Online Appendix

The Benefit of the Doubt: Willful Ignorance and Altruistic Punishment

Appendix A: Regression Analysis

In this appendix I describe the regression analysis, which is used to investigate the robustness of the findings presented in section 3.2 and to understand how these findings vary with certain subject characteristics (see Table A1). I regress the decision to punish on a dummy for the hidden information treatment, a dummy indicating whether the dictator chose the fair option and the interaction between these two variables such that the coefficient on the hidden information treatment shows the main case of interest, i.e., the change in punishment rates caused by the treatment if the dictator chose selfishly.

Table A1: Regression analysis

	Linear probability model		Probit	
	(1)	(2)	(3)	(4)
Hidden information	-0.289**	-0.274**	-0.156***	-0.157**
	(0.118)	(0.122)	(0.060)	(0.074)
Fair dictator	-0.576***	-0.571***	-0.448***	-0.510***
	(0.099)	(0.104)	(0.085)	(0.093)
Hidden information×Fair dictator	0.280**	0.283**	0.128	0.157
	(0.124)	(0.126)	(0.141)	(0.125)
Female		0.025		0.037
		(0.067)		(0.065)
Age		-0.005		-0.004
		(0.006)		(0.006)
Non-German		-0.026		-0.007
		(0.081)		(0.080)
Semester		0.008		0.008
		(0.008)		(0.007)
Constant	0.607***	0.786***		
	(0.094)	(0.194)		
N	148	148	148	148
Session fixed effects		✓		✓

Note: This table reports the coefficients from OLS regressions (column (1) and column (2)) and marginal effects from probit regressions (column (3) and column (4)) of the decision to punish the dictator. Omitted categories are "baseline treatment," "selfish dictator," "male," and "German." Standard errors are in parentheses. *, **, *** indicates significance at the 10%, 5% and 1% level.

Columns (1) and (2) show the coefficients from estimating linear probability models, columns (3) and (4) the marginal effects from probit estimations. Column (1) replicates the effect of the hidden information on punishment. Column (2) includes session fixed effects and individual level control variables. It shows that the treatment effect is robust to including session fixed effects and does not depend on the gender, age, nationality, and semester of the subject. In column (3) and column (4), I repeat columns (1) and (2) using a probit model. The treatment effect decreases in size, but stays statistically significant. Again, none of the individual characteristics influences the treatment effect.

Appendix B: Appendix on Social Norms in Punishment Behavior

Appendix B.1: Experimental Design

This appendix describes the experiment in which I elicit the social norms that prevail with respect to third-party punishment. I focus on rules of "how people ought to behave in a situation" (injunctive norms) rather than "what people regularly do in a situation" (descriptive norms). There are two reasons for considering injunctive rather than descriptive norms. First, by specifying what ought to be done, injunctive norms refer to *morally approved behavior* (Cialdini et al., 1990) and the purpose of this study is to see whether, by remaining ignorant, subjects avoid the moral obligation of punishing a norm violation. Second, it has been shown that injunctive norms explain a large amount of variation in other-regarding behavior (Krupka and Weber, 2013) and I engage in testing whether the observed variation of behavior can be explained with varying norms.

In this new experiment subjects were shown the instructions of the main experiment and were asked to evaluate the social appropriateness of the different possible choices of the third party.[1] The subjects did not play the game themselves and also had no knowledge that other subjects actually had played the game. To ensure that subjects understood the game for which they made their evaluations, I used the same set of control questions as in the first experiment. The experiment consisted of two treatments. In the baseline first treatment (hidden information first treatment) the subjects were first asked to consider the four (six) possible choice combinations of the baseline treatment (hidden information treatment) and their monetary consequences to each individual. For the baseline treatment such a description read, "Participant C is informed that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A, such that the

[1] See Appendix C.2 for the instructions of this second experiment.

income of participant A from stage 1 and the income from participant C remain unchanged." For the hidden information treatment the description was, for instance, "Participant C reveals that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A, such that the income of participant A from stage 1 and the income from participant C remain unchanged." Hence, in the hidden information treatment, the choice description specified both the choice to reveal the selection of the dictator and the punishment decision. For each possible choice combination subjects were then asked to rate the choice of the *third party* as either "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate," with the goal of matching the modal rating provided by other subjects in the laboratory.[2] One choice combination was randomly chosen to be payoff-relevant. Subjects obtained €3 if they selected the appropriateness rating that was selected by the majority of subjects. In the hidden information first treatment, the subjects were subsequently asked to make separate evaluations of the third party's choice to reveal the choice of the dictator or to remain ignorant and again earned €3 if they selected the appropriateness rating that was selected by the majority for one randomly selected choice of the third party's two choice options. In both treatments the subjects then were shown the instructions of the other treatment of the first experiment (the instructions of the baseline treatment if they first evaluated choices for the hidden information treatment and the instructions of the hidden information treatment if they first rated choices for the baseline treatment) and were asked to make the remaining evaluations again with the goal of matching the modal responses.

The sessions took place in July 2018 at the TU-WZB lab in Berlin. 120 subjects participated in six sessions lasting about 38 minutes. Subjects earned between €7.50 and €16.50, and the average payment was €13.23. On average, 65.90% of subjects chose the modal response. As the ratings in both treatments are very similar, I pool the data from both treatments for the analysis.[3]

Appendix B.2: Discussion

In this appendix I contrast the social norms that prevail with respect to third-party punishment under hidden information to the findings in Krupka and Weber (2009) who analyze social norms for giving in the dictator game, in which there is the possibility of remaining

[2]The instructions emphasized twice that subjects are asked to evaluate the action of the third party and not the choice of the dictator or a combination of both.

[3]I also elicited appropriateness ratings from subjects who participated in the main experimental game. I refrain from using these ratings in the analysis, although the ratings are, once again, very similar.

ignorant of the recipient's payoffs.[4] I find that not punishing a selfish dictator is considered equally appropriate no matter whether one is initially informed about the behavior of the dictator or not. This finding parallels the finding for generosity decisions (see Krupka and Weber, 2009). For both moral decisions (giving and altruistic punishment), the appropriateness of the actions does not depend on whether one chooses to inform oneself or is exogenously informed. In contrast to the finding for the social norms for giving, I find a difference in the appropriateness ratings of the two choice options under ignorance. Hence, while forgoing money without knowing whether a recipient benefits from this sacrifice is, at least not significantly, less appropriate than choosing the option that yields a higher income for oneself under uncertainty, unjustified costly punishment is considered spiteful and receives less social approval. Most importantly, in the dictator game remaining ignorant and choosing the egoistic option is substantially more appropriate than revealing a conflict of interest and choosing the selfish option, but substantially less appropriate than revealing a conflict of interest and choosing the fair option. For altruistic punishment I find that remaining ignorant and choosing not to punish as a third party is more appropriate than revealing that the dictator was selfish and choosing not to punish her, and that revealing that the dictator was selfish and choosing to punish is more appropriate than remaining ignorant and choosing not to punish. However, in contrast to a generosity decision, there is only a small difference in the appropriateness ratings between remaining ignorant and choosing not to punish and revealing that the dictator was selfish and choosing to punish her. The mean appropriateness rating of revealing a selfish dictator choice and punishing is 0.54 while it is 0.26 if a subject remains ignorant and chooses not to punish. Compare this to the difference between revealing a conflict of interest and choosing the fair option and remaining ignorant and choosing egoistically in the dictator game which is 0.79, and thus almost three times as large. This results because punishing a norm violation, even if it is an altruistic act, is less appropriate than not punishing fair behavior and from the previously described norm not to punish under ignorance that makes it "okay" to remain ignorant and to choose not to punish. Thus, if a norm violation takes places, little can be gained in terms of appropriateness by revealing the information and punishing altruistically.

[4] I cite here the working paper version of Krupka and Weber (2013), as the discussion of this part of the analysis is only included in the working paper, see section "V.C. Information acquisition in binary dictator games."

Appendix C: Experimental Instructions

Appendix C.1: Altruistic Punishment Under Willful Ignorance

This appendix contains the instructions for the main experimental game, baseline treatment and hidden information treatment, separately for participants A and for participants B and C. Instructions for the baseline informed treatment and the hidden information informed treatment are contained in Appendix C.3. The instructions apply for both treatments unless otherwise indicated. Parts in *italic* were not shown to the subjects. Original instructions were in German.

Instructions for participants A (dictators)

Part 1: Main experimental game

Screen 1:

Welcome to today's experiment

For showing up today, you will receive a €5 show-up fee. In addition to this amount, you can earn money in the experiment. How much money you earn additionally depends on the decisions that you and/or other participants make. It is therefore important that you read the subsequent instructions carefully and understand them, because each of the decisions you make is made only once and cannot be reversed. In total, today's experiment will last approximately 45 minutes.

In this experiment, there are three types of participants: Participants A, participants B, and participants C. **You are participant A.** At the beginning of this experiment you will be assigned to two other persons in this room, that is, you will be assigned to a participant B and a participant C.

You will not find out the identities of these two persons either during or after the experiment. In the same way, these two persons will never find out your identity. Equally as the absolute anonymity between the participants is secured, your decisions will be gathered via the ID-chip and not via your name. The payment at the end of the experiment will be made anonymously and nobody will find out how much money you earned in this experiment.

