065
	(0.068)	(0.073)	(0.062)	(0.066)	(0.068)
acquired signal σ_L	0.078	0.069			
	(0.059)	(0.063)			
no signal acquired	0.080	0.206**	−0.009	0.120	0.172*
	(0.095)	(0.099)	(0.090)	(0.094)	(0.097)
contributions	0.024***	0.022***	0.019**	0.017*	0.015
	(0.008)	(0.008)	(0.009)	(0.009)	(0.009)
difficult = 2		0.005		−0.028	−0.027
		(0.075)		(0.095)	(0.095)
difficult = 3		0.104		0.069	0.072
		(0.077)		(0.094)	(0.094)
difficult = 4		0.063		0.063	0.072
		(0.109)		(0.124)	(0.125)
no comprehension					−0.121*
					(0.065)
female		0.191***		0.212***	0.211***
		(0.051)		(0.060)	(0.060)
age		0.001		0.002	0.003
		(0.002)		(0.002)	(0.002)
income		0.00000		0.00000	0.00000
		(0.00002)		(0.00002)	(0.00002)
academic education		0.657***		0.692***	0.681***
		(0.056)		(0.066)	(0.066)
Constant	2.858***	2.466***	2.968***	2.493***	2.513***
	(0.071)	(0.141)	(0.066)	(0.162)	(0.162)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,899	2,456	2,159	1,825	1,825
R^2	0.006	0.070	0.005	0.073	0.075
Adjusted R^2	0.004	0.066	0.004	0.068	0.069
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the answer to the question whether the participants supports or opposes a carbon tax. It is measured on a scale from 1 to 5 and re-coded such that higher values refer to higher levels of support. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.18: OLS regression for lifestyle changes to protect the climate.

	Dependent variable:				
	lifestyle changes				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	−0.102*	−0.065	−0.143***	−0.091*	−0.107*
	(0.057)	(0.062)	(0.051)	(0.055)	(0.057)
acquired signal σ_L	0.043	0.029			
	(0.051)	(0.055)			
no signal acquired	0.021	−0.025	−0.033	−0.063	−0.094
	(0.079)	(0.087)	(0.074)	(0.083)	(0.086)
contributions	0.007	0.012*	0.002	0.006	0.007
	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
difficult = 2		−0.069		−0.056	−0.056
		(0.062)		(0.078)	(0.078)
difficult = 3		0.064		0.078	0.076
		(0.065)		(0.079)	(0.079)
difficult = 4		−0.009		0.053	0.047
		(0.095)		(0.107)	(0.107)
no comprehension					0.075
					(0.055)
female		0.291***		0.274***	0.275***
		(0.044)		(0.051)	(0.051)
age		0.002		0.001	0.001
		(0.001)		(0.002)	(0.002)
income		−0.00005***		−0.00004***	−0.00004***
		(0.00001)		(0.00002)	(0.00002)
academic education		0.064		0.072	0.078
		(0.048)		(0.056)	(0.056)
Constant	2.546***	2.456***	2.623***	2.513***	2.500***
	(0.061)	(0.125)	(0.056)	(0.141)	(0.142)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,899	2,456	2,159	1,825	1,825
R^2	0.003	0.031	0.004	0.028	0.029
Adjusted R^2	0.002	0.027	0.002	0.023	0.023
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the answer to the question whether the participants changed their lifestyle in the past six months to protect the climate. It is measured on a scale from 1 to 5 and re-coded such that higher values refer to higher levels of lifestyle changes. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.19: OLS regression for sustainable activities.

	Dependent variable:				
	sustainable activities				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	−0.085	−0.102	-0.223^{***}	-0.212^{***}	-0.178^{***}
	(0.058)	(0.063)	(0.054)	(0.058)	(0.058)
acquired signal σ_L	0.141^{***}	0.116^{**}			
	(0.052)	(0.056)			
no signal acquired	−0.080	0.010	-0.237^{***}	−0.120	−0.051
	(0.094)	(0.098)	(0.092)	(0.095)	(0.097)
contributions	0.028^{***}	0.023^{***}	0.019^{**}	0.016^{*}	0.013
	(0.007)	(0.008)	(0.009)	(0.009)	(0.009)
difficult = 2		0.030		0.014	0.014
		(0.067)		(0.085)	(0.085)
difficult = 3		0.080		0.062	0.066
		(0.069)		(0.085)	(0.085)
difficult = 4		0.032		0.057	0.069
		(0.098)		(0.114)	(0.114)
no comprehension					-0.163^{***}
					(0.058)
female		0.248^{***}		0.279^{***}	0.278^{***}
		(0.046)		(0.054)	(0.054)
age		0.002		0.003^{*}	0.004^{**}
		(0.002)		(0.002)	(0.002)
income		0.00004^{***}		0.0001^{***}	0.0001^{***}
		(0.00001)		(0.00002)	(0.00002)
academic education		0.362^{***}		0.418^{***}	0.405^{***}
		(0.051)		(0.060)	(0.060)
Constant	3.424^{***}	2.900^{***}	3.616^{***}	2.975^{***}	3.004^{***}
	(0.066)	(0.132)	(0.066)	(0.156)	(0.156)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,899	2,454	2,160	1,824	1,824
R^2	0.013	0.054	0.012	0.063	0.067
Adjusted R^2	0.012	0.049	0.011	0.058	0.061
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the answer to the multiple-choice question which activities related to sustainability they pursued at least once in the past six months. It is measured on a scale from 1 to 8, where higher values refer to higher number of activities pursued. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.20: Probit regression for the probability of having the corona warning app installed between June 19 and July 10, 2020.

	Dependent variable:				
	app installed				
	probit				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	0.003	−0.029	−0.032	−0.014	0.003
	(0.070)	(0.077)	(0.063)	(0.069)	(0.071)
acquired signal σ_L	0.035	−0.018			
	(0.061)	(0.067)			
no signal acquired	−0.107	−0.057	−0.139	−0.044	−0.008
	(0.093)	(0.104)	(0.087)	(0.098)	(0.102)
contributions	0.032***	0.021**	0.033***	0.023**	0.021**
	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)
difficult = 2		−0.037		−0.013	−0.012
		(0.074)		(0.093)	(0.093)
difficult = 3		−0.025		−0.010	−0.009
		(0.077)		(0.093)	(0.093)
difficult = 4		0.111		0.216*	0.227*
		(0.110)		(0.124)	(0.124)
no comprehension					−0.091
					(0.067)
female		−0.008		−0.003	−0.001
		(0.053)		(0.062)	(0.062)
age		−0.003*		−0.003	−0.003
		(0.002)		(0.002)	(0.002)
income		0.0001***		0.0001***	0.0001***
		(0.00002)		(0.00002)	(0.00002)
academic education		0.159***		0.130*	0.123*
		(0.057)		(0.067)	(0.067)
Constant	−0.283***	−0.486***	−0.257***	−0.526***	−0.513***
	(0.072)	(0.147)	(0.067)	(0.168)	(0.168)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,730	2,374	2,035	1,762	1,762
Log Likelihood	−1,875.901	−1,592.717	−1,396.374	−1,183.573	−1,182.641
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is a binary indicator variable which takes the value 1 if the participant installed the corona warning app at some point between June 19 and July 10, 2020. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.21: OLS regression for willingness to enter positive test results in the corona warning app.

	Dependent variable:				
	app test results				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	0.059	0.004	−0.071	−0.075	−0.060
	(0.095)	(0.103)	(0.084)	(0.091)	(0.092)
acquired signal σ_L	0.127	0.075			
	(0.082)	(0.088)			
no signal acquired	0.102	−0.004	−0.010	−0.077	−0.045
	(0.128)	(0.138)	(0.119)	(0.130)	(0.134)
contributions	0.038^{***}	0.028^{**}	0.047^{***}	0.035^{***}	0.034^{***}
	(0.011)	(0.012)	(0.012)	(0.013)	(0.013)
difficult = 2		0.067		0.102	0.101
		(0.106)		(0.135)	(0.135)
difficult = 3		0.136		0.125	0.126
		(0.107)		(0.133)	(0.133)
difficult = 4		0.073		0.267	0.275
		(0.156)		(0.170)	(0.170)
no comprehension					−0.080
					(0.086)
female		0.104		0.109	0.111
		(0.070)		(0.081)	(0.080)
age		0.014^{***}		0.013^{***}	0.014^{***}
		(0.002)		(0.003)	(0.003)
income		0.0001^{***}		0.0001^{**}	0.0001^{**}
		(0.00002)		(0.00003)	(0.00003)
academic education		0.216^{***}		0.188^{**}	0.181^{**}
		(0.075)		(0.089)	(0.089)
Constant	3.720^{***}	2.696^{***}	3.794^{***}	2.747^{***}	2.763^{***}
	(0.100)	(0.201)	(0.091)	(0.231)	(0.232)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,683	2,337	2,010	1,744	1,744
R^2	0.006	0.029	0.008	0.029	0.030
Adjusted R^2	0.004	0.024	0.007	0.024	0.024
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable the answer to the question whether the participant would enter their test results in the corona warning app if they got tested positively for the virus. It is measured on a scale from 0 to 5, and re-coded such that higher levels indicate higher willingness to enter test results, while a value of 0 means that the participant did not want to install the app. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.22: OLS regression for compliance with the corona warning app's request to go into home quarantine.

	Dependent variable:				
	app compliance quarantine				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	0.081	0.042	0.009	0.002	0.012
	(0.091)	(0.097)	(0.081)	(0.086)	(0.087)
acquired signal σ_L	0.070	0.034			
	(0.079)	(0.083)			
no signal acquired	0.123	−0.033	0.067	−0.065	−0.045
	(0.125)	(0.133)	(0.117)	(0.125)	(0.128)
contributions	0.031***	0.020*	0.038***	0.026**	0.025**
	(0.010)	(0.011)	(0.012)	(0.012)	(0.012)
difficult = 2		0.019		0.085	0.085
		(0.101)		(0.130)	(0.130)
difficult = 3		0.094		0.121	0.122
		(0.102)		(0.128)	(0.128)
difficult = 4		0.082		0.227	0.232
		(0.147)		(0.162)	(0.163)
no comprehension					−0.052
					(0.082)
female		0.172***		0.174**	0.175**
		(0.066)		(0.077)	(0.077)
age		0.025***		0.024***	0.024***
		(0.002)		(0.002)	(0.002)
income		0.0001**		0.00004*	0.00004*
		(0.00002)		(0.00002)	(0.00002)
academic education		0.162**		0.111	0.106
		(0.072)		(0.084)	(0.085)
Constant	3.366***	1.811***	3.387***	1.846***	1.856***
	(0.096)	(0.186)	(0.088)	(0.215)	(0.216)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,683	2,338	2,009	1,744	1,744
R^2	0.004	0.062	0.006	0.059	0.059
Adjusted R^2	0.002	0.057	0.004	0.053	0.053
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable the answer to the question whether the participant would comply with the corona warning app's request to go into home quarantine. It is measured on a scale from 0 to 5, and re-coded such that higher levels indicate higher willingness to comply, while a value of 0 means that the participant did not want to install the app. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.23: OLS regression for compliance with the corona warning app's request to get tested.