During this experiment you are not allowed to use electronic devices or to communicate with other participants. Only use the programs provided for the experiment. If you have a question, please raise your hand. We will then come to you and we will answer your question in private. Please do not pose your question out loud. If you violate these rules you will be excluded from the experiment and the payment.

Next, we will explain to you in detail how the experiment proceeds. For simplicity, we always

use the male form; though of course each explanation includes the female form. Please also note that subsequently with "income" we always mean the amount of money that you earn **in addition** to the show-up fee. The experiment for a start will consist of two stages. In the following, we will describe these two stages in more detail.

Screen 2:

Stage 1

In the first stage of the experiment only you as a participant A will make a decision. Participant B and participant C will not make a decision. Participant C will receive an income of €6 as an endowment. You and participant B will not receive an endowment.

The game you will be playing in stage 1 is depicted in the picture below. You have to decide whether you choose option A1 or option A2. The numbers in the table show your income in stage 1 and the income of participant B depending on your decision.

You choose	You receive	Participant B receives
A1	€6	€1
A2	€4	€4

If you choose option A1 your income at the end of the first stage amounts to €6 and the income of participant B to €1. If you choose option A2 your income at the end of the first stage amounts to €4 and the income of participant B to €4.

Your decision thus influences both your income and the income of participant B, however, it does not influence the endowment of participant C. You will receive the highest payment of €6 by choosing option A1, but this will leave participant B with the lowest payment of €1. By contrast, if you choose option A2 you will receive a lower payment of €4, while participant B likewise receives a payment of €4.

Screen 3:

Baseline treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B once again does not make a decision. After you have made your decision, participant C will be informed about the choice you have made and which income you have thereby allocated to participant B. Thereupon, participant C has two options. He can assign a deduction to you (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to you such that your income remains the income from stage 1. In this case the income of participant C likewise

remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to you, your income from stage 1 as a participant A is reduced by €3 and the income of participant C is reduced by €1. The decision of participant C thus influences your income and the income of participant C, it does not, however, influence the income of participant B.

Hidden information treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B once again does not make a decision. Participant C does not know which option (A1 or A2) you have chosen. The income of participant C is, however, independent of your decision and only depends on his own decision. After you have made your decision participant C has two options. He can assign a deduction to you (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to you such that your income remains the income from stage 1. In this case the income of participant C likewise remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to you, your income from stage 1 as a participant A is reduced by €3 and the income of participant C is reduced by €1. The decision of participant C thus influences your income and the income of participant C, it does not, however, influence the income of participant B.

We will not publicly reveal which option you have chosen. Before participant C decides between the options C1 and C2, participant C can choose whether to find out which option you have chosen in stage 1, if he wants to do so, by clicking on a button. This choice will be anonymous, thus no other participant will ever find out whether or not participant C revealed your choice. Participant C is not required to find out about your choice and may choose not to do so. In this case participant C is not informed about your income and the income of participant B.

Screen 4:

Summary of the incomes of all participants in this part of the experiment

Your income amounts to:

+ Income from your choice in stage 1

− Deduction according to the choice of participant C in stage 2

The income of participant B amounts to:

+ Income from your choice in stage 1

The income of participant C amounts to:

+ Endowment of participant C in the amount of €6
− Deduction according to the choice of participant C in stage 2

Screen 5:

Baseline treatment:

Screen layout

In stage 1 you as a participant A have to decide between option A1 and A2 and thereby how much income you allocate to yourself and to participant B. The subsequent screen will be shown to you:

See Screen 8.

In stage 2 participant C is informed of how much income you have allocated to yourself and to participant B and decides whether he assigns a deduction to you. As soon as participant C has made his decision, this part of the experiment is completed. You will then see the following screen:

See Screen 11.

Hidden information treatment:

Screen layout

In stage 1 you as a participant A have to decide between option A1 and A2 and thereby how much income you allocate to yourself and to participant B. The subsequent screen will be shown to you:

See Screen 8.

In stage 2 participant C can choose whether to inform himself of how much income you have allocated to yourself and to participant B, and he will decide whether he assigns a deduction to you. As soon as participant C has made his decision, this part of the experiment is completed. You will then see the following screen:

See Screen 11.

Screen 6:

Baseline treatment:

Before the experiment starts, we ask you to answer the following control questionnaire in order to check whether you have understood the instructions. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant A chooses option A1. Participant C chooses option C1.
How much is the income of participant A? .....

How much is the income of participant B? .....
How much is the income of participant C? .....

b) Participant A chooses option A1. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A2. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A2. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

Hidden information treatment:

Before the experiment starts, we ask you to answer the following control questionnaire in order to check whether you have understood the instructions. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant C does not reveal the choice of participant A and chooses option C1.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

b) Participant C does not reveal the choice of participant A and chooses option C2.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C2.

How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

e) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

f) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

Screen 7:

The experiment starts on the next screen.

As you make your decision only once, we ask you to take some time to think about your decision.
If you have a question now or during the experiment, or do not understand something, please raise your hand. We will then come to your seat.

Screen 8:

Please choose one of the options and press OK to confirm your choice.
Your choice: A1
A2

You choose	You receive	Participant B receives
A1	€6	€1
A2	€4	€4

Screen 9:

Only for participants B and C.

Screen 10:

Only for participants B and C.

Screen 11:

You are participant A.

Your income from your choice in stage 1: ...

Income of participant B according to your choice in stage 1: ...

Deduction from your income according to the choice of participant C in stage 2: ...

Your total income in stage 1 of the experiment: ...

The second part of the experiment begins shortly.

Part 2: Social norm and belief elicitation

Screen 12:

Only for participants B and C.

Screen 13:

Only for participants B and C.

Screen 14:

Baseline treatment

In the second part of the experiment we ask you to evaluate the different possible actions of participant C. By actions we mean, for instance: "Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1."

Please indicate for each action whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." By socially appropriate we mean behavior that most people agree is the "correct" or "ethical" thing to do.

One of the possible actions of participant C is randomly selected. For this action we will determine which response was selected **by most other participants A** in the lab. If you give the same response as that most frequently given by other participants A, then you will receive an additional **€3**.

For example, if the action "participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1" is randomly chosen and if your response is "very socially inappropriate," then you will receive €3, if this is the response that is selected by most of the other participants A in the lab. If you in this case select "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate," you will not receive an

additional payment. If several responses are chosen equally often, one of the responses that are selected most will be randomly selected. Please also note that your decision does not affect the payment of participant C.

If you now have a question please raise your hand. We will then come to your seat. If you do not have a question please press "Continue."

Hidden information treatment

In the second part of the experiment we ask you to evaluate the different possible actions of participant C. By actions we mean, for instance: "Participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1."

Please indicate for each action whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." By socially appropriate we mean behavior that most people agree is the "correct" or "ethical" thing to do.

One of the possible actions of participant C is randomly selected. For this action we will determine which response was selected **by most other participants A** in the lab. If you give the same response as that most frequently given by other participants A, then you will receive an additional **€3**.

For example, if the action "participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1" is randomly chosen and if your response is "very socially inappropriate," then you will receive €3, if this is the response that is selected by most of the other participants A in the lab. If you in this case select "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate," you will not receive an additional payment. If several responses are chosen equally often, one of the responses that are selected most will be randomly selected. Please also note that your decision does not affect the payment of participant C.

If you now have a question please raise your hand. We will then come to your seat. If you do not have a question please press "Continue."

Screen 15:

Baseline treatment

Please now indicate for each action whether taking that action is "very socially inappropri-

ate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." One of the possible actions of participant C is randomly selected. For this action we will determine which response was selected by most other participants A in the lab. If you give the same response as that most frequently given by other participants A, then you will receive an additional €3.

1. Participant C is informed that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

2. Participant C is informed that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

3. Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

4. Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

Hidden information treatment

Please now indicate for each action whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." One of the possible actions of participant C is randomly selected. For this action we will determine which response was selected by most other participants A in the lab. If you give the same response as that most frequently given by other participants A, then you will receive an additional €3.

1. Participant C does not reveal the choice of participant A and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

2. Participant C does not reveal the choice of participant A and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

3. Participant C reveals that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

4. Participant C reveals that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

5. Participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

6. Participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

Screen 16:

The computer randomly selected action .... You have chosen the most selected response and hence you receive €3.

Part 3: Self-importance of moral identity questionnaire and self-assessment

Screen 17:

In the third part of the experiment we ask you to answer some questions about yourself and your decision behavior today. For answering the questions you will receive additional €2 at the end of the experiment.

Screen 18:

Here, you see some characteristics that can describe a person:

Generous, kind, fair.

The person with these characteristics could be you or someone else. For a moment, visualize in your mind a person that has these characteristics. Imagine how this person thinks, feels, and acts.

When you have a clear image of what this person would be like, we ask you to indicate for the subsequent statements how strongly **you** agree or disagree. You can grade your answer between 1 (I strongly disagree) to 5 (I strongly agree). Choose the response that best expresses your opinion:

Being someone who has these characteristics is an important part of who I am.

Having these characteristics is an important part of my sense of self.

I often buy products that communicate the fact that I have these characteristics.

The types of things I do in my spare time (e.g., hobbies) clearly identify me as having these

characteristics.

The kinds of books and magazines that I read identify me as having these characteristics.

The fact that I have these characteristics is communicated to others by my membership in certain organizations.

Screen 19:

Please evaluate how fair your decision (option A1 or A2) was. You can grade your answer between 1 (not fair at all) to 7 (very fair).

Screen 20:

Please explain the choice you made in part 1.

Decision between A1 and A2: What was the reason for your choice (i.e., if you have chosen option A1, why did you choose option A1 and if you have chosen option A2, why did you choose option A2)? We ask you to briefly describe this reason in the text box. Using the arrow keys you can scroll within the box. If you do not want to state a reason, please press "Continue" without filling in the box.

Part 4: Elicitation of social value orientation[5]

Screen 21:

For the **fourth part** of the experiment you are matched with another person in the room. The matching is again random such that every other person in this room could be this person. As before, this person will not learn your identity. It is now your task to make six decisions. In these decisions, you allocate money to yourself and this other person. For each decision, please indicate which distribution you prefer. The other person will be making the same decisions.

After you have made the six decisions, the computer will randomly select one of the decisions made by you or by the other person. This decision determines how much money you will receive in this part of the experiment. If one of your decisions is selected by the computer, then your decision determines your payment. If one of the decisions of the other person is selected, then the decision of the other person determines your payment.[6]

Screen 22:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 1 out of 6:

[5] Only a subgroup of, in total, 93 subjects performed the elicitation of the social value orientation.

[6] If the number of subjects within a session was odd, one group consisted of three subjects.

You receive (in Euro):	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
The other person receives (in Euro):	1.70	1.52	1.36	1.18	1.00	0.82	0.66	0.48	0.30

Screen 23:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 2 out of 6:

You receive (in Euro):	1.70	1.74	1.78	1.82	1.86	1.88	1.92	1.96	2.00
The other person receives (in Euro):	0.30	0.38	0.48	0.56	0.66	0.74	0.82	0.92	1.00

Screen 24:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 3 out of 6:

You receive (in Euro):	1.00	1.08	1.18	1.26	1.36	1.44	1.52	1.62	1.70
The other person receives (in Euro):	2.00	1.96	1.92	1.88	1.86	1.82	1.78	1.74	1.70

Screen 25:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 4 out of 6:

You receive (in Euro):	1.00	1.08	1.18	1.26	1.36	1.44	1.52	1.62	1.70
The other person receives (in Euro):	2.00	1.78	1.58	1.36	1.16	0.94	0.72	0.52	0.30

Screen 26:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 5 out of 6:

You receive (in Euro):	2.00	1.88	1.76	1.62	1.50	1.38	1.26	1.12	1.00
The other person receives (in Euro):	1.00	1.12	1.26	1.38	1.50	1.62	1.76	1.88	2.00

Screen 27:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 6 out of 6:

You receive (in Euro):	2.00	1.96	1.92	1.88	1.86	1.82	1.78	1.74	1.70
The other person receives (in Euro):	1.00	1.08	1.18	1.26	1.36	1.44	1.52	1.62	1.70

Screen 28:

The computer has randomly chosen that your decision is relevant for the payment. The computer has randomly selected decision .... You will thus receive ... € additionally and the other person will receive ... €.

Part 5: Questionnaire and payment

Screen 29:

Thank you! Your income today consists of the following:

Show-up fee: €5
Income from part 1 of the experiment: ...
Income from part 2 of the experiment: ...
Income from part 3 of the experiment: ...
Income from part 4 of the experiment: ...
Total income: ...

Please provide us with some personal information on the next screen before you receive your payment.

Screen 30:

Finally, please provide us with the following information:
Please select your gender.
How old are you?
What is your nationality?
What is your field of studies? If you do not study, please indicate your current job.
In which semester are you? If you do not study, please enter a zero.
How often have you already participated in an economic experiment? If you have not participated before, please enter a zero.

Screen 31:

Thank you very much for participating in this experiment today. Please fill out the receipt at your desk including your total income. Please remain seated for a moment. We will ask you to come to the adjoining room according to the sequence of your ID numbers. There, you will receive your payment.

Instructions for participants B and C (recipients and third parties)

Part 1: Main experimental game

Screen 1:

Welcome to today's experiment

For showing up today, you will receive a €5 show-up fee. In addition to this amount, you can earn money in the experiment. How much money you earn additionally depends on the decisions that you and/or other participants make. It is therefore important that you read the subsequent instructions carefully and understand them, because each of the decisions you make is made only once and cannot be reversed. In total, today's experiment will last approximately 45 minutes.

In this experiment, there are three types of participants: Participants A, participants B, and participants C. **You are either participant B or participant C.** You will not learn until the end of the study whether you are a participant B or a participant C. At the beginning of this experiment you will be assigned to two other persons in this room, that is, if you are a participant B, you will be assigned to a participant A and a participant C and if you are a participant C, you will be assigned to a participant A and a participant B.

You will not find out the identities of these two persons either during or after the experiment. In the same way, these two persons will never find out your identity. Equally as the absolute anonymity between the participants is secured, your decisions will be gathered via the ID-chip and not via your name. The payment in the end of the experiment will be made anonymously and nobody will find out how much money you earned in this experiment.

During this experiment you are not allowed to use electronic devices or to communicate with other participants. Only use the programs provided for the experiment. If you have a question, please raise your hand. We will then come to you and we will answer your question in private. Please do not pose your question out loud. If you violate these rules you will be excluded from the experiment and the payment.

Next, we will explain to you in detail how the experiment proceeds. For simplicity, we always use the male form; though of course each explanation includes the female form. Please also note that subsequently with "income" we always mean the money amount that you earn **in addition** to the show-up fee. The experiment for a start will consist of two stages. In the following, we will describe these two stages in more detail.

Screen 2:

Stage 1

In the first stage of the experiment only participant A will make a decision. Participant B

and participant C will not make a decision. Participant C will receive an income of €6 as an endowment. Participant A and participant B will not receive an endowment.

The game that is played in stage 1 is depicted in the picture below. Participant A has to decide whether he chooses option A1 or option A2. The numbers in the table show the incomes in stage 1 of participant A and participant B, depending on the decision of participant A.

Participant A chooses	Participant A receives	Participant B receives
A1	€6	€1
A2	€4	€4

If participant A chooses option A1 the income of participant A at the end of the first stage amounts to €6 and the income of participant B to €1. If participant A chooses option A2 the income of participant A at the end of the first stage amounts to €4 and the income of participant B to €4.

The decision of participant A thus influences both the income of participant A and the income of participant B, however, it does not influence the endowment of participant C, amounting to €6. Participant A will receive the highest payment of €6 by choosing option A1, but this leaves participant B with the lowest payment of €1. By contrast, if he chooses option A2 he will receive a lower payment of €4, while participant B likewise receives a payment of €4.

Screen 3:

Baseline treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B will once again not make a decision. **As you do not know yet whether you are a participant B or a participant C, we ask you to indicate which decision you would make as participant C.** If you actually are participant C, your decision will be implemented. After participant A has made his decision, you will be informed about the choice participant A has made and which income he has thereby allocated to participant B. Thereupon, you as a participant C have two options. You can assign a deduction to participant A (option C2) or not (option C1).

If you choose option C1 you do not assign a deduction to participant A such that the income of participant A remains the income from stage 1. In this case your income likewise remains the income from stage 1. If you choose option C2 and assign a deduction to participant A, the income of participant A from stage 1 is reduced by €3 and your income is reduced by

€1. Your decision thus influences your income and the income of participant A, it does not, however, influence the income of participant B.

Hidden information treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B once again does not make a decision. **As you do not know yet whether you are a participant B or a participant C, we ask you to indicate which decision you would make as participant C.** If you actually are participant C, your decision will be implemented. You as a participant C do not know which option (A1 or A2) participant A has chosen. Your income is, however, independent of the decision of participant A and only depends on your own decision. After participant A has made his decision, you have two options. You can assign a deduction to participant A (option C2) or not (option C1).

If you choose option C1 you do not assign a deduction to participant A such that the income of participant A remains the income from stage 1. In this case your income likewise remains the income from stage 1. If you choose option C2 and assign a deduction to participant A, the income of participant A from stage 1 is reduced by €3 and your income is reduced by €1. Your decision thus influences your income and the income of participant A, it does not, however, influence the income of participant B.

We will not publicly reveal which option participant A has chosen. Before you decide between the options C1 and C2, you can choose whether to find out which option participant A has chosen in stage 1, if you want to do so, by clicking on a button. This choice will be anonymous, thus no other participant will ever find out whether or not you revealed the choice of participant A. You are not required to find out about the choice of participant A and may choose not to do so. In this case you are not informed about the income of participant A and the income of participant B.