	Dependent variable:				
	app compliance test				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	0.079	0.031	−0.057	−0.056	−0.041
	(0.094)	(0.101)	(0.083)	(0.089)	(0.090)
acquired signal σ_L	0.134*	0.084			
	(0.081)	(0.086)			
no signal acquired	0.118	−0.031	−0.013	−0.126	−0.094
	(0.127)	(0.135)	(0.118)	(0.126)	(0.130)
contributions	0.035***	0.023**	0.037***	0.023*	0.022*
	(0.011)	(0.011)	(0.012)	(0.013)	(0.013)
difficult = 2		0.047		0.104	0.103
		(0.104)		(0.132)	(0.132)
difficult = 3		0.152		0.168	0.169
		(0.105)		(0.130)	(0.131)
difficult = 4		0.041		0.194	0.202
		(0.152)		(0.167)	(0.168)
no comprehension					−0.079
					(0.084)
female		0.148**		0.150*	0.152*
		(0.068)		(0.079)	(0.079)
age		0.021***		0.021***	0.021***
		(0.002)		(0.003)	(0.003)
income		0.0001***		0.0001**	0.0001**
		(0.00002)		(0.00003)	(0.00003)
academic education		0.181**		0.136	0.128
		(0.074)		(0.088)	(0.088)
Constant	3.616***	2.237***	3.738***	2.319***	2.335***
	(0.099)	(0.194)	(0.090)	(0.223)	(0.224)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,683	2,338	2,010	1,745	1,745
R^2	0.005	0.047	0.005	0.045	0.046
Adjusted R^2	0.004	0.043	0.004	0.040	0.040
Note:			*p<0.1; **p<0.05; ***p<0.01		

Robust standard errors in parentheses. The dependent variable the answer to the question whether the participant would comply with the corona warning app's request to get tested. It is measured on a scale from 0 to 5, and re-coded such that higher levels indicate higher willingness to comply, while a value of 0 means that the participant did not want to install the app. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the *info* treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.24: Alternative specification: OLS regression for the willingness to voluntarily contribute to environmental protection, measured by 5 variables.

	Dependent variable:				
	willingness to contribute to environmental protection				
	(1)	(2)	(3)	(4)	(5)
acquired signal sigma H	−0.079	−0.042	−0.240***	−0.172**	−0.146*
	(0.080)	(0.086)	(0.074)	(0.080)	(0.081)
acquired signal sigma L	0.164**	0.135*			
	(0.072)	(0.076)			
no signal acquired	0.071	0.131	−0.110	−0.024	0.029
	(0.123)	(0.133)	(0.118)	(0.128)	(0.131)
contributions	0.028***	0.032***	0.020*	0.023*	0.021*
	(0.010)	(0.011)	(0.011)	(0.012)	(0.012)
difficult = 2		−0.081		−0.098	−0.098
		(0.092)		(0.116)	(0.116)
difficult = 3		0.115		0.097	0.100
		(0.095)		(0.117)	(0.117)
difficult = 4		0.073		0.110	0.119
		(0.141)		(0.160)	(0.160)
no comprehension					−0.127
					(0.079)
female		0.341***		0.355***	0.354***
		(0.063)		(0.074)	(0.074)
age		0.0004		0.001	0.002
		(0.002)		(0.002)	(0.002)
income		−0.00005**		−0.00004*	−0.00004*
		(0.00002)		(0.00002)	(0.00002)
academic education		0.645***		0.694***	0.683***
		(0.070)		(0.084)	(0.085)
Constant	−0.237***	−0.491***	−0.019	−0.376*	−0.354*
	(0.088)	(0.176)	(0.086)	(0.207)	(0.208)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	2,891	2,449	2,154	1,820	1,820
R^2	0.007	0.056	0.006	0.059	0.060
Adjusted R^2	0.005	0.052	0.005	0.054	0.055
Note:					*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. The dependent variable is the first principle component of five variables capturing the willingness to contribute to environmental protection: *lifestyle changes*, *support carbon tax*, *sustainable activities*, *importance emission reductions*, and *would demonstrate/demonstrated*. Higher levels of the dependent variable represent higher willingness to contribute to environmental protection. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the info treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

Table A.25: OLS regression for the willingness to voluntarily contribute to environmental protection, measured by 8 variables.

	Dependent variable:				
	willingness to contribute to environmental protection				
	(1)	(2)	(3)	(4)	(5)
acquired signal σ_H	−0.058	−0.017	-0.363^{***}	-0.299^{**}	-0.272^{*}
	(0.137)	(0.147)	(0.132)	(0.143)	(0.147)
acquired signal σ_L	0.306^{**}	0.276^{**}			
	(0.129)	(0.133)			
no signal acquired	0.136	0.306	−0.175	0.010	0.059
	(0.231)	(0.240)	(0.228)	(0.239)	(0.246)
contributions	0.050^{***}	0.057^{***}	0.047^{**}	0.050^{**}	0.049^{**}
	(0.017)	(0.018)	(0.020)	(0.022)	(0.022)
difficult = 2		−0.0002		0.046	0.052
		(0.153)		(0.198)	(0.199)
difficult = 3		0.233		0.200	0.209
		(0.159)		(0.202)	(0.202)
difficult = 4		−0.036		−0.031	−0.015
		(0.243)		(0.273)	(0.275)
no comprehension					−0.105
					(0.145)
female		0.570^{***}		0.556^{***}	0.556^{***}
		(0.111)		(0.134)	(0.134)
age		0.003		0.005	0.005
		(0.004)		(0.004)	(0.004)
income		-0.0001^{**}		-0.0001^{**}	-0.0001^{**}
		(0.00003)		(0.00004)	(0.00004)
academic education		0.870^{***}		0.827^{***}	0.817^{***}
		(0.120)		(0.146)	(0.147)
Constant	-0.440^{***}	-1.014^{***}	−0.115	-0.752^{**}	-0.735^{**}
	(0.148)	(0.289)	(0.158)	(0.335)	(0.336)
Info treatment subsample	No	No	Yes	Yes	Yes
Observations	1,110	961	819	712	712
R^2	0.015	0.093	0.014	0.081	0.081
Adjusted R^2	0.011	0.082	0.011	0.068	0.067
Note:			*p<0.1; **p<0.05; ***p<0.01		

Robust standard errors in parentheses. The dependent variable is the first principle component of eight variables capturing the willingness to contribute to environmental protection: *lifestyle changes*, *support carbon tax*, *sustainable activities*, *importance emission reductions*, *would demonstrate/demonstrated*, *environmentally friendly products*, *energy consumption*, and *donation atmosfair.* Higher levels of the dependent variable represent higher willingness to contribute to environmental protection. Columns 1 and 2 present the regression results for the entire sample. The omitted reference category for information acquisition is "*no info* treatment". Columns 3 – 5 present the regression results for the subsample of those in the info treatment. The omitted reference category for information acquisition is "acquired signal σ_L". *Contributions* is the level of contribution to the public good in the experiment, and takes values from 0 to 10 Euro. The control variable *difficulty* captures the perceived difficulty of the entire questionnaire, and *comprehension* captures whether the participant answered the comprehension question correctly.

B Robustness Checks

In this appendix, we provide several robustness checks to our regression analysis.

First, we repeat the analysis using only the subsample of those participants who did not indicate that they found the questionnaire difficult. The question has four levels, ranging from 1 (not difficult) to 4 (very difficult), and we drop those from the sample who answered 3 (difficult) or 4 (very difficult). This leaves us with a reduced sample size of 2,356 participants. Table B.1 and B.2 report the marginal effects of the probit estimations for the information stage. Table B.3 reports the three-part model for the contribution stage.

Second, we utilize the response times contained in our data set, which capture how much time a participant spent on each question page, including the reading time for the instructions. Since very short response times might indicate a lack of interest, while very long response times might indicate confusion, we drop from the sample the bottom 10% and top 10% with respect to the time spent on the instructions for the Voluntary Contribution Mechanism. The remaining sample contains 3,358 participants. Table B.4 and B.5 report the marginal effects of the probit estimations for the information stage. Table B.6 reports the three-part model for the contribution stage.

Third, we repeat the analysis for the information stage with the subsample of those participants who answered the comprehension question about the information revelation process correctly. The size of the remaining sample is 1,879. Table B.7 and B.8 report the marginal effects of the respective probit estimations. Because only those in the *info* treatment answered the comprehension question, we cannot use this restriction as a robustness check for the analysis of the contribution stage.

Table B.1: Robustness check: Probit Model for the decision to acquire information, on the subset of those who did not find the questionnaire difficult.

	Dependent variable:			
	acquired information			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.026	−0.021	−0.023	−0.023
	(0.020)	(0.020)	(0.019)	(0.019)
prior = 0.75	−0.012	−0.010	−0.003	−0.003
	(0.019)	(0.019)	(0.018)	(0.018)
own payoff		−0.069**	−0.058**	−0.058**
		(0.027)	(0.025)	(0.025)
reciprocity		−0.118***	−0.079***	−0.079***
		(0.025)	(0.021)	(0.021)
own payoff and group payoff		0.068***	0.074***	0.074***
		(0.009)	(0.010)	(0.010)
own payoff and reciprocity		0.068***	0.074***	0.074***
		(0.009)	(0.010)	(0.010)
group payoff and reciprocity		−0.116	−0.109	−0.109
		(0.087)	(0.071)	(0.071)
own payoff, reciprocity, and group payoff		0.068***	0.074***	0.074***
		(0.009)	(0.010)	(0.010)
other motives		−0.156***	−0.146***	−0.146***
		(0.030)	(0.028)	(0.028)
no comprehension			−0.151***	−0.151***
			(0.015)	(0.015)
difficulty = 2				−0.002
				(0.017)
Constant				
Observations	1,598	1,589	1,589	1,589
Log Likelihood	−575.936	−528.418	−477.021	−477.014
Note:		*p<0.1; **p<0.05; ***p<0.01		

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those in the *info* treatment, excluding those who indicated that they found the questionnaire difficult or very difficult. The dependent variable *acquired information* is a binary indicator variable which takes the value 1 if the participant chose to acquire either of the two signals, and the value 0 if the participant did not acquire any signal. *Prior* is a categorical variable with 0.5 as the reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives.

Table B.2: Robustness check: Probit Model for the decision to acquire signal σ_H among those who acquire information, on the subset of those who did not find the questionnaire difficult.

	Dependent variable:			
	acquired signal σ_H			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.022	−0.019	−0.014	−0.014
	(0.032)	(0.032)	(0.032)	(0.032)
prior = 0.75	−0.049	−0.046	−0.048	−0.048
	(0.032)	(0.032)	(0.031)	(0.031)
own payoff		0.097^{**}	0.102^{**}	0.101^{**}
		(0.043)	(0.042)	(0.042)
reciprocity		0.051	0.035	0.035
		(0.036)	(0.036)	(0.036)
own payoff and group payoff		0.078	0.115^{**}	0.115^{**}
		(0.054)	(0.053)	(0.053)
own payoff and reciprocity		−0.060	−0.076	−0.075
		(0.204)	(0.195)	(0.196)
group payoff and reciprocity		−0.017	0.019	0.019
		(0.121)	(0.131)	(0.131)
own payoff, reciprocity, and group payoff		−0.063	0.001	0.001
		(0.201)	(0.212)	(0.212)
other motives		−0.018	−0.005	−0.004
		(0.041)	(0.041)	(0.041)
no comprehension			0.189^{***}	0.189^{***}
			(0.026)	(0.026)
difficulty=2				−0.007
				(0.028)
Constant				
Observations	1,411	1,405	1,405	1,405
Log Likelihood	−932.189	−924.791	−900.547	−900.513
Note:		*p<0.1; **p<0.05; ***p<0.01		

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those who acquired information, excluding those who indicated that they found the questionnaire difficult or very difficult. The dependent variable is a binary indicator variable which takes the value 1 if the participant acquired signal σ_H, and the value 0 if the participant acquired signal σ_L. *Prior* is a categorical variable with 0.5 as the reference category. *Own payoff*, *reciprocity* and *further motives* belong to the same categorical variable which captures the motives behind the contribution decision, with *group payoff* as omitted reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives.