Screen 4:

Summary of the incomes of all participants in this part of the experiment

The income of participant A amounts to:

+ Income from the choice of participant A in stage 1

− Deduction according to the choice of participant C in stage 2

The income of participant B amounts to:

+ Income from the choice of participant A in stage 1

The income of participant C amounts to:

+ Endowment of participant C in the amount of €6

– Deduction according to the choice of participant C in stage 2

Screen 5:

Baseline treatment:

Screen layout

In stage 1 participant A has to decide how much income he will allocate to himself and to participant B. In stage 2 you have to decide whether you choose option C1 and thus do not assign a deduction to participant A such that the income of participant A remains the income from stage 1 and your income likewise the income from stage 1. Or, whether you choose option C2 and assign a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and your income is reduced by €1. The subsequent screen will be shown to you:

See Screen 10.

After you have made your decision, the computer will randomly determine whether you are participant B or participant C. After that, this part of the experiment is completed. If you are participant B you will see the following screen:

See Screen 11.

If you are participant C you will see the following screen:

See Screen 11.

Hidden information treatment:

Screen layout

In stage 1 participant A has to decide how much income he will allocate to himself and to participant B. You do not know as a participant C which option (A1 or A2) participant A has chosen. In stage 2 you have to decide whether you choose option C1 and thus do not assign a deduction to participant A such that the income of participant A remains the income from stage 1 and your income likewise the income from stage 1. Or, whether you choose option C2 and assign a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and your income is reduced by €1. You can decide to reveal the choice of participant A before you make your decision. The subsequent screen will be shown to you:

See Screen 9.

If you have revealed the decision of participant A you will subsequently see the following screen:

See Screen 10.

After you have made your decision, the computer will randomly determine whether you are participant B or participant C. After that, this part of the experiment is completed. If you

are participant B you will see the following screen:
See Screen 11.

If you are participant C and reveal the choice of participant A, you will see the following screen:
See Screen 11.

And if you are participant C and do not reveal the choice of participant A, you will see the following screen:
See Screen 11.

Screen 6:

Baseline treatment:

Before the experiment starts, we ask you to answer the following control questionnaire in order to check whether you have understood the instructions. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant A chooses option A1. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

b) Participant A chooses option A1. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A2. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A2. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

Hidden information treatment:

Before the experiment starts, we ask you to answer the following control questionnaire in order to check whether you have understood the instructions. You can only proceed to the

next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant C does not reveal the choice of participant A and chooses option C1.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

b) Participant C does not reveal the choice of participant A and chooses option C2.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

e) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

f) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

Screen 7:

The experiment starts on the next screen.

As you make your decision only once, we ask you to take some time to think about your

decision.
If you have a question now or during the experiment, or do not understand something, please raise your hand. We will then come to your seat.

Screen 8:
Only for participants A.

Screen 9 (only hidden information treatment):
Please choose one of the options and press OK to confirm your choice. Option **C1** does not assign a deduction to participant A such that the income of participant A from stage 1 and your income remain **unchanged**. Option **C2** assigns a deduction to participant A such that the **income of participant A** from stage 1 is **reduced by €3** and **your income** is **reduced by €1**. If you want to reveal which option participant A has chosen, please choose "**Reveal**." The other participants will not find out whether or not you have revealed the choice of participant A.
Your choice: C1
C2
Reveal

Screen 10 (baseline treatment & hidden information treatment if participant chose reveal):
Please choose one of the options and press OK to confirm your choice. Option **C1** does not assign a deduction to participant A such that the income of participant A from stage 1 and your income remain **unchanged**. Option **C2** assigns a deduction to participant A such that the **income of participant A** from stage 1 is **reduced by €3** and **your income** is **reduced by €1**.
Your choice: C1
C2

Choice of participant A: **A1**

Participant A choses	Participant A receives	Participant B receives
A1	**€6**	**€1**
A2	€4	€4

Screen 11:
If the participant is participant B:
You are participant B.

Your income from the choice of participant A in stage 1: ...

The income of participant A from the choice of participant A in stage 1: ...

Deduction from the income of participant A according to the choice of participant C in stage 2: ...

Your total income in stage 1 of the experiment: ...

The second part of the experiment begins shortly.

If the participant is participant C in the baseline treatment or in the hidden information treatment and chose to reveal:

You are participant C.

Your endowment amounting to €6

The income of participant A from the choice of participant A in stage 1: ...

The income of participant B from the choice of participant A in stage 1: ...

Deduction from the income of participant A according to your choice in stage 2: ...

Your total income in stage 1 of the experiment: ...

The second part of the experiment begins shortly.

If the participant is participant C in the hidden information treatment and did not choose to reveal:

You are participant C.

Your endowment amounting to €6

Deduction from the income of participant A according to your choice in stage 2: ...

Your total income in stage 1 of the experiment: ...

The second part of the experiment begins shortly.

Part 2: Social norm and belief elicitation

Screen 12:

In the second part of the experiment we ask you to estimate how many of the participants A in the room chose option A1 (€6 for participant A, €1 for participant B). Please state this as a percentage. **The closer your estimate is to the true value, the higher is the payment you receive.** That is, if you state the correct answer or if your answer deviates from the true answer by five percentage points or less, you will receive **€4**.

If your answer deviates by (including) six to 10 percentage points, you will receive €3, if your answer deviates by between 11 and 15 percentage points from the true answer €2 and if your answer deviates by between 16 and 20 percentage points, still €1. If your answer

deviates by more than 20 percentage points from the true answer, you will not receive an additional payment.[7]

Thus, if 50 percent of the participants A in the room chose option A1, then you will receive an additional €4, if you entered a number between 45 and 55 as your answer, an additional €3, if you entered a number between 40 and 44 or 56 and 60, an additional €2, if you entered a number between 35 and 39 or 61 and 65 and an additional €1, if you entered a number between 30 and 34 or 66 and 70.

Please raise your hand if you now have a question. We will then come to your seat. If you do not have a question, please enter your estimate:

Which percentage of participants A in the room chose option A1 (€6 for participant A, €1 for participant B)?

Screen 13:

The percentage of participants A that chose option A1 (€6 for participant A, €1 for participant B) was 50 percent. Your answer deviated from this by ... percentage points. You will therefore not receive an additional payment.

Screen 14:

Only for participants A.

Screen 15:

Only for participants A.

Screen 16:

Only for participants A.

Screen 17:

In the third part of the experiment we ask you to answer some questions about yourself and your decision behavior today. For answering the questions you will receive additional €2 at the end of the experiment.

Screen 18:

Here, you see some characteristics that can describe a person:

Compassionate, caring, fair.

The person with these characteristics could be you or someone else. For a moment, visualize

[7] For six third parties from the first session the payment was €3 if the answer was five or less percentage points away from the true value, €2 if the answer was between six and 10 percentage points away, and €1 if the answer was between 11 and 15 percentage points away.

in your mind a person that has these characteristics. Imagine how this person thinks, feels, and acts.

When you have a clear image of what this person would be like, we ask you to indicate for the subsequent statements how strongly **you** agree or disagree. You can grade your answer between 1 (I strongly disagree) to 5 (I strongly agree). Choose the response that best expresses your opinion:

Being someone who has these characteristics is an important part of who I am.

Having these characteristics is an important part of my sense of self.

I often buy products that communicate the fact that I have these characteristics.

The types of things I do in my spare time (e.g., hobbies) clearly identify me as having these characteristics.

The kinds of books and magazines that I read identify me as having these characteristics.

The fact that I have these characteristics is communicated to others by my membership in certain organizations.

Screen 19:

Please evaluate how fair your decisions (reveal or not, option C1 or C2) were in total. You can grade your answer between 1 (not fair at all) to 7 (very fair).

Screen 20:

Baseline treatment:

Please explain the choice you made in part 1.

Decision between C1 and C2: What was the reason for your choice (i.e., if you have chosen C1, why did you choose C1 and if you have chosen C2, why did you choose C2)? We ask you to briefly describe this reason in the text box. Using the arrow keys you can scroll within the box. If you do not want to state a reason, please press "Continue" without filling in the box.

Hidden information treatment:

Please explain the choices you made in part 1.

Decision to reveal the choice of participant A or not: What was the reason for your choice (i.e., if you have chosen to reveal the choice of participant A, why did you reveal the choice of participant A and if you have chosen not to reveal the choice of participant A, why did you not reveal the choice of participant A)? We ask you to briefly describe this reason in the text box. Using the arrow keys you can scroll within the box. If you do not want to state a reason, please press "Continue" without filling in the box.

Decision between C1 and C2: What was the reason for your choice (i.e., if you have chosen C1, why did you choose C1 and if you have chosen C2, why did you choose C2)? If you do not want to state a reason, please press "Continue" without filling in the box.

Part 4: Elicitation of social value orientation[8]

Screen 21:

For the **fourth part** of the experiment you are matched with another person in the room. The matching is again random such that every other person in this room could be this person. As before, this person will not learn your identity. It is now your task to make six decisions. In these decisions, you allocate money to yourself and this other person. For each decision, please indicate which distribution you prefer. The other person will be making the same decisions.

After you have made the six decisions, the computer will randomly select one of the decisions made by you or by the other person. This decision determines how much money you will receive in this part of the experiment. If one of your decisions is selected by the computer, then your decision determines your payment. If one of the decisions of the other person is selected, then the decision of the other person determines your payment.[9]

Screen 22:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 1 out of 6:

You receive (in Euro):	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
The other person receives (in Euro):	1.70	1.52	1.36	1.18	1.00	0.82	0.66	0.48	0.30

Screen 23:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 2 out of 6:

You receive (in Euro):	1.70	1.74	1.78	1.82	1.86	1.88	1.92	1.96	2.00
The other person receives (in Euro):	0.30	0.38	0.48	0.56	0.66	0.74	0.82	0.92	1.00

Screen 24:

Please indicate the distribution you prefer most. The numbers indicate how much money

[8] Only a subgroup of, in total, 93 subjects performed the elicitation of the social value orientation.

[9] If the number of subjects within a session was odd, one group consisted of three subjects.

you allocate to yourself and the other person.

Decision 3 out of 6:

You receive (in Euro):	1.00	1.08	1.18	1.26	1.36	1.44	1.52	1.62	1.70
The other person receives (in Euro):	2.00	1.96	1.92	1.88	1.86	1.82	1.78	1.74	1.70

Screen 25:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 4 out of 6:

You receive (in Euro):	1.00	1.08	1.18	1.26	1.36	1.44	1.52	1.62	1.70
The other person receives (in Euro):	2.00	1.78	1.58	1.36	1.16	0.94	0.72	0.52	0.30

Screen 26:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 5 out of 6:

You receive (in Euro):	2.00	1.88	1.76	1.62	1.50	1.38	1.26	1.12	1.00
The other person receives (in Euro):	1.00	1.12	1.26	1.38	1.50	1.62	1.76	1.88	2.00

Screen 27:

Please indicate the distribution you prefer most. The numbers indicate how much money you allocate to yourself and the other person.

Decision 6 out of 6:

You receive (in Euro):	2.00	1.96	1.92	1.88	1.86	1.82	1.78	1.74	1.70
The other person receives (in Euro):	1.00	1.08	1.18	1.26	1.36	1.44	1.52	1.62	1.70

Screen 28:

The computer has randomly chosen that your decision is relevant for the payment. The computer has randomly selected decision .... You will thus receive ... € additionally and the other person will receive ... €.

Part 5: Questionnaire and payment

Screen 29:

Thank you! Your income today consists of the following:

Show-up fee: €5
Income from part 1 of the experiment: ...
Income from part 2 of the experiment: ...
Income from part 3 of the experiment: ...
Income from part 4 of the experiment: ...
Total income: ...

Please provide us with some personal information on the next screen before you receive your payment.

Screen 30:

Finally, please provide us with the following information:
Please select your gender.
How old are you?
What is your nationality?
What is your field of studies? If you do not study, please indicate your current job.
In which semester are you? If you do not study, please enter a zero.
How often have you already participated in an economic experiment? If you have not participated before, please enter a zero.

Screen 31:

Thank you very much for participating in this experiment today. Please fill out the receipt at your desk including your total income. Please remain seated for a moment. We will ask you to come to the adjoining room according to the sequence of your ID numbers. There, you will receive your payment.

Appendix C.2: Social Norms in Punishment Behavior

This appendix contains the instructions for the experiment eliciting the social norms in the third-party punishment game. The instructions differentiate between the "baseline first treatment" and the "hidden information first treatment" which are equivalent except that subjects in the baseline first treatment started with rating the actions in the baseline treatment, while subjects in the hidden information first treatment started with rating the actions in the hidden information treatment. Parts in *italic* were not shown to the subjects. Original instructions were in German.

Part 1: Norm elicitation for experiment 1

Screen 1:

Welcome to today's experiment

For showing up today, you will receive a €5 show-up fee. In addition to this amount, you can earn money in the experiment. How much money you earn additionally depends on the decisions that you and/or other participants make. It is therefore important that you read the subsequent instructions carefully and understand them, because each of the decisions you make is made only once and cannot be reversed. In total, today's experiment will last approximately 35 minutes.

Your decisions will be gathered via the ID-chip and not via your name. The payment at the end of the experiment will be made anonymously and nobody will find out how much money you earned in this experiment. During this experiment you are not allowed to use electronic devices or to communicate with other participants. If you have a question, please raise your hand. We will then come to you and we will answer your question in private. Please do not pose your question out loud. If you violate these rules you will be excluded from the experiment and the payment.

Next, we will describe an experiment to you. For simplicity, we always use the male form; though of course each explanation includes the female form. In this experiment there are three types of participants: Participants A, participants B, and participants C. In the experiment every participant A is assigned to a participant B and a participant C. The assignment is anonymous such that none of the participants find out the identities of the other persons. **It will be your task to evaluate the different possible actions of participant C and to decide how socially appropriate the different actions are.** We will explain to you later how you have to do this exactly, please first consider the description of the experiment. The experiment consists of two stages. In the following, we will describe these two stages in more detail.

Screen 2:

Stage 1

In the first stage of the experiment only participant A makes a decision. Participant B and participant C do not make a decision. Participant C receives an income of €6 as an endowment. Participant A and participant B do not receive an endowment.

The game that is played in stage 1 is depicted in the picture below. Participant A has to decide whether he chooses option A1 or option A2. The numbers in the table show the incomes in stage 1 of participant A and participant B, depending on the decision of participant A.

Participant A chooses	Participant A receives	Participant B receives
A1	€6	€1
A2	€4	€4

If participant A chooses option A1 his income at the end of the first stage amounts to €6 and the income of participant B to €1. If he chooses option A2 his income at the end of the first stage amounts to €4 and the income of participant B to €4.

The decision of participant A thus influences both his income and the income of participant B, however, it does not influence the endowment of participant C. Participant A receives the highest payment of €6 by choosing option A1, but this leaves participant B with the lowest payment of €1. By contrast, if participant A chooses option A2 he receives a lower payment of €4, while participant B likewise receives a payment of €4.

Screen 3:

Baseline first treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B once again does not make a decision. After participant A has made his decision, participant C is informed about the choice participant A has made and which income participant A has thereby allocated to participant B. Thereupon, participant C has two options. He can assign a deduction to participant A (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to participant A such that the income of participant A remains the income from stage 1. In this case the income of participant C likewise remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to participant A, the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1. The decision of participant C thus influences the income of participant A and his own income, it does not, however, influence

the income of participant B.

Hidden information first treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B once again does not make a decision. Participant C does not know which option (A1 or A2) participant A has chosen. The income of participant C is, however, independent of the decision of participant A and only depends on his own decision. After participant A has made his decision participant C has two options. He can assign a deduction to participant A (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to participant A such that the income of participant A remains the income from stage 1. In this case the income of participant C likewise remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to participant A, the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1. The decision of participant C thus influences the income of participant A and his own income, it does not, however, influence the income of participant B.

It is not publicly revealed which option participant A has chosen. Before participant C decides between the options C1 and C2, participant C can choose whether to find out which option participant A has chosen in stage 1, if he wants to do so, by clicking on a button. This choice will be anonymous, thus no other participant finds out whether or not participant C revealed the choice of participant A. Participant C is not required to find out about the choice of participant A and may choose not to do so. In this case participant C is not informed about the income of participant A and the income of participant B.

Screen 4:

Summary of the incomes of all participants

The income of participant A amounts to:

+ Income from the choice of participant A in stage 1

− Deduction according to the choice of participant C in stage 2

The income of participant B amounts to:

+ Income from the choice of participant A in stage 1

The income of participant C amounts to:

+ Endowment of participant C in the amount of €6

− Deduction according to the choice of participant C in stage 2

Screen 5:

Baseline first treatment:

We now ask you to answer the following control questionnaire in order to check whether you have understood the course of action of the experiment for which you have to make evaluations later on. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant A chooses option A1. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

b) Participant A chooses option A1. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A2. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A2. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

Hidden information first treatment:

We now ask you to answer the following control questionnaire in order to check whether you have understood the course of action of the experiment for which you have to make evaluations later on. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant C does not reveal the choice of participant A and chooses option C1.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

b) Participant C does not reveal the choice of participant A and chooses option C2.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....

How much is the income of participant C? .....

c) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

e) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

f) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

Screen 6:

Baseline first treatment:

Your task is to evaluate the different possible actions of participant C. By actions we mean, for instance: "Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1."

Please indicate for each action whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." By **socially appropriate** we mean behavior that most people agree is the **"correct" or "ethical"** thing to do.

One of the possible actions of participant C is randomly selected. For this action we will determine which response was selected **by most participants** in the lab. If you give the same response as that most frequently given by other participants, then you will receive an

additional **€ 3**.

An example: If the action "participant C is informed that participant A has chosen option A2 (€ 4 for participant A, € 4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by € 3 and the income of participant C is reduced by € 1" is randomly chosen and if your response is "very socially inappropriate," then you will receive € 3, if this is the response that is selected by most of the other participants in the lab. If you in this case select "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate," you will not receive an additional payment. If several responses are chosen equally often, one of the responses that are selected most will be randomly selected.

If you now have a question please raise your hand. We will then come to your seat. As your payment will depend on your evaluations, it is important that you have understood the instructions. If you do not have a question please press "Continue."