Table B.3: Robustness check: Three-Part Model for contributions, on the subset of those who did not find the questionnaire difficult.

	Dependent variable:								
	zero contribution			contributions			full contribution		
	probit			*Tobit*			*probit*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
info	0.027**			−0.635***			−0.050**		
	(0.011)			(0.108)			(0.021)		
prior = 0.25	0.029**	0.023*	0.022*	−0.020	0.048	0.109	−0.012	0.001	0.012
	(0.013)	(0.012)	(0.012)	(0.129)	(0.121)	(0.121)	(0.024)	(0.023)	(0.023)
prior = 0.75	0.017	0.014	0.015	0.142	0.169	0.097	0.042*	0.045**	0.027
	(0.012)	(0.011)	(0.012)	(0.131)	(0.124)	(0.124)	(0.024)	(0.023)	(0.023)
acquired signal sigma H		0.006			−0.536***			−0.028	
		(0.012)			(0.134)			(0.026)	
acquired signal sigma L		−0.002			−0.632***			−0.045**	
		(0.011)			(0.115)			(0.022)	
no signal acquired		0.167***	0.167***		−0.951***	−0.967***		−0.035	−0.038
		(0.027)	(0.027)		(0.243)	(0.243)		(0.040)	(0.040)
posterior = 1			−0.002			0.066			0.103***
			(0.018)			(0.191)			(0.033)
posterior = 0			0.045*			−0.955***			−0.047
			(0.023)			(0.245)			(0.043)
posterior increased			−0.012			−0.391***			−0.021
			(0.013)			(0.144)			(0.028)
posterior reduced			−0.002			−0.816***			−0.111***
			(0.011)			(0.123)			(0.024)
Constant				5.838***	6.268***	6.267***			
				(0.110)	(0.138)	(0.137)			
Motives	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Difficulty	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	2,356	2,345	2,345	1,361	1,353	1,353	2,356	2,345	2,345
Log Likelihood	−597.493	−445.437	−442.119	−2,851.381	−2,743.034	−2,730.719	−1,521.987	−1,358.922	−1,338.370
Note:									*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. Columns 1-3 and 7-9 report marginal effects. The sample excludes those who indicated that they found the questionnaire difficult or very difficult. *Zero contribution* is a binary indicator variable which takes the value 1 if the participant did not contribute, and 0 otherwise. *Contributions* is the level of contributions for the subset of participants who contributed an amount g_i with $0 < g_i < 10$. *Full contribution* is a binary indicator variable which takes the value 1 if the participant contributed the entire endowment, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Signal choice* and *posterior* are categorical variables with "no info treatment" as the omitted reference category. The control variable *motives* captures the difference contribution motives, and *difficulty* captures the perceived difficulty of the entire questionnaire.

Table B.4: Robustness check: Probit Model for the decision to acquire information, on the subset of those with neither too short nor too long response times.

	Dependent variable:			
	acquired information			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.012	−0.007	−0.006	−0.007
	(0.016)	(0.015)	(0.015)	(0.015)
prior = 0.75	−0.0004	−0.0002	0.003	0.003
	(0.016)	(0.015)	(0.015)	(0.015)
own payoff		−0.028	−0.026	−0.026
		(0.019)	(0.019)	(0.019)
reciprocity		-0.114^{***}	-0.088^{***}	-0.086^{***}
		(0.019)	(0.017)	(0.017)
own payoff and group payoff		0.069^{***}	0.074^{***}	0.075^{***}
		(0.008)	(0.008)	(0.008)
own payoff and reciprocity		−0.014	0.001	−0.002
		(0.087)	(0.077)	(0.080)
group payoff and reciprocity		-0.116^{*}	-0.121^{*}	-0.120^{*}
		(0.065)	(0.062)	(0.064)
own payoff, reciprocity, and group payoff		0.069^{***}	0.074^{***}	0.075^{***}
		(0.008)	(0.008)	(0.008)
other motives		-0.155^{***}	-0.133^{***}	-0.133^{***}
		(0.023)	(0.021)	(0.021)
no comprehension			-0.135^{***}	-0.132^{***}
			(0.012)	(0.012)
difficulty = 2				−0.008
				(0.019)
difficulty = 3				−0.007
				(0.018)
difficulty = 4				-0.057^{**}
				(0.027)
Constant				
Observations	2,507	2,495	2,495	2,486
Log Likelihood	−903.743	−832.472	−768.560	−762.929
Note:				*p<0.1; **p<0.05; ***p<0.01

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those in the *info* treatment, excluding the bottom 10% and top 10% with respect to the time spent on the instructions for the Voluntary Contribution Mechanism. The dependent variable *acquired information* is a binary indicator variable which takes the value 1 if the participant chose to acquire either of the two signals, and the value 0 if the participant did not acquire any signal. *Prior* is a categorical variable with 0.5 as the reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives.

Table B.5: Robustness check: Probit Model for the decision to acquire signal σ_H among those who acquire information on the subset of those with neither too short nor too long response times.

	Dependent variable:			
	acquired signal σ_H			
	probit			
	(1)	(2)	(3)	(4)
prior = 0.25	−0.025	−0.024	−0.025	−0.026
	(0.025)	(0.025)	(0.025)	(0.025)
prior = 0.75	−0.017	−0.015	−0.021	−0.022
	(0.025)	(0.025)	(0.024)	(0.024)
own payoff		0.116***	0.117***	0.121***
		(0.034)	(0.033)	(0.033)
reciprocity		0.049*	0.034	0.041
		(0.028)	(0.028)	(0.028)
own payoff and group payoff		0.053	0.075*	0.072
		(0.045)	(0.045)	(0.044)
own payoff and reciprocity		0.043	0.032	0.048
		(0.163)	(0.146)	(0.144)
group payoff and reciprocity		−0.001	0.021	0.020
		(0.088)	(0.094)	(0.093)
own payoff, reciprocity, and group payoff		−0.055	−0.022	−0.016
		(0.123)	(0.127)	(0.125)
other motives		−0.026	−0.024	−0.025
		(0.031)	(0.030)	(0.030)
no comprehension			0.169***	0.173***
			(0.020)	(0.020)
difficulty = 2				0.009
				(0.031)
difficulty = 3				−0.071**
				(0.031)
difficulty = 4				−0.046
				(0.042)
Constant				
Observations	2,214	2,207	2,207	2,199
Log Likelihood	−1,427.314	−1,414.192	−1,381.272	−1,368.495
Note:				*p<0.1; **p<0.05; ***p<0.01

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those who acquired information, excluding the bottom 10% and top 10% with respect to the time spent on the instructions for the Voluntary Contribution Mechanism. The dependent variable is a binary indicator variable which takes the value 1 if the participant acquired signal σ_H, and the value 0 if the participant acquired signal σ_L. *Prior* is a categorical variable with 0.5 as the reference category. *Own payoff*, *reciprocity* and *further motives* belong to the same categorical variable which captures the motives behind the contribution decision, with *group payoff* as omitted reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 4 is reduced because some participants did not answer the question about the contribution motives.

Table B.6: Robustness check: Three-Part Model for contributions on the subset of those with neither too short nor too long response times.

	Dependent variable:								
	zero contribution			contributions			full contribution		
	probit			*Tobit*			*probit*		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
info	0.028***			−0.628***			−0.081***		
	(0.009)			(0.091)			(0.019)		
prior = 0.25	0.021**	0.012	0.012	0.037	0.105	0.162*	−0.012	0.002	0.015
	(0.011)	(0.010)	(0.009)	(0.102)	(0.097)	(0.097)	(0.019)	(0.019)	(0.019)
prior = 0.75	0.010	0.008	0.011	0.084	0.117	0.076	0.018	0.024	0.011
	(0.010)	(0.009)	(0.010)	(0.103)	(0.096)	(0.096)	(0.020)	(0.019)	(0.019)
acquired signal sigma H		0.009			−0.422***			−0.026	
		(0.011)			(0.112)			(0.023)	
acquired signal sigma L		−0.0004			−0.637***			−0.063***	
		(0.009)			(0.096)			(0.019)	
no signal acquired		0.156***	0.156***		−1.019***	−1.026***		−0.046	−0.050
		(0.021)	(0.021)		(0.185)	(0.185)		(0.032)	(0.032)
posterior = 1			−0.008			−0.034			0.076***
			(0.014)			(0.159)			(0.028)
posterior = 0			0.060***			−0.754***			−0.047
			(0.021)			(0.208)			(0.037)
posterior increased			−0.012			−0.313***			−0.020
			(0.011)			(0.119)			(0.025)
posterior reduced			0.001			−0.779***			−0.118***
			(0.010)			(0.100)			(0.020)
Constant				5.848***	6.274***	6.268***			
				(0.095)	(0.131)	(0.131)			
Motives	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Difficulty	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	3,358	3,331	3,331	2,066	2,047	2,047	3,358	3,331	3,331
Log Likelihood	−816.598	−604.496	−596.635	−4,271.504	−4,111.645	−4,097.144	−2,089.464	−1,870.752	−1,843.865
Note:									*p<0.1; **p<0.05; ***p<0.01

Robust standard errors in parentheses. Columns 1-3 and 7-9 report marginal effects. The sample excludes the bottom 10% and top 10% with respect to the time spent on the instructions for the Voluntary Contribution Mechanism. *Zero contribution* is a binary indicator variable which takes the value 1 if the participant did not contribute, and 0 otherwise. *Contributions* is the level of contributions for the subset of participants who contributed an amount g_i with $0 < g_i < 10$. *Full contribution* is a binary indicator variable which takes the value 1 if the participant contributed the entire endowment, and 0 otherwise. *Prior* is a categorical variable with 0.5 as the omitted reference category. *Signal choice* and *posterior* are categorical variables with "no info treatment" as the omitted reference category. The control variable *motives* captures the difference contribution motives, and *difficulty* captures the perceived difficulty of the entire questionnaire.

Table B.7: Robustness check: Probit Model for the decision to acquire information on the subset of those who answered the comprehension question correctly.