Hidden information first treatment

Your task is to evaluate the different possible actions of participant C. By actions we mean, for instance: "Participant C reveals that participant A has chosen option A2 (€ 4 for participant A, € 4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by € 3 and the income of participant C is reduced by € 1."

Please indicate for each action whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." By **socially appropriate** we mean behavior that most people agree is the **"correct" or "ethical"** thing to do.

One of the possible actions of participant C is randomly selected. For this action we will determine which response was selected **by most participants** in the lab. If you give the same response as that most frequently given by other participants, then you will receive an additional **€ 3**.

For example, if the action "participant C reveals that participant A has chosen option A2 (€ 4 for participant A, € 4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by € 3 and the income of participant C is reduced by € 1" is randomly chosen and if your response is "very socially inappropriate," then you will receive € 3, if this is the response that is selected by most of the other participants in the lab. If you in this case select "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate," you will not receive an additional payment. If several responses are chosen equally often, one of the responses that are selected most will

be randomly selected.

If you now have a question please raise your hand. We will then come to your seat. As your payment will depend on your evaluations, it is important that you have understood the instructions. If you do not have a question please press "Continue."

Screen 7:

Baseline first treatment

Please now indicate for each action **of participant C** whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." One of the possible actions is randomly selected. For this action we will determine which response was selected **by most participants** in the lab. If you give the same response as that most frequently given by other participants, then you will receive an additional **€ 3**.

1. Participant C is informed that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

2. Participant C is informed that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

3. Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

4. Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

Hidden information first treatment

Please now indicate for each action **of participant C** whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." One of the possible actions is randomly selected. For this action we will determine which response was selected **by most participants** in the lab. If you give the same response as that most frequently given by other participants, then you will receive an additional **€ 3**.

1. Participant C does not reveal the choice of participant A and does not assign a deduc-

tion to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

2. Participant C does not reveal the choice of participant A and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

3. Participant C reveals that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

4. Participant C reveals that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

5. Participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

6. Participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

Screen 8:

The computer randomly selected action .... You have chosen the most selected response and hence you receive €3.

Screen 9 (only hidden information first treatment):

Please now only consider the "**decision to reveal**" of participant C. By decision to reveal we mean "Participant C does not reveal the choice of participant A" or "Participant C reveals the choice of participant A." Please indicate for both actions of participant C whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." One of the two possible actions is randomly selected. For this action we will determine which response was selected **by most participants** in the lab. If you give the same response as that most frequently given by other participants, then you will receive an additional **€3**.

1. Participant C does not reveal the choice of participant A.

2. Participant C reveals the choice of participant A.

Screen 10 (only hidden information first treatment):
The computer randomly selected action .... You have chosen the most selected response and hence you receive €3.

Part 2: Norm elicitation for experiment 2
Screen 11:
Please now consider an alternative version of the experiment. We ask you again to read the description of the experiment and afterwards to evaluate the different possible actions **of participant C**. As before, the experiment consists of two stages and three types of participants and, as before, the assignment is random and anonymous such that none of the participants find out the identities of the other persons.

Screen 12:
Baseline first treatment
Stage 1
Stage 1 corresponds to the first stage of the experiment before: Participant A has to decide whether he chooses option A1 or option A2. If participant A chooses option A1 his income at the end of the first stage amounts to €6 and the income of participant B to €1. If he chooses option A2 his income at the end of the first stage amounts to €4 and the income of participant B to €4. Participant B and participant C do not make a decision. Participant C receives an income of €6 as an endowment.
Stage 2
In stage 2 participant C again makes his decision. Participant B once again does not make a decision. **In contrast to the first experiment**, participant C does not know which option (A1 or A2) participant A has chosen. The income of participant C is, however, independent of the decision of participant A and only depends on his own decision. After participant A has made his decision participant C has two options. He can assign a deduction to participant A (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to participant A such that the income of participant A remains the income from stage 1. In this case the income of participant C likewise remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to participant A, the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

It is not publicly revealed which option participant A has chosen. Before participant C decides between the options C1 and C2, participant C can choose whether to find out which option participant A has chosen in stage 1, if he wants to do so, by clicking on a button.

This choice will be anonymous, thus no other participant finds out whether or not participant C revealed the choice of participant A. Participant C is not required to find out about the choice of participant A and may choose not to do so. In this case participant C is not informed about the income of participant A and the income of participant B.

Hidden information first treatment

Stage 1

Stage 1 corresponds to the first stage of the experiment before: Participant A has to decide whether he chooses option A1 or option A2. If participant A chooses option A1 his income at the end of the first stage amounts to €6 and the income of participant B to €1. If he chooses option A2 his income at the end of the first stage amounts to €4 and the income of participant B to €4. Participant B and participant C do not make a decision. Participant C receives an income of €6 as an endowment.

Stage 2

In stage 2 participant C again makes his decision. Participant B once again does not make a decision. **In contrast to the first experiment**, after participant A has made his decision, participant C is informed about the choice participant A has made and which income he has thereby allocated to participant B. Thereupon, participant C has two options. He can assign a deduction to participant A (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to participant A such that the income of participant A remains the income from stage 1. In this case the income of participant C likewise remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to participant A, his income from stage 1 is reduced by €3 and the income of participant C is reduced by €1. The decision of participant C thus influences the income of participant A and the income of participant C, it does not, however, influence the income of participant B.

Screen 13 (only baseline first treatment):

We now ask you to answer the following control questionnaire. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant C does not reveal the choice of participant A and chooses option C1.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

b) Participant C does not reveal the choice of participant A and chooses option C2.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....

How much is the income of participant C? .....

Screen 14:

Baseline first treatment

Your task is now again to indicate for each action **of participant C** whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." As before, one of the possible actions of participant C is randomly selected. For this action we will determine which response was selected **by most participants** in the lab. If you give the same response as that most frequently given by other participants, then you will receive an additional **€ 3**.

1. Participant C does not reveal the choice of participant A and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

2. Participant C does not reveal the choice of participant A and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

3. Participant C reveals that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

4. Participant C reveals that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

5. Participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

6. Participant C reveals that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

Hidden information first treatment

Your task is now again to indicate for each action **of participant C** whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." As before, one of the possible actions of participant C is randomly selected. For this action we will determine which response was selected

by most participants in the lab. If you give the same response as that most frequently given by other participants, then you will receive an additional **€ 3**.

1. Participant C is informed that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

2. Participant C is informed that participant A has chosen option A1 (€6 for participant A, €1 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

3. Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and does not assign a deduction to participant A such that the income of participant A from stage 1 and the income of participant C remain unchanged.

4. Participant C is informed that participant A has chosen option A2 (€4 for participant A, €4 for participant B) and assigns a deduction to participant A such that the income of participant A from stage 1 is reduced by €3 and the income of participant C is reduced by €1.

Screen 15:

The computer randomly selected action .... You have chosen the most selected response and hence you receive €3.

Screen 16 (only baseline first treatment):

Please now only consider the "**decision to reveal**" of participant C. By decision to reveal we mean "Participant C does not reveal the choice of participant A" or "Participant C reveals the choice of participant A." Please indicate for both actions of participant C whether taking that action is "very socially inappropriate," "somewhat socially inappropriate," "somewhat socially appropriate," or "very socially appropriate." One of the two possible actions is randomly selected. For this action we will determine which response was selected **by most participants** in the lab. If you give the same response as that most frequently given by other participants, then you will receive an additional **€ 3**.

1. Participant C does not reveal the choice of participant A.

2. Participant C reveals the choice of participant A.

Screen 17 (only baseline first treatment):

The computer randomly selected action .... You have chosen the most selected response and hence you receive €3.

Part 3: Questionnaire and payment

Screen 18:

Thank you for your evaluations. For completing the experiment you will receive an additional €2.50. Your income today thus consists of the following:

Show-up fee: €5
Income from evaluation 1: ...
Income from evaluation 2: ...
Income from evaluation 3: ...
Income from completing the experiment : €2.50
Total income: ...

Please provide us with some personal information on the next screen before you receive your payment.

Screen 19:

Finally, please provide us with the following information:
Please select your gender.
How old are you?
What is your nationality?
What is your field of studies? If you do not study, please indicate your current job.
In which semester are you? If you do not study, please enter a zero.
How often have you already participated in an economic experiment? If you have not participated before, please enter a zero.

Screen 20:

Thank you very much for participating in this experiment today. Please fill out the receipt at your desk including your total income. Please remain seated for a moment. We will ask you to come to the adjoining room according to the sequence of your ID numbers. There, you will receive your payment.

Appendix C.3: Informing about Willful Ignorance

This appendix contains the instructions for the baseline informed treatment and the hidden information informed treatment of the main experimental game, separately for participants A and for participants B and C. Parts in *italic* were not shown to the subjects. Original instructions were in German.

Instructions for participants A (dictators)

Part 1: Main experimental game

Screen 1 - 2:

As in baseline treatment and hidden information treatment.