	Dependent variable:		
	acquired information		
	probit		
	(1)	(2)	(3)
prior = 0.25	−0.013	−0.012	−0.014
	(0.013)	(0.012)	(0.013)
prior = 0.75	−0.008	−0.008	−0.009
	(0.012)	(0.012)	(0.012)
own payoff		0.006	0.007
		(0.015)	(0.015)
reciprocity		−0.029*	−0.027*
		(0.016)	(0.016)
own payoff and group payoff		0.039***	0.039***
		(0.011)	(0.011)
own payoff and reciprocity		0.047***	0.047***
		(0.007)	(0.007)
group payoff and reciprocity		−0.059	−0.060
		(0.060)	(0.060)
own payoff, reciprocity, and group payoff		0.047***	0.047***
		(0.007)	(0.007)
other motives		−0.034*	−0.035*
		(0.019)	(0.019)
difficulty = 2			0.007
			(0.016)
difficulty = 3			−0.001
			(0.016)
difficulty = 4			−0.032
			(0.027)
Constant			
Observations	1,879	1,875	1,869
Log Likelihood	−387.146	−377.233	−375.217
Note:	*p<0.1; **p<0.05; ***p<0.01		

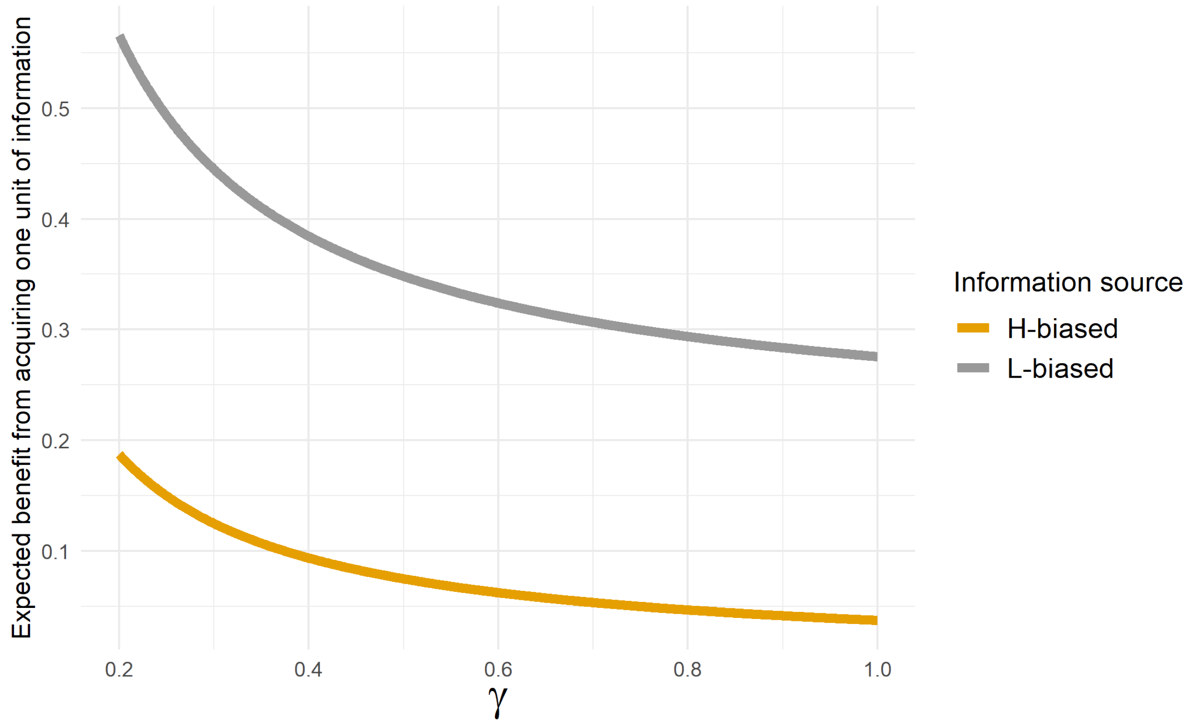
All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those in the *info* treatment, excluding those who did not answer the comprehension question correctly. The dependent variable *acquired information* is a binary indicator variable which takes the value 1 if the participant chose to acquire either of the two signals, and the value 0 if the participant did not acquire any signal. *Prior* is a categorical variable with 0.5 as the reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff.* The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 3 is reduced because some participants did not answer the question about the contribution motives.

Table B.8: Robustness check: Probit Model for the decision to acquire signal σ_H among those who acquire information on the subset of those who answered the comprehension question correctly.

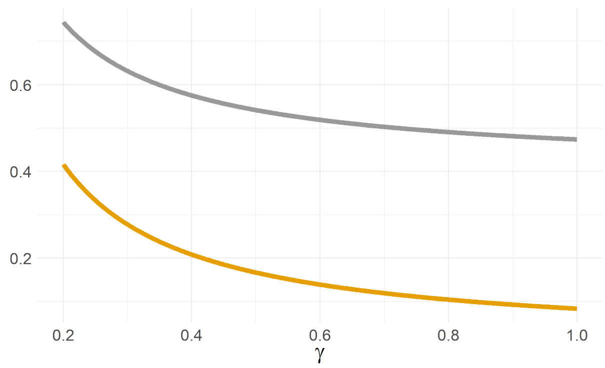
	Dependent variable:		
	acquired signal σ_H		
	probit		
	(1)	(2)	(3)
prior = 0.25	−0.018	−0.015	−0.018
	(0.026)	(0.026)	(0.026)
prior = 0.75	−0.030	−0.027	−0.030
	(0.026)	(0.026)	(0.026)
own payoff		0.075**	0.082**
		(0.035)	(0.035)
reciprocity		0.063**	0.068**
		(0.032)	(0.032)
own payoff and group payoff		0.038	0.031
		(0.044)	(0.043)
own payoff and reciprocity		−0.145	−0.145
		(0.133)	(0.130)
group payoff and reciprocity		0.155	0.153
		(0.102)	(0.102)
own payoff, reciprocity, and group payoff		−0.067	−0.059
		(0.112)	(0.114)
other motives		−0.033	−0.035
		(0.032)	(0.032)
difficulty = 2			−0.005
			(0.034)
difficulty = 3			−0.069**
			(0.033)
difficulty = 4			−0.100**
			(0.046)
Constant			
Observations	1,780	1,776	1,770
Log Likelihood	−1,065.574	−1,055.703	−1,046.086
Note:			*p<0.1; **p<0.05; ***p<0.01

All columns report marginal effects, with robust standard errors in parentheses. The sample is the subsample of those who acquired information, excluding those who did not answer the comprehension question correctly. The dependent variable is a binary indicator variable which takes the value 1 if the participant acquired signal σ_H, and the value 0 if the participant acquired signal σ_L. *Prior* is a categorical variable with 0.5 as the reference category. *Own payoff*, *reciprocity* and *further motives* belong to the same categorical variable which captures the motives behind the contribution decision, with *group payoff* as omitted reference category. The omitted reference category of the categorical variable capturing contribution motives is *group payoff*. The control variable *comprehension* captures whether the participant answered the comprehension question correctly, and *difficulty* captures the perceived difficulty of the entire questionnaire. The number of observations in columns 2 – 3 is reduced because some participants did not answer the question about the contribution motives.

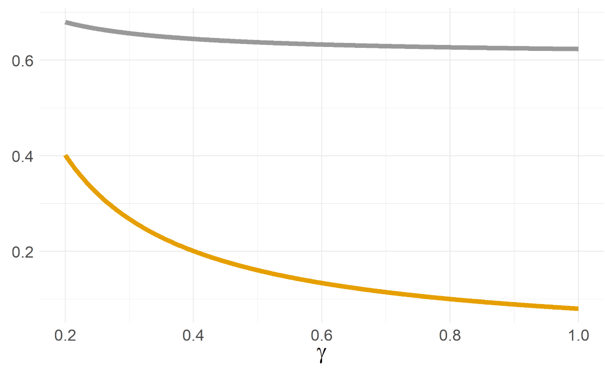
C Additional Figures



(a) $\mu = 0.25$

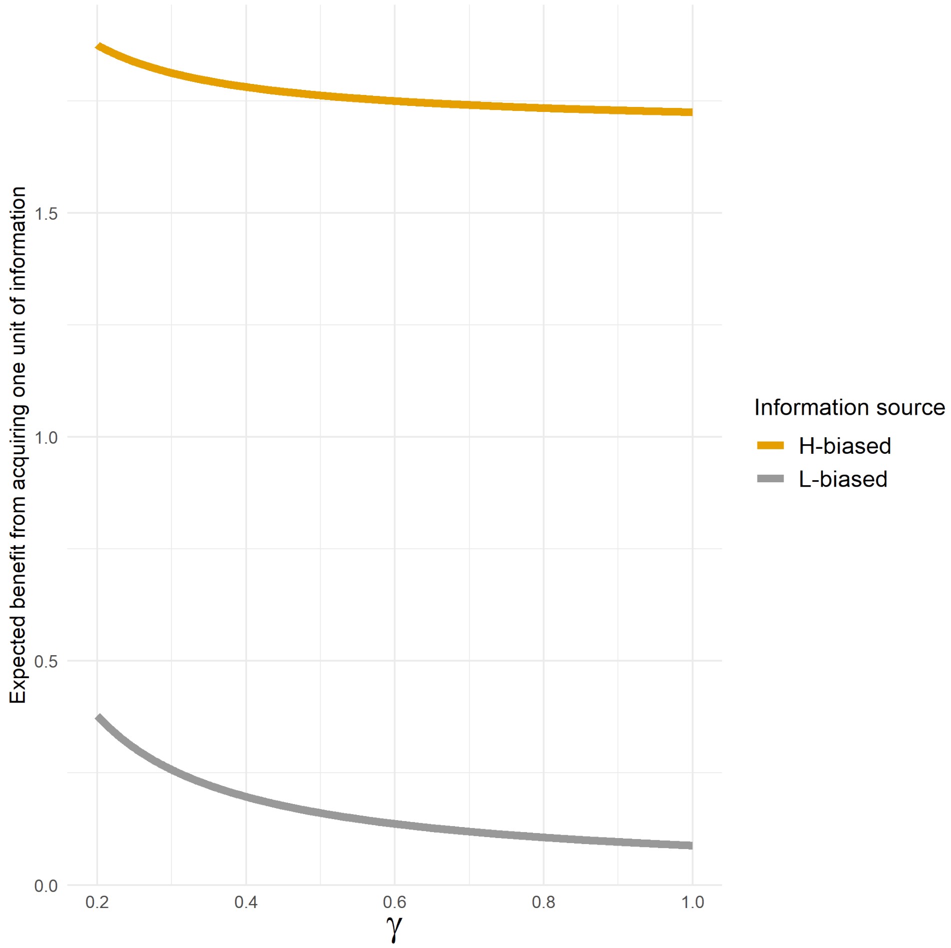


(b) $\mu = 0.5$

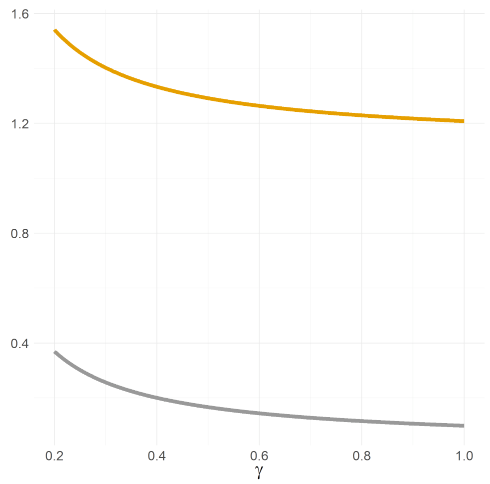


(c) $\mu = 0.75$

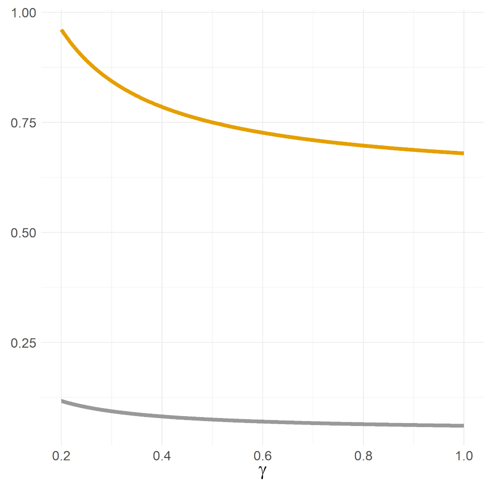
Figure C.1: Net expected benefit from acquiring one unit of information from either source for type L and parameters $\alpha = 0.5$ $\hat{g} = 5$, $\underline{g} = 4$ and $\bar{g} = 10$.



(a) $\mu = 0.25$



(b) $\mu = 0.5$



(c) $\mu = 0.75$

Figure C.2: Net expected benefit from acquiring one unit of information from either source for type H and parameters $\alpha = 0.5$ $\hat{g} = 5$, $\underline{g} = 4$ and $\bar{g} = 10$.

D Overview of Additional Variables

To study the question of whether the behaviour observed in the experiment correlates with willingness to contribute to real-world public goods, we complement the data from our experiment with socio-demographic variables and other relevant data from available GIP waves. As control variables, we include gender, age and education from wave 52. Age is reported in 14 brackets for the year of birth and we re-code the variable to use the mid-point of each bracket as a proxy for age. Education is reported in 12 levels but, for our purposes, we re-code it into a binary indicator variable for academic education which takes the value one if the participant has a Bachelor degree or higher, and zero otherwise. In the control variables, we also include income from wave 49, which was fielded in September 2020. Average monthly net income is reported in 15 brackets and again we use the mid-point of each bracket as a proxy. In households where either another person than the participant answering the questionnaire or more than one person contributes to the household income, we use the household instead of personal income.

For the question of whether the contribution types observed in the experiment correlate with the actual public good contributions, we exploit several questions from previous waves and the Mannheim Corona Study. Table D.1 presents an overview of all the questions. The original questionnaire documentation in German can be found on the GIP website or via the GIP data archive at the GESIS-Leibniz Institute for the Social Sciences.

To find suitable questions that capture willingness to contribute to environmental protection, we searched the GIP documentation for terms like "environment", "climate", and "sustainability". Among the large number of hits, we focused only on those questions that fulfil the following criteria: First, they concern an individual (as opposed to collective or governmental) willingness to contribute. Second, the contribution is at least to some extent costly to the individual. Third, the contribution is voluntary. Therefore, we discarded all questions that ask about personal opinions, e.g. general attitudes towards climate change or assessment of the tasks of the government concerning environmental protection. In our main specification, we exploit the three questions that best fit the above-mentioned criteria. The first question elicits the support of a carbon tax in a simple yes/no manner. The second question asks whether the participants recently changed their lifestyle to protect the climate, on a scale from 1 to 5. These two questions come from wave 41 (May 2019). The third question asks whether the participants pursued any of eight sustainability-related activities, such as donating to an environmental organization. This question was fielded in wave 48 (July 2020). We assign one point to each activity pursued and sum up the points. For the activity of flying, we assign a point when the answer is negative. All three variables are coded such that higher values indicate a higher willingness to contribute.

In an alternative specification, we add two more variables. The first question asks whether participants find it important to reduce emissions from vehicles, even at the expense of economic growth. This question was fielded in wave 48 as well, and while it does not exactly concern individual contributions, it still captures a certain willingness to pay for environmental protection. The other variable aggregates three questions concerning demonstrations for climate protection. While demonstrating is not a direct contribution, participating is costly in terms of time, and can express a strong opinion. One question concerns participation in such demonstrations in the past 6 months and is asked twice, in waves 41 (May 2019) and 44 (November 2019). We assign one point for each time the participants answered "yes". The third question asks for the intention to participate in such a demonstration on a scale from 1 to 3. We aggregate these three questions to one variable by adding up the answers.

Three more questions capture the behaviour of interest, but they were asked as part of experiments, such that not all participants received the questions. This results in a greatly reduced sample size, but we nevertheless include these variables in an additional specification to check that our results are not sensitive to the choice of the variables. The first question concerns purchases of environmentally friendly products, and the second question concerns the reduction of energy consumption. As part of the experiment, both questions are phrased in two slightly different ways, but because they still capture the same concept, we aggregate the answers to one variable for environmentally friendly goods and one for energy consumption. These questions were asked in wave 38 (November 2018). In wave 44, some participants received an additional amount of 4 euros for answering the questionnaire, and could decide how much of this they wanted to keep for themselves, and how much to donate to the climate protection organization 'atmosfair'.

For the question of whether the contribution types observed in the experiment correlate with the willingness to contribute to the containment of COVID-19, we exploit several questions from the Mannheim Corona Study (MCS). The contributions to the containment of COVID-19 include reducing social contacts, going into home quarantine, getting tested, and getting vaccinated. However, most of these contributions are not strictly voluntary. For instance, during the lockdown social contacts were largely prohibited by law, and home quarantine could be prescribed by the health department. Therefore, to capture individual, voluntary contributions, we focus on the usage of the corona warning app. Installing the app is voluntary, and whether somebody who is warned (about a contact to a positively tested person) by the app gets tested or quarantines cannot be monitored by the authorities. The corona warning app was introduced in Germany on June 16, 2020. In week 13 of the MCS which was fielded from June 12 to June 19, 2020, participants were asked whether they would install the app, and if so, whether they would enter a positive test result, and whether they would comply with the app's request to get tested or to go into home quarantine. The answers were reported on a scale from 1 to 5 and we assign a value of zero if the participants answered that they would not install the app in any case. In addition, the participants were asked whether they had installed the app in the three following weeks (June 20 to July 10, 2020). We aggregate the answers to an additional indicator variable which takes the value 1 if the participants answered that they had installed the app in either of the three weeks.

Table D.1: Overview of the additional questions used from previous waves of the GIP or from the Mannheim Corona Study, in alphabetical order.

Variable	Wave	Question	Answer options	Filter
app installed	CW14, CW15, CW16 [28]	Did you or did someone for you install the official corona warning app on your smartphone or not?	1: app installed, 2: app not installed, 3: app installed but since then uninstalled again 4: I do not use a smartphone.	–
app compliance test	CW13	Would you comply with the corona warning app's request to get tested for the virus?	1: yes, in any case, ... 5: no, in any case.	The participants did not receive this question if they previously answered that they do not own a smartphone or that they would be in any case unwilling to install the corona warning app.

[28]CW refers to the respective week of the Mannheim Corona Study.

app test results	CW13	If you got tested positively for the virus, would you enter it in corona warning app?	1: yes, in any case, ... 5: no, in any case.	The participants did not receive this question if they previously answered that they do not own a smartphone or that they would be in any case unwilling to install the corona warning app.
app compliance quarantine	CW13	Would you comply with the corona warning app's request to go into home quarantine as a precaution?	1: yes, in any case, ... 5: no, in any case.	The participants did not receive this question if they previously answered that they do not own a smartphone or that they would be in any case unwilling to install the corona warning app.
demonstrated	41, 44	Did you participate in a demonstration against climate change in the past 6 months?	0: yes 1: no	–
donation atmosfair	44	Please fill in here the amount you want to donate to the climate protection organization atmosfair.	0€ - 4€	Part of an experiment, such that 2/3 of the participants were randomly selected to receive this question.

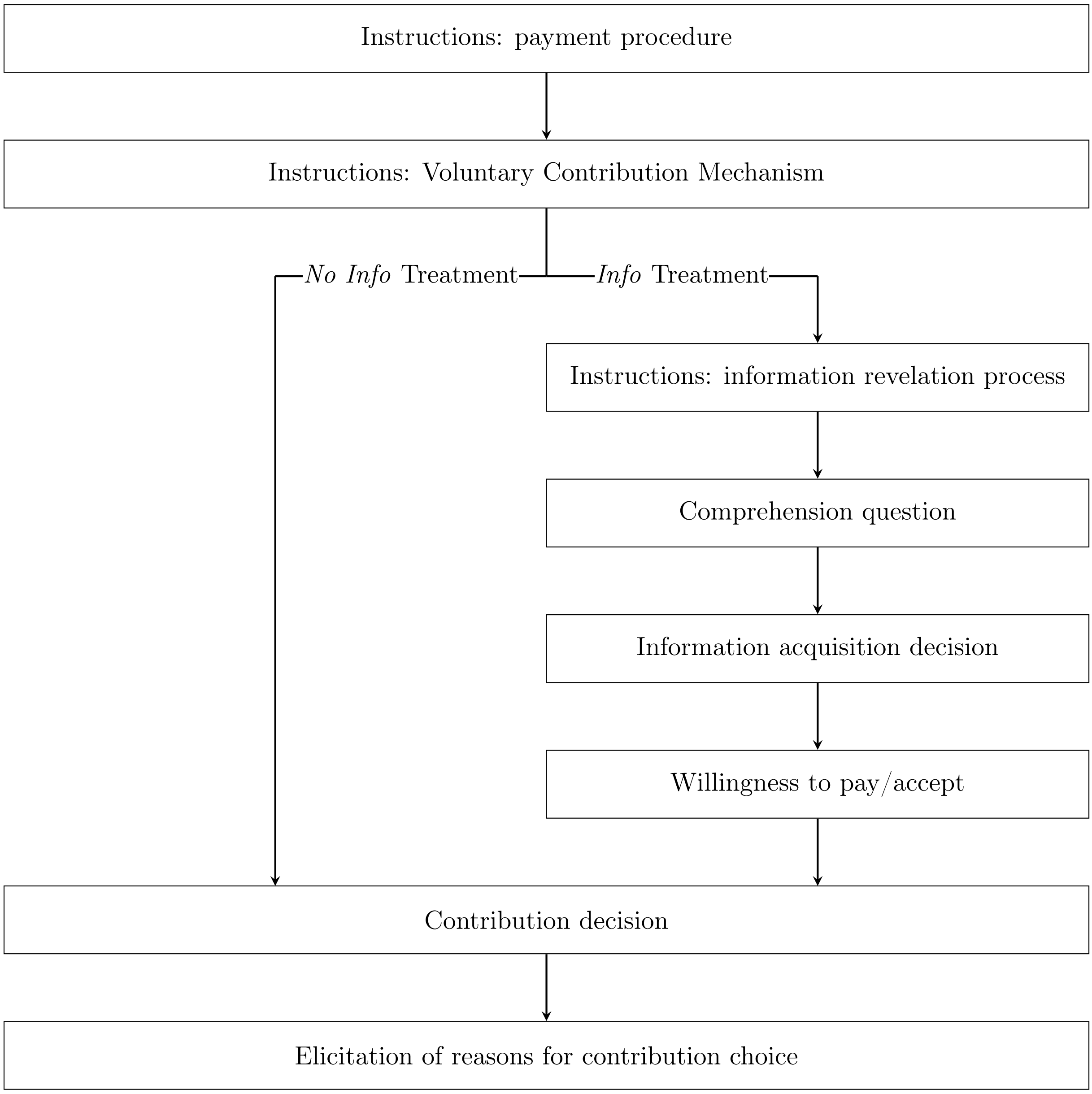
energy consumption I	38	To what extent to you find it personally acceptable to restrict your energy consumption in order to stop climate change?	0: not acceptable at all, ..., 10: completely acceptable	Part of an experiment, such that 1/3 of the participants were randomly selected to receive this question. The other 1/3 received the question *energy consumption II*.
energy consumption II	38	How often in your daily life do you do something to reduce your energy consumption?	0: never, ..., 10: always	Part of an experiment, such that 1/3 of the participants were randomly selected to receive this question. If they received this question they also received *environmentally friendly products II*, not *I*.
environmentally friendly products I	38	To what extent do you find it personally acceptable to pay higher prices for environmentally friendly products?	0: not acceptable at all, ..., 10: completely acceptable	Part of an experiment, such that 1/3 of the participants were randomly selected to receive this question. The other 1/3 received the question *environmentally friendly products II*.