Screen 3:

Baseline treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B once again does not make a decision. After you have made your decision, participant C will be informed about the choice you have made and which income you have thereby allocated to participant B. Thereupon, participant C has two options. He can assign a deduction to you (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to you such that your income remains the income from stage 1. In this case the income of participant C likewise remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to you, your income from stage 1 as a participant A is reduced by €3 and the income of participant C is reduced by €1. The decision of participant C thus influences your income and the income of participant C, it does not, however, influence the income of participant B.

For your information: We have already conducted the experiment with approximately 100 participants (these participants did not have any information about the behavior of other participants):

Of the participants A who chose option A1 (€6 for participant A, €1 for participant B) **71%**[10] were assigned a deduction, such that the income of these participants after the second stage was **€3** and **29%** were not assigned a deduction, such that the income of these participants after the second stage was **€6**.

Of the participants A who chose option A2 (€4 for participant A, €4 for participant B) **0%**

[10] The slight deviations from the values reported in Table 1 are caused by the randomization into participant B and C, i.e., the punishment rates reported here are based on participants C only.

were assigned a deduction, such that the income of these participants after the second stage was **€ 1** and **100%** were not assigned a deduction, such that the income of these participants after the second stage was **€ 4**.

Hidden information treatment:

Stage 2

In stage 2 participant C makes his decision. Participant B once again does not make a decision. Participant C does not know which option (A1 or A2) you have chosen. The income of participant C is, however, independent of your decision and only depends on his own decision. After you have made your decision participant C has two options. He can assign a deduction to you (option C2) or not (option C1).

If participant C chooses option C1 he does not assign a deduction to you such that your income remains the income from stage 1. In this case the income of participant C likewise remains the income from stage 1. If participant C chooses option C2 and assigns a deduction to you, your income from stage 1 as a participant A is reduced by € 3 and the income of participant C is reduced by € 1. The decision of participant C thus influences your income and the income of participant C, it does not, however, influence the income of participant B.

We will not publicly reveal which option you have chosen. Before participant C decides between the options C1 and C2, participant C can choose whether to find out which option you have chosen in stage 1, if he wants to do so, by clicking on a button. This choice will be anonymous, thus no other participant will ever find out whether or not participant C revealed your choice. Participant C is not required to find out about your choice and may choose not to do so. In this case participant C is not informed about your income and the income of participant B.

For your information: We have already conducted the experiment with approximately 100 participants (these participants did not have any information about the behavior of other participants):

Of the participants A who chose option A1 (€ 6 for participant A, € 1 for participant B) **32%**[11] were assigned a deduction, such that the income of these participants after the second stage was **€ 3** and **68%** were not assigned a deduction, such that the income of these participants after the second stage was **€ 6**.

Of the participants A who chose option A2 (€ 4 for participant A, € 4 for participant B) **5%** were assigned a deduction, such that the income of these participants after the second stage

[11] The slight deviations from the values reported in Table 1 are caused by the randomization into participant B and C, i.e., the punishment rates reported here are based on participants C only.

was **€ 1** and **95%** were not assigned a deduction, such that the income of these participants after the second stage was **€ 4**.

Screen 4 - 5:

As in baseline treatment and hidden information treatment.

Screen 6:

Baseline treatment:

Before the experiment starts, we ask you to answer the following control questionnaire in order to check whether you have understood the instructions. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant A chooses option A1. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

b) Participant A chooses option A1. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A2. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A2. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

e) What percentage of the participants A in previous sessions who had chosen option A1 were assigned a deduction? .....

f) What percentage of the participants A in previous sessions who had chosen option A2 were assigned a deduction? .....

Hidden information treatment:

Before the experiment starts, we ask you to answer the following control questionnaire in

order to check whether you have understood the instructions. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

b) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

e) Participant C does not reveal the choice of participant A and chooses option C1.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

f) Participant C does not reveal the choice of participant A and chooses option C2.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

g) What percentage of the participants A in previous sessions who had chosen option A1 were assigned a deduction? .....

h) What percentage of the participants A in previous sessions who had chosen option A2

were assigned a deduction? .....

Screen 7 - 8:

As in baseline treatment and hidden information treatment.

Screen 9:

Only for participants B and C.

Screen 10:

Only for participants B and C.

Screen 11:

Before you are informed about the result of part 1, we would like to find out what you believe about the behavior of the participants C in the **lab**. Please answer the following two questions:

1. Consider the participants A who had chosen option A1 (€6 for participant A, €1 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by €3? Please state a number between 0 and 100%.

2. Consider the participants A who had chosen option A2 (€4 for participant A, €4 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by €3? Please state a number between 0 and 100%.

For both questions the following applies: **The closer your estimate is to the true value, the higher is the payment you receive.** That is, if you state the correct answer or if your answer deviates from the true answer by five percentage points or less, you will receive **€3**.

If your answer deviates by (including) six to 10 percentage points, you will receive €2 and if your answer deviates by between 11 and 15 percentage points, still €1. If your answer deviates by more than 15 percentage points from the true answer, you will not receive an additional payment.

Thus, if, for instance, 50 percent of the participants A who had chosen option A1 were assigned a deduction by their participant C, then you will receive an additional €3, if you entered a number between 45 and 55 as your answer, an additional €2, if you entered a

number between 40 and 44 or 56 and 60 and an additional €1, if you entered a number between 35 and 39 or 61 and 65. The same applies for your estimation of the proportion of participants A who had chosen option A2 and were assigned a deduction by their participant C.

Please raise your hand if you now have a question. We will then come to your seat.

Screen 12:

Please enter your estimate.

1. Consider the participants A who had chosen option A1 (€6 for participant A, €1 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by €3? Please state a number between 0 and 100%.

2. Consider the participants A who had chosen option A2 (€4 for participant A, €4 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by €3? Please state a number between 0 and 100%.

Screen 13:

In addition, we would like to find out what you believe about the behavior of all participants A in the lab. Please answer the following question:

How many of the participants A chose option A1 (€6 for participant A, €1 for participant B)? Please state a number between 0 and 100%.

Again the following applies: **The closer your estimate is to the true value, the higher is the payment you receive.** That is, if you state the correct answer or if your answer deviates from the true answer by five percentage points or less, you will receive **€3**. If your answer deviates by (including) six to 10 percentage points, you will receive €2 and if your answer deviates by between 11 and 15 percentage points, still €1. If your answer deviates by more than 15 percentage points from the true answer, you will not receive an additional payment.

Screen 14:

Please enter your estimate.

Which percentage of participants A chose option A1 (€6 for participant A, €1 for participant B)?

Screen 15:

You are participant A.

Your income from your choice in stage 1: ...

Income of participant B according to your choice in stage 1: ...

Deduction from your income according to the choice of participant C in stage 2: ...

Your total income in stage 1 of the experiment: ...

... % of the participants who had chosen option A1 (€6 for participant A, €1 for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A1 (€6 for participant A, €1 for participant B) were assigned a deduction by their participant C. Hence you receive ...

In addition, ... % of the participants who had chosen option A2 (€4 for participant A, €4 for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A2 (€4 for participant A, €4 for participant B) were assigned a deduction by their participant C. Hence you receive ...

The percentage of participants A who chose option A1 (€6 for participant A, €1 for participant B) were ... Your answer deviated from this by ... percentage points. You will therefore receive ...

The second part of the experiment begins shortly.

Part 2: Self-importance of moral identity questionnaire and explanation

Screen 16 - 18:

As Screen 17, 18 and 20 in baseline treatment and hidden information treatment.[12]

Part 3: Elicitation of social value orientation

Screen 19 - 26:

As Screen 21 - 28 in baseline treatment and hidden information treatment.

Part 4: Questionnaire and payment

Screen 27:

Thank you! Your income today consists of the following:

Show-up fee: €5

Income from part 1 of the experiment: ...

Income from part 2 of the experiment: ...

Income from part 3 of the experiment: ...

[12] I did not ask the subjects to evaluate the fairness of their decision anymore. In addition, participants received €1 for answering these questions instead of €2.

Total income: ...

Please provide us with some personal information on the next screen before you receive your payment.

Screen 28 - 29:

As Screen 30 - 31 in baseline treatment and hidden information treatment.

Instructions for participants B and C (recipients and third parties)

Part 1: Main experimental game

Screen 1:

As in baseline treatment and hidden information treatment.

Screen 2:

Baseline treatment:

Stage 1

In the first stage of the experiment only participant A will make a decision. Participant B and participant C will not make a decision. Participant C will receive an income of €6 as an endowment. Participant A and participant B will not receive an endowment.

The game that is played in stage 1 is depicted in the picture below. Participant A has to decide whether he chooses option A1 or option A2. The numbers in the table show the incomes in stage 1 of participant A and participant B, depending on the decision of participant A.

Participant A chooses	Participant A receives	Participant B receives
A1	€6	€1
A2	€4	€4

If participant A chooses option A1 the income of participant A at the end of the first stage amounts to €6 and the income of participant B to €1. If participant A chooses option A2 the income of participant A at the end of the first stage amounts to €4 and the income of participant B to €4.

The decision of participant A thus influences both the income of participant A and the income of participant B, however, it does not influence the endowment of participant C, amounting to €6. Participant A will receive the highest payment of €6 by choosing option A1, but this leaves participant B with the lowest payment of €1. By contrast, if he chooses option A2 he will receive a lower payment of €4, while participant B likewise receives a payment of €4.