environmentally friendly products II	38	How often when buying products do you pay attention to these products being environmentally friendly?	0: never, ..., 10: always	Part of an experiment, such that 1/3 of the participants were randomly selected to receive this question.
importance emission reductions	48	Please indicate how much you agree with the following statement: It is very important to reduce the emission of carbon dioxide (CO_2) and pollutants by vehicles, even at the expense of economic growth.	1: do not agree at all, ... 7: agree entirely	–
lifestyle changes	41	Did you change your lifestyle in the past 6 months to protect the climate?	1: very much, ..., 5: not at all	–
support carbon tax	41	Do you oppose the introduction of a carbon tax or do you agree with it?	1: agree fully, ..., 5: oppose strongly	–

sustainable activities	48	Which of the following activities did you perform at least once in the past 6 months? Please select all applicable activities.	a: paying attention to the sustainability of a product during the purchase. b: Worked for an environmental project in a voluntary capacity. c: Participated in a demonstration for more environmental and/or climate protection. d: Brought own bag to shopping. e: Signed a petition for more environmental and/or climate protection. f: Donated to an environmental organization. g: Bought regional organic products. h: Went on a flight.	–
would demonstrate	41	Would you participate in such a demonstration for climate protection in the near future if it took place near your residence?	1: yes, in any case 2: probably 3: no	–

E Experimental Instructions

E.1 Overview of the Experimental Procedure



E.2 English Translation of the Instructions and Questions

Instructions for the payment procedure

What follows is about making an investment decision. You are a member of a group of four participants who all have the same investment possibility. Your own payoff depends on the decisions of all group members. Randomly drawn participants of the study will receive their payoffs as real amounts of money. We will randomly draw 50 groups of 4 participants each, that is 200 participants in total, and we will transfer their payoffs to the drawn participants. All other participants will not receive any money. Nobody can be drawn more than once. We estimate that approximately 4000 people will take part in this study. All decisions will of course remain anonymous. We will notify the participants who were drawn in June 2021.

Instructions for the Voluntary Contribution Mechanism.
Example for the *info* treatment and a prior of 0.75

The payoff you will receive when you are drawn depends on your own investment decision as well as on the investment decisions of the three other group members.

You and the three other group members each have a budget of 10 € in a virtual account. You can decide how much of your budget you want to invest into a group project, and how much you want to keep in your virtual account.

Your payoff results from the remaining budget on your virtual account and the revenue from the group project.

You and the other three group members will all receive the same revenue from the group project. The level of the revenue is determined by the sum of all investments in the group project. Moreover, the level of the revenue depends on whether the group project is a GOLD or a SILVER project. Initially, the type of the project is known to nobody. You will later have the opportunity to potentially find out the type of the project.

If the group project is GOLD, the revenue for each group member is one half (50%) of the sum of all investments in the project. If the group project is SILVER, the revenue for each group member is one tenth (10%) of the sum of all investments in the project. Let's consider an example in which the sum of all investments in the group project is 40 €. Then, you and all other group members will receive a revenue of 50% of 40 € = 20 € if the project is GOLD, or alternatively a revenue of 10% of 40 € = 4 € if the project is SILVER.

Among 100 groups, 75 groups have a GOLD project and 25 groups have a SILVER project.

Instructions for the information revelation process (*info* treatment)

Before you make your investment decision, you now have the chance to potentially find out whether the group project is a GOLD or SILVER project.

Below, you can see four envelopes. You may open one of the envelopes once. Every envelope contains a card which is either gold or silver. Only in the case of one of the four envelope the true type of the group project can be inferred with certainty.

Only if the group project is GOLD, exactly one of the two silver envelopes contains a gold card and hence reveals the type of the group project. Otherwise, the silver envelopes always contain a silver card.

Only if the group project is SILVER, exactly one of the two gold envelopes contains a silver card and hence reveals the type of the group project. Otherwise the gold envelopes always contain a gold card.

Only if you find a gold card in a silver envelope, you can be completely certain that the group project is a GOLD project. If you find a gold card in a gold envelope, you can be more certain that it is a GOLD project than without this information, but you cannot be completely certain.

Only if you find a silver card in a gold envelope, you can be completely certain that the group project is a SILVER project. If you find a silver card in a silver envelope, you can be more certain that it is a SILVER project than without this information, but you cannot be completely certain.

If you open one of the envelopes, you will receive specific information about how you can interpret the color of the card and how certain you can be about the type of your group project.

Gold Envelope 1 | Gold Envelope 2 | Silver Envelope 1 | Silver Envelope 2

Comprehension question (*info* treatment)

With this question, we want to check your understanding of the instructions. If you do not know the answer to this question, please go back to the previous page and read the instructions again carefully.

Is the following statement true or false?

"Only if you find a card which does not have the same color as the envelope in which it was located, you can be completely certain that the color of the card reveals the type of the group project."

- ◯ False
- ◯ True
- ◯ I don't know.

Information acquisition decision (*info* treatment)

Gold Envelope 1 | Gold Envelope 2 | Silver Envelope 1 | Silver Envelope 2

Please decide now which of the four envelopes you want to open. If you do not want to open an envelope, please select "No envelope".

Which envelope do you want to open?

- ◯ Gold Envelope 1
- ◯ Gold Envelope 2
- ◯ Silver Envelope 1
- ◯ Silver Envelope 2
- ◯ No envelope

If the participant chose to open a silver envelope (*info* treatment): Willingness to pay

You decided to open a silver envelope. Before we will show you the content of the envelope you chose, we have one additional question which is not going to affect your payoff. Suppose that it would have cost something to open an envelope.

Please state the highest amount, between 0 € and 10 €, that you would have been willing to pay to open a silver envelope.

____ €

If the participant chose not to open an envelope (*info* treatment): Willingness to accept

You decided not to open an envelope. Before moving on to the next question, we have one additional question which is not going to affect your payoff. Suppose that you would have received money for opening an envelope.

Please indicate the smallest amount, between 0 € and 10 €, that we would have had to pay you so that you ...

... would have opened a gold envelope: ____ €

... would have opened a silver envelope: ____ €

Contribution decision (*no info* treatment)

Please make your investment decision now. You can invest an amount between 0 € and 10 € in the group project. The share of your budget that you do not invest in the group project remains in your virtual account.

Please fill in here which amount you want to invest in the group project:

____ €

If the participant opened a silver envelope and received a silver card: Contribution decision (*info* treatment)

You opened the silver envelope 1. The envelope contains a silver card. You are now less certain than before that the group project is a GOLD project. Among 100 groups in which someone found a silver card in a silver envelope, 60 groups have a GOLD project and 40 groups have a SILVER project.

Please make your investment decision now. You can invest an amount between 0 € and 10 € in the group project. The share of your budget that you do not invest in the group project remains in your virtual account.

Please fill in here which amount you want to invest into the group project:

____€

☐ I want to read the instructions again.

If the participant opened a silver envelope and received a gold card: Contribution decision (*info* treatment)

You opened the silver envelope 1. The envelope contains a gold card. The group project is a GOLD project with certainty.

Please make your investment decision now. You can invest an amount between 0 € and 10 € in the group project. The share of your budget that you do not invest in the group project remains in your virtual account.

Please fill in here which amount you want to invest into the group project:

____€

☐ I want to read the instructions again.

Motives for the contribution choice

Which of the following motives can explain your personal investment decision?

Please indicate all motives.

☐ I want to invest neither more nor less than the other group members.

☐ I want to achieve a total payoff as high as possible for my entire group.

☐ I want to achieve a payoff as high as possible for myself.

☐ I had a different motive, namely: ____

E.3 Screenshots of the Original Instructions and Questions

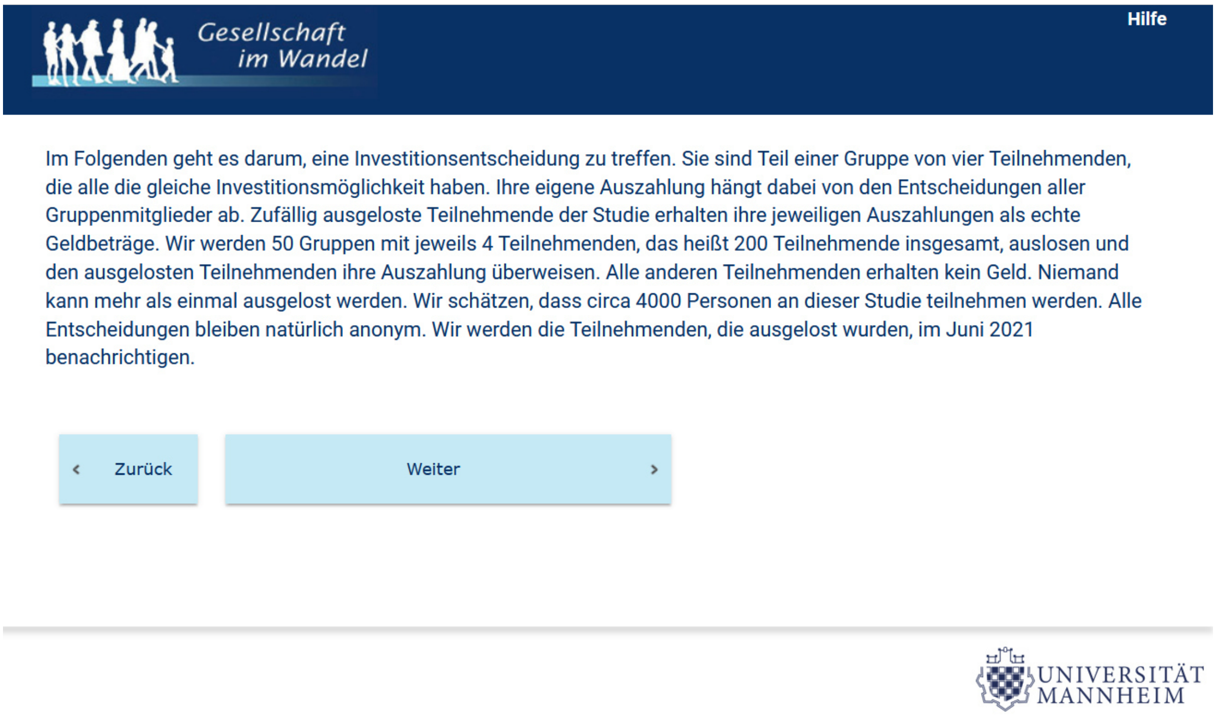


Figure E.1: Instructions for the payment procedure.

Gesellschaft im Wandel

Hilfe

Welche Auszahlung Sie erhalten, wenn Sie ausgelost werden, hängt sowohl von Ihrer Investitionsentscheidung als auch von den Investitionsentscheidungen der anderen drei Gruppenmitglieder ab.

Sie und die anderen drei Gruppenmitglieder haben jeweils ein Budget von 10€ auf einem virtuellen Konto. Sie können entscheiden, wie viel von Ihrem Budget Sie in ein Gruppenprojekt investieren möchten und wie viel Sie auf Ihrem virtuellem Konto behalten möchten.

Ihre Auszahlung ergibt sich aus dem restlichen Budget auf Ihrem virtuellen Konto und dem Ertrag aus dem Gruppenprojekt.

Sie und die anderen drei Gruppenmitglieder bekommen alle den gleichen Ertrag aus dem Gruppenprojekt. Die Höhe des Ertrags wird von der Summe aller Investitionen in das Gruppenprojekt bestimmt. Außerdem hängt die Höhe des Ertrags davon ab, ob es sich bei dem Projekt um ein GOLD oder ein SILBER Projekt handelt. Der Typ des Projekts ist anfangs niemandem bekannt. Sie haben später die Gelegenheit, den Typ des Projekts möglicherweise herauszufinden.

Wenn das Gruppenprojekt GOLD ist, ist der Ertrag für jedes Gruppenmitglied die Hälfte (50%) der Summe aller Investitionen in das Gruppenprojekt. Wenn das Gruppenprojekt SILBER ist, ist der Ertrag für jedes Gruppenmitglied ein Zehntel (10%) der Summe aller Investitionen in das Gruppenprojekt.

Betrachten wir ein Beispiel, bei dem die Summe aller Investitionen in das Gruppenprojekt 40€ ist. Dann bekommen Sie und die anderen drei Gruppenmitglieder jeweils einen Ertrag von 50% von 40€ = 20€ wenn das Gruppenprojekt GOLD ist, beziehungsweise einen Ertrag von 10% von 40€ = 4€ wenn das Gruppenprojekt SILBER ist.

Von 100 Gruppen haben 75 Gruppen ein GOLD Projekt und 25 Gruppen haben ein SILBER Projekt.

‹ Zurück | Weiter ›

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Figure E.2: Instructions for the Voluntary Contribution Mechanism. Example for the *info* treatment and a prior of $\mu = 0.75$.

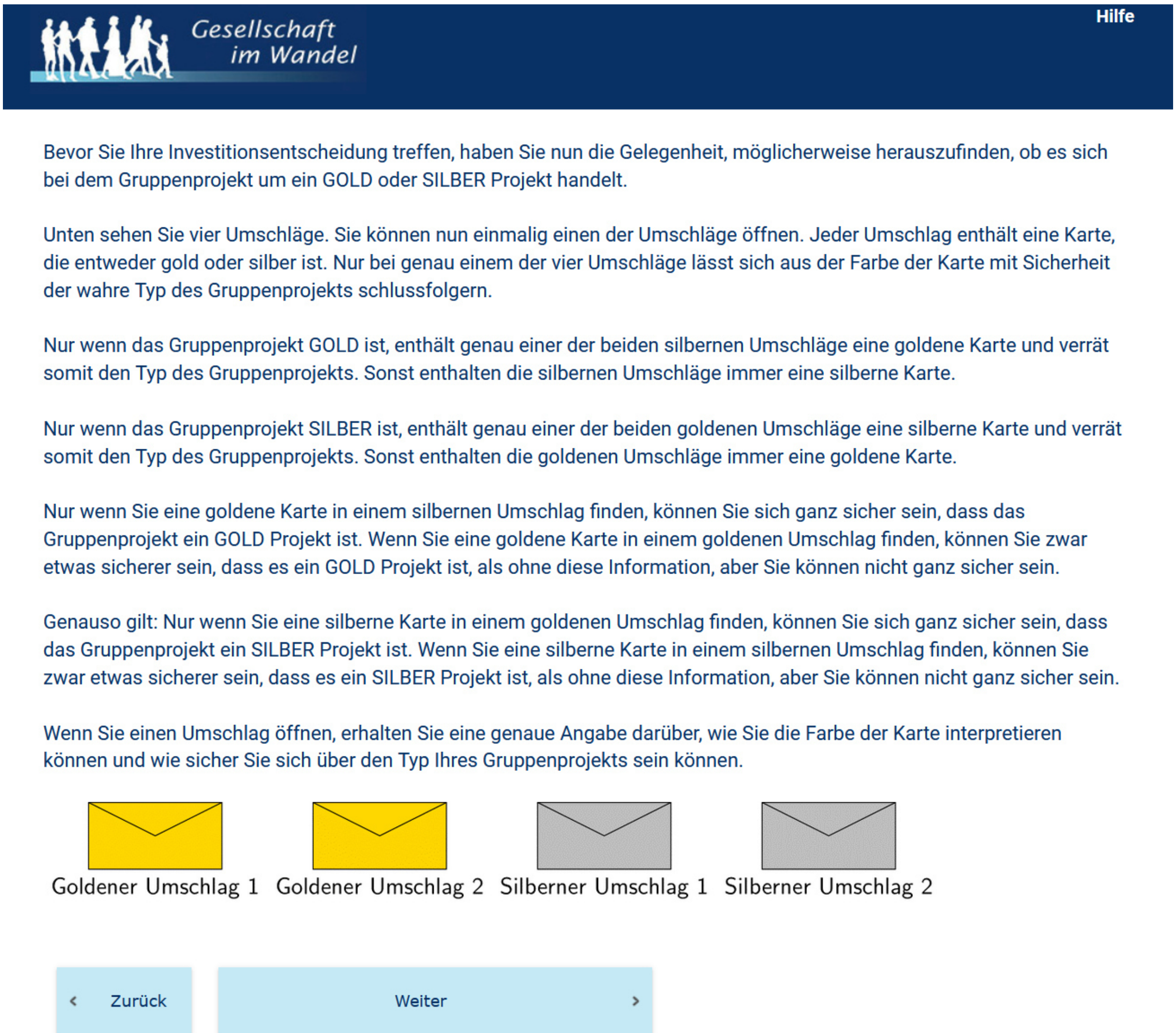
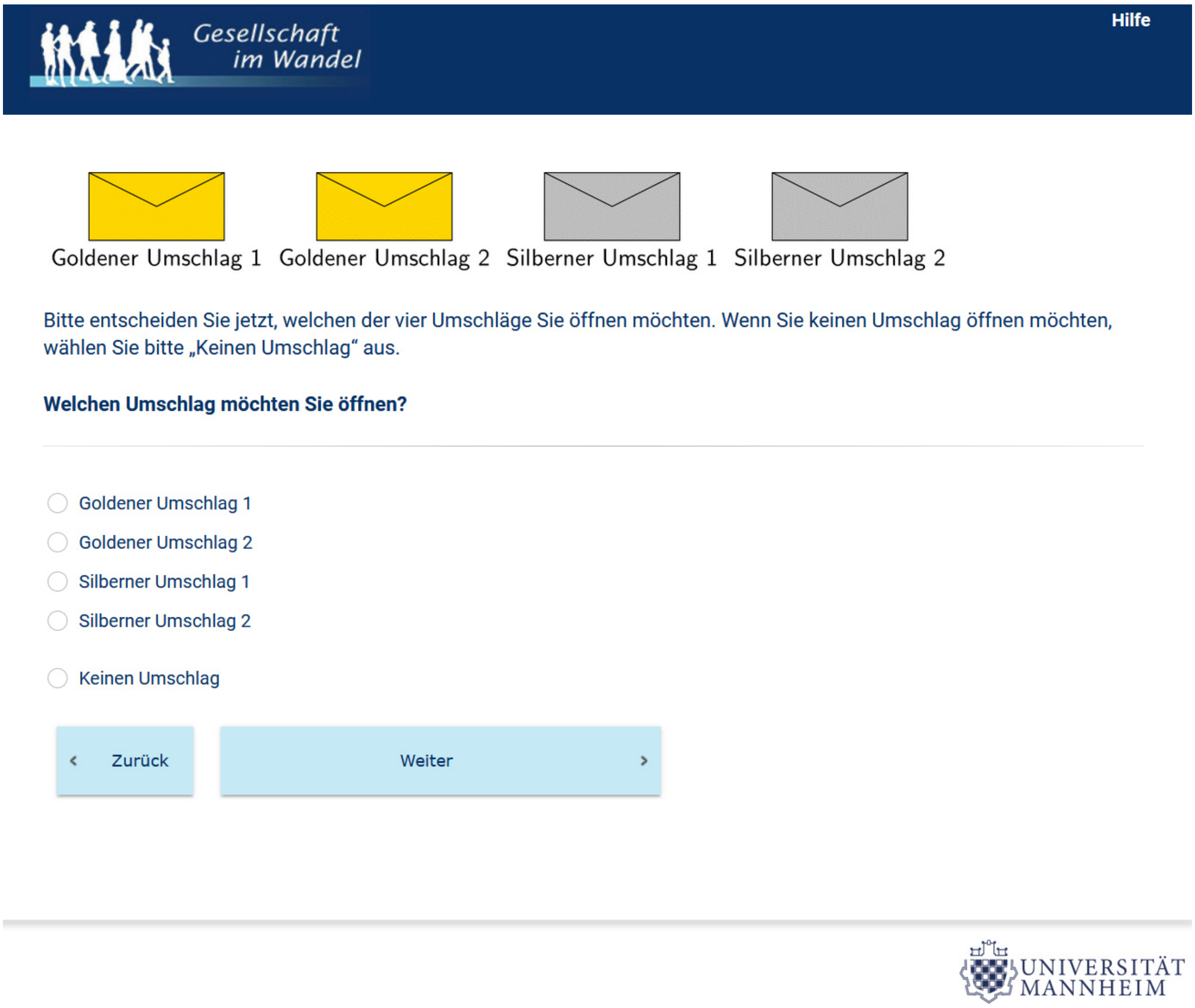


Figure E.3: Instructions for the information revelation process (*info* treatment).

Figure E.4: Comprehension question (*info* treatment).


Gesellschaft im Wandel

Hilfe

Goldener Umschlag 1 Goldener Umschlag 2 Silberner Umschlag 1 Silberner Umschlag 2

Bitte entscheiden Sie jetzt, welchen der vier Umschläge Sie öffnen möchten. Wenn Sie keinen Umschlag öffnen möchten, wählen Sie bitte „Keinen Umschlag“ aus.

Welchen Umschlag möchten Sie öffnen?

- Goldener Umschlag 1
- Goldener Umschlag 2
- Silberner Umschlag 1
- Silberner Umschlag 2

- Keinen Umschlag

Zurück

Weiter

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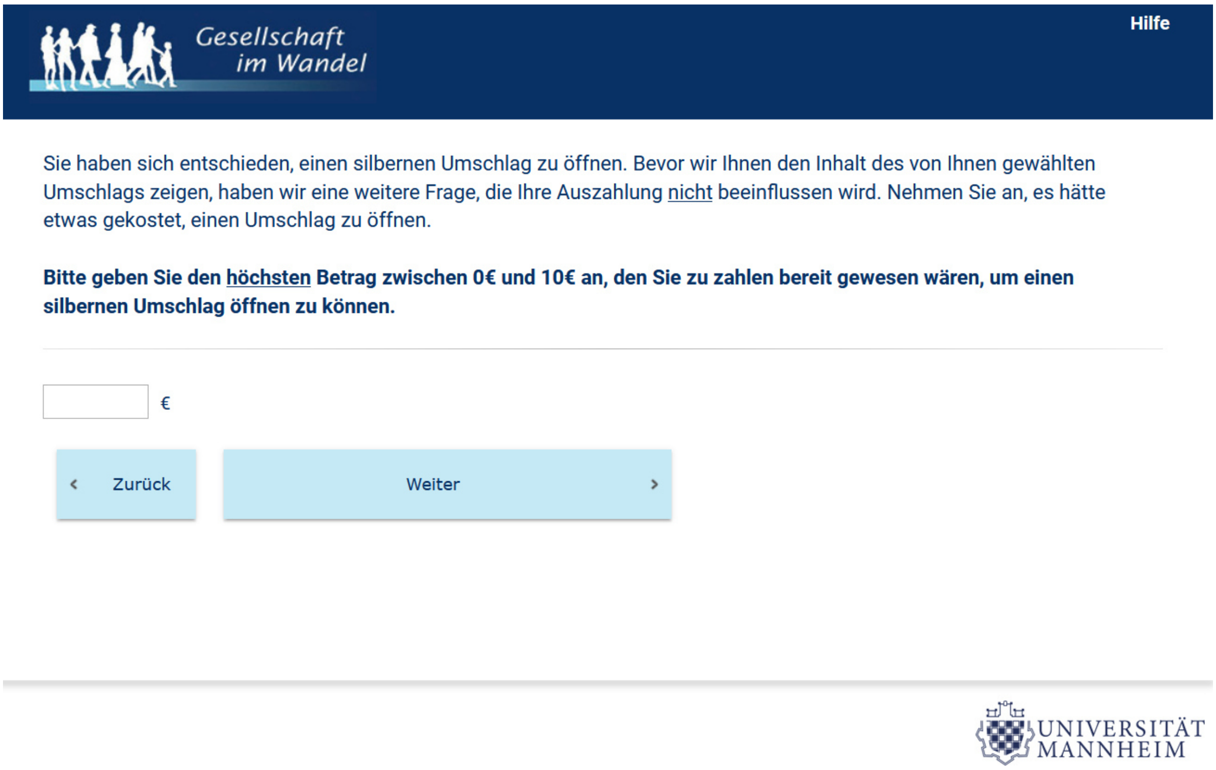
Figure E.5: Information acquisition decision (*info* treatment).