For your information: We have already conducted the experiment with approximately 100 participants (these participants did not have any information about the behavior of other participants):

The percentage of participants A who chose option A1 (€6 for participant A, €1 for participant B) was 47%.

Hidden information treatment:

Stage 1

In the first stage of the experiment only participant A will make a decision. Participant B and participant C will not make a decision. Participant C will receive an income of €6 as an endowment. Participant A and participant B will not receive an endowment.

The game that is played in stage 1 is depicted in the picture below. Participant A has to decide whether he chooses option A1 or option A2. The numbers in the table show the incomes in stage 1 of participant A and participant B, depending on the decision of participant A.

Participant A chooses	Participant A receives	Participant B receives
A1	€6	€1
A2	€4	€4

If participant A chooses option A1 the income of participant A at the end of the first stage amounts to €6 and the income of participant B to €1. If participant A chooses option A2 the income of participant A at the end of the first stage amounts to €4 and the income of participant B to €4.

The decision of participant A thus influences both the income of participant A and the income of participant B, however, it does not influence the endowment of participant C, amounting to €6. Participant A will receive the highest payment of €6 by choosing option A1, but this leaves participant B with the lowest payment of €1. By contrast, if he chooses option A2 he will receive a lower payment of €4, while participant B likewise receives a payment of €4.

For your information: We have already conducted the experiment with approximately 100 participants (these participants did not have any information about the behavior of other participants):

The percentage of participants A who chose option A1 (€6 for participant A, €1 for participant B) was 50%.

Screen 3 - 5:

As in baseline treatment and hidden information treatment.

Screen 6:

Baseline treatment:

Before the experiment starts, we ask you to answer the following control questionnaire in order to check whether you have understood the instructions. You can only proceed to the

next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant A chooses option A1. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

b) Participant A chooses option A1. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

c) Participant A chooses option A2. Participant C chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A2. Participant C chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

e) What percentage of participants A in previous sessions chose option A1? .....

Hidden information treatment:
Before the experiment starts, we ask you to answer the following control questionnaire in order to check whether you have understood the instructions. You can only proceed to the next screen if you have answered all questions correctly. By pressing "Back" you get to the previous screens. If you have any questions please raise your hand. We will then come to you and answer your question privately.

a) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

b) Participant A chooses option A1. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....

How much is the income of participant C? .....

c) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C1.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

d) Participant A chooses option A2. Participant C reveals the choice of participant A and chooses option C2.
How much is the income of participant A? .....
How much is the income of participant B? .....
How much is the income of participant C? .....

e) Participant C does not reveal the choice of participant A and chooses option C1.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

f) Participant C does not reveal the choice of participant A and chooses option C2.
How much are the two possible incomes of participant A? .....
How much are the two possible incomes of participant B? .....
How much is the income of participant C? .....

g) What percentage of participants A in previous sessions chose option A1? .....

Screen 7:
As in baseline treatment and hidden information treatment.

Screen 8:
Only for participants A.

Screen 9 (only hidden information treatment):
As in baseline treatment and hidden information treatment.

Screen 10 (baseline treatment & hidden information treatment if participant chose reveal):
As in baseline treatment and hidden information treatment.

Screen 11:
Before you are informed about the result of part 1, we would like to find out what you believe about the behavior of the participants A in the **lab**. Please answer the following question:

How many of the participants A chose option A1 (€6 for participant A, €1 for participant B)? Please state a number between 0 and 100%.

The following applies: **The closer your estimate is to the true value, the higher is the payment you receive.** That is, if you state the correct answer or if your answer deviates from the true answer by five percentage points or less, you will receive **€3**.

If your answer deviates by (including) six to 10 percentage points, you will receive €2 and if your answer deviates by between 11 and 15 percentage points, still €1. If your answer deviates by more than 15 percentage points from the true answer, you will not receive an additional payment.

Thus, if, for instance, 50 percent of the participants A chose option A1, then you will receive an additional €3, if you entered a number between 45 and 55 as your answer, an additional €2, if you entered a number between 40 and 44 or 56 and 60 and an additional €1, if you entered a number between 35 and 39 or 61 and 65.

Please raise your hand if you now have a question. We will then come to your seat.

Screen 12:

Please enter your estimate.

Which percentage of participants A chose option A1 (€6 for participant A, €1 for participant B)?

Screen 13:

In addition, we would like to find out what you believe about the behavior of all participants C in the lab. Please answer the following two questions:

1. Consider the participants A who had chosen option A1 (€6 for participant A, €1 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by €3? Please state a number between 0 and 100%.

2. Consider the participants A who had chosen option A2 (€4 for participant A, €4 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by €3? Please state a number between 0 and 100%.

Again for both question the following applies: **The closer your estimate is to the true value, the higher is the payment you receive.** That is, if you state the correct answer

or if your answer deviates from the true answer by five percentage points or less, you will receive **€ 3**. If your answer deviates by (including) six to 10 percentage points, you will receive € 2 and if your answer deviates by between 11 and 15 percentage points, still € 1. If your answer deviates by more than 15 percentage points from the true answer, you will not receive an additional payment.

Screen 14:

Please enter your estimate.

1. Consider the participants A who had chosen option A1 (€ 6 for participant A, € 1 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by € 3? Please state a number between 0 and 100%.

2. Consider the participants A who had chosen option A2 (€ 4 for participant A, € 4 for participant B):

How many of these participants were assigned a deduction by their participant C such that the incomes of these participants A were reduced by € 3? Please state a number between 0 and 100%.

Screen 15:

If the participant is participant B:

You are participant B.

Your income from the choice of participant A in stage 1: ...

The income of participant A from the choice of participant A in stage 1: ...

Deduction from the income of participant A according to the choice of participant C in stage 2: ...

Your total income in stage 1 of the experiment: ...

The percentage of participants A who chose option A1 (€ 6 for participant A, € 1 for participant B) were ... Your answer deviated from this by ... percentage points. You will therefore receive ...

... % of the participants who had chosen option A1 (€ 6 for participant A, € 1 for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A1 (€ 6 for participant A, € 1 for participant B) were assigned a deduction by their participant C. Hence you receive ...

In addition, ... % of the participants who had chosen option A2 (€ 4 for participant A, € 4

for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A2 (€4 for participant A, €4 for participant B) were assigned a deduction by their participant C. Hence you receive ...

The second part of the experiment begins shortly.

If the participant is participant C in the baseline treatment or in the hidden information treatment and chose to reveal:
You are participant C.

Your endowment amounting to €6

The income of participant A from the choice of participant A in stage 1: ...

The income of participant B from the choice of participant A in stage 1: ...

Deduction from the income of participant A according to your choice in stage 2: ...

Your total income in stage 1 of the experiment: ...

The percentage of participants A who chose option A1 (€6 for participant A, €1 for participant B) were ... Your answer deviated from this by ... percentage points. You will therefore receive ...

... % of the participants who had chosen option A1 (€6 for participant A, €1 for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A1 (€6 for participant A, €1 for participant B) were assigned a deduction by their participant C. Hence you receive ...

In addition, ... % of the participants who had chosen option A2 (€4 for participant A, €4 for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A2 (€4 for participant A, €4 for participant B) were assigned a deduction by their participant C. Hence you receive ...

The second part of the experiment begins shortly.

If the participant is participant C in the hidden information treatment and did not choose to reveal:
You are participant C.

Your endowment amounting to €6

Deduction from the income of participant A according to your choice in stage 2: ...

Your total income in stage 1 of the experiment: ...

The percentage of participants A who chose option A1 (€6 for participant A, €1 for participant B) were ... Your answer deviated from this by ... percentage points. You will therefore receive ...

... % of the participants who had chosen option A1 (€6 for participant A, €1 for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A1 (€6 for participant A, €1 for participant B) were assigned a deduction by their participant C. Hence you receive ...

In addition, ... % of the participants who had chosen option A2 (€4 for participant A, €4 for participant B) were assigned a deduction by their participant C. You estimated that ... % of the participants who had chosen option A2 (€4 for participant A, €4 for participant B) were assigned a deduction by their participant C. Hence you receive ...

The second part of the experiment begins shortly.

Part 2: Self-importance of moral identity questionnaire and explanation

Screen 16 - 18:

As Screen 17, 18 and 20 in baseline treatment and hidden information treatment.[13]

Part 3: Elicitation of social value orientation

Screen 19 - 26:

As Screen 21 - 28 in baseline treatment and hidden information treatment.

Part 4: Questionnaire and payment

Screen 27:

Thank you! Your income today consists of the following:

Show-up fee: €5
Income from part 1 of the experiment: ...
Income from part 2 of the experiment: ...
Income from part 3 of the experiment: ...
Total income: ...

Please provide us with some personal information on the next screen before you receive your payment.

Screen 28 - 29:

As Screen 30 - 31 in baseline treatment and hidden information treatment.

[13] I did not ask the subjects to evaluate the fairness of their decision anymore. In addition, participants received €1 for answering these questions instead of €2.

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