Gesellschaft im Wandel

Hilfe

Sie haben sich entschieden, einen silbernen Umschlag zu öffnen. Bevor wir Ihnen den Inhalt des von Ihnen gewählten Umschlags zeigen, haben wir eine weitere Frage, die Ihre Auszahlung nicht beeinflussen wird. Nehmen Sie an, es hätte etwas gekostet, einen Umschlag zu öffnen.

Bitte geben Sie den höchsten Betrag zwischen 0€ und 10€ an, den Sie zu zahlen bereit gewesen wären, um einen silbernen Umschlag öffnen zu können.

€

Zurück

Weiter

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Figure E.6: If the participant chose to open a silver envelope (*info* treatment): Willingness to pay question.

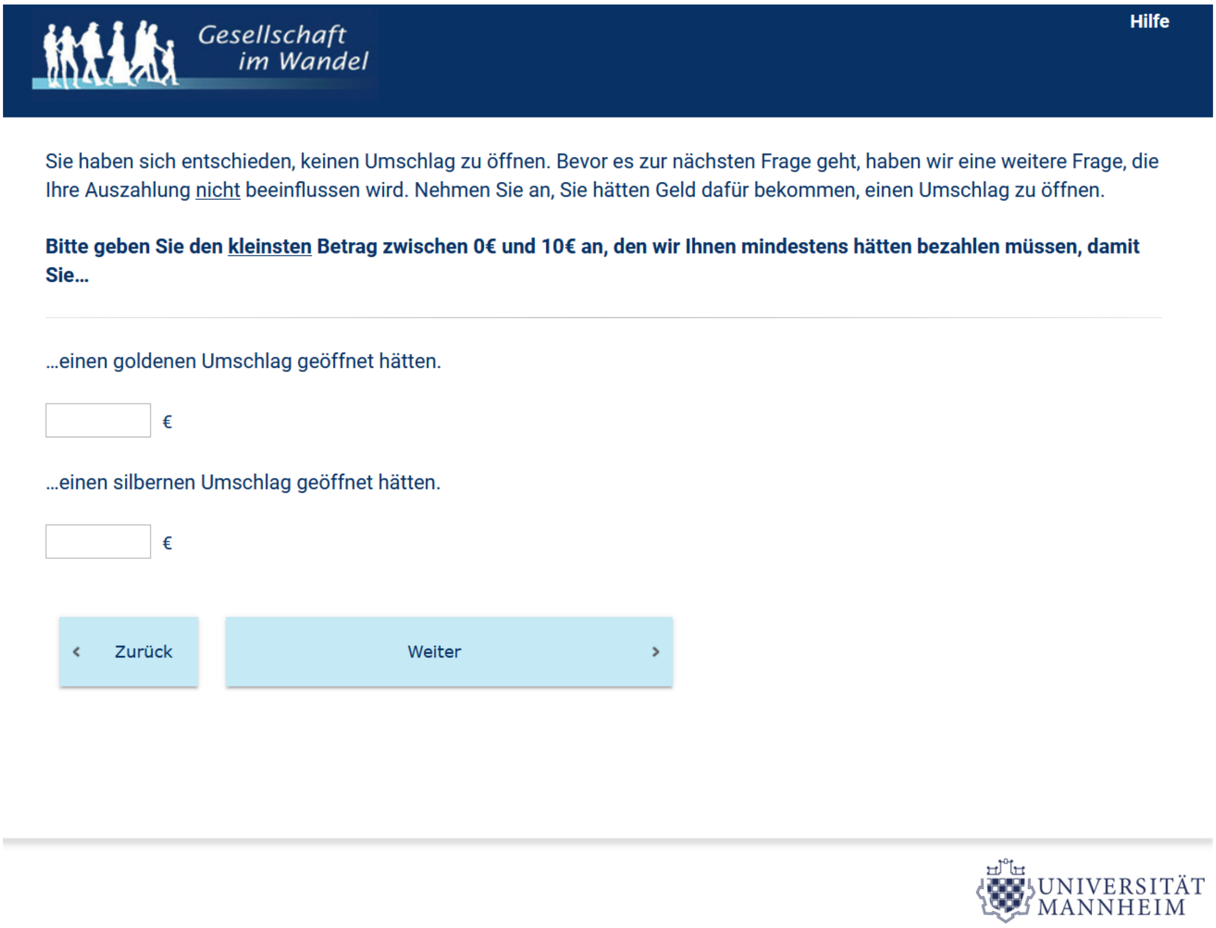

Figure E.7: If the participant chose not to open an envelope (*info* treatment): Willingness to accept question.

Figure E.8: Contribution decision (*no info* treatment).

Gesellschaft im Wandel

Hilfe

Sie haben den silbernen Umschlag 1 geöffnet.
Der Umschlag enthält eine silberne Karte. Sie sind nun weniger sicher als zuvor, dass es sich bei dem Gruppenprojekt um ein GOLD Projekt handelt. Von 100 Gruppen, in denen jemand eine silberne Karte in einem silbernen Umschlag gefunden hat, haben 60 Gruppen ein GOLD Projekt und 40 Gruppen haben ein SILBER Projekt.

Bitte treffen Sie nun Ihre Investitionsentscheidung. Sie können einen Betrag zwischen 0€ und 10€ in das Gruppenprojekt investieren. Der Anteil von Ihrem Budget, den Sie nicht in das Gruppenprojekt investieren, bleibt auf Ihrem virtuellen Konto.

Bitte tragen Sie hier ein, welchen Betrag Sie in das Gruppenprojekt investieren möchten:

€

Ich möchte die Anleitung nochmals lesen.

Weiter

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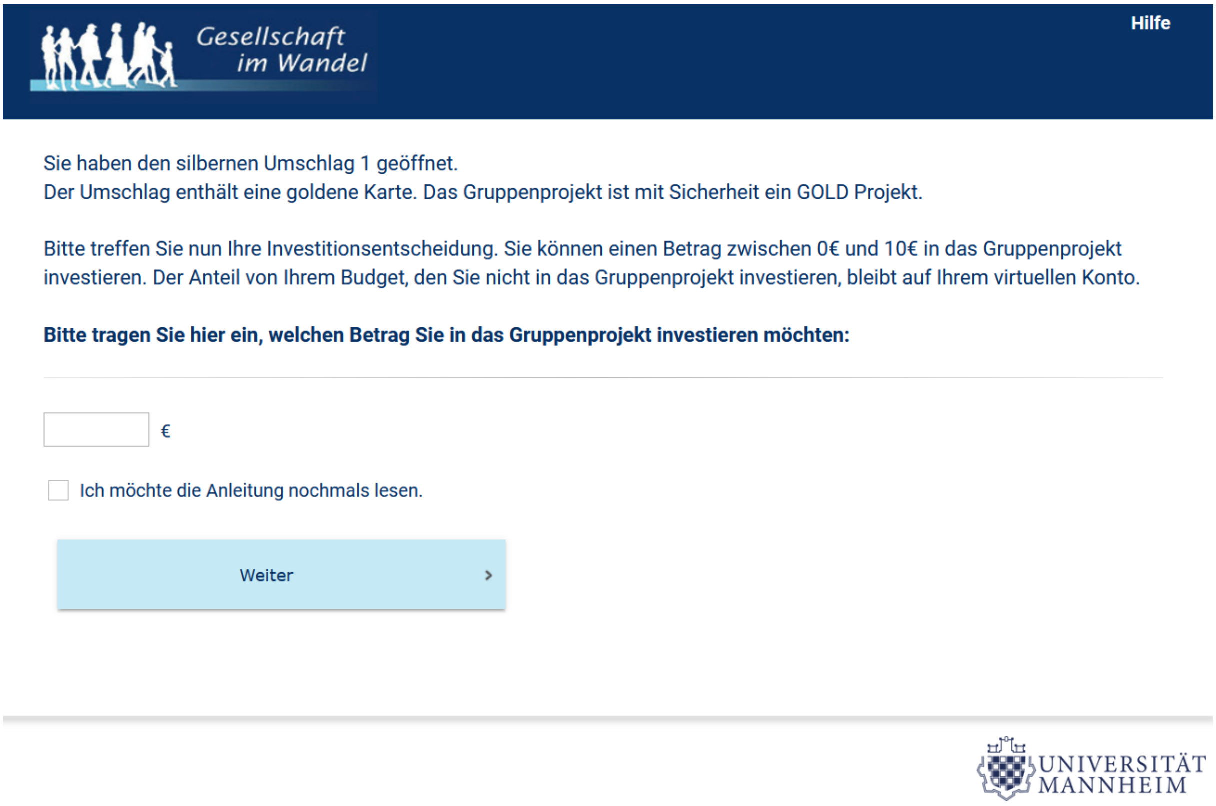
Figure E.9: If the participant opened a silver envelope and received a silver card: Contribution decision (*info* treatment).



Gesellschaft im Wandel

Hilfe

Sie haben den silbernen Umschlag 1 geöffnet.
Der Umschlag enthält eine goldene Karte. Das Gruppenprojekt ist mit Sicherheit ein GOLD Projekt.

Bitte treffen Sie nun Ihre Investitionsentscheidung. Sie können einen Betrag zwischen 0€ und 10€ in das Gruppenprojekt investieren. Der Anteil von Ihrem Budget, den Sie nicht in das Gruppenprojekt investieren, bleibt auf Ihrem virtuellen Konto.

Bitte tragen Sie hier ein, welchen Betrag Sie in das Gruppenprojekt investieren möchten:

€

Ich möchte die Anleitung nochmals lesen.

Weiter

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Figure E.10: If the participant opened a silver envelope and received a gold card: Contribution decision (*info* treatment).

Gesellschaft im Wandel

Hilfe

Welche der folgenden Beweggründe können Ihre persönliche Investitionsentscheidung erklären?

Bitte geben Sie alle Beweggründe an.

- Ich möchte weder mehr noch weniger investieren als die anderen Gruppenmitglieder.
- Ich möchte eine möglichst hohe Gesamtauszahlung für meine ganze Gruppe erzielen.
- Ich möchte eine möglichst hohe Auszahlung für mich selbst erzielen.
- Ich hatte einen anderen Beweggrund, und zwar:

Zurück

Weiter

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Figure E.11: Question about the motives for the contribution choice.