

# Preference reversals with social distances

## Appendices

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### Appendix A Instructions

The next pages reproduces the instructions used in the Faculty Setting. Instructions in the Charity Setting were similar, except that they mentioned charities instead of Faculties and that the subjects were told that we would send them the receipts of the donations after the experiment.

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# Instructions

Welcome to the experiment. It is composed of two parts: Part 1 and Part 2. You will receive a fixed payment of £5 at the end of the experiment and you will earn more depending on your choices during Part 2. Please remain silent and do not speak with other participants. If you have a question of any kind, please raise your hand at any time and an experimenter will come to your desk.

You have in your possession two envelopes, respectively labelled 'Part 1' and 'Part 2'. They contain the material you will need for this experiment. Please do not open any of the envelopes until instructed to do so by the experimenters.

Before we proceed, we would like you to verify that you are from the Faculty of Arts. If this is the case, please tick the following checkbox:

I acknowledge I am a member of the Faculty of Arts.

If this is not the case, please raise your hand and wait for an experimenter to come to your desk.

We have a lot of procedures in place throughout the experiment designed to ensure your anonymity. The first one is the use of an identification number. This is the number printed at the top of this page. Each of the experimental packages that you saw outside the room had a different identification number. In effect, one of the identification numbers has been randomly attributed to you as you randomly selected one of the experimental packages. Your decisions are linked to this identification number, not to your identity. We are trying our best not to link your decisions to your identity, so please play your part in not allowing anyone—including the experimenters—to see this identification number. For similar reasons, do not write anything on any of the pages that would allow us to identify you.

We will now present Part 1 of the experiment in detail.

# Part 1

You will be randomly matched with one participant from the Faculty of Social Sciences and one participant from the Faculty of Engineering. From now on, we will use the expressions 'the member of the Faculty of Social Sciences' and 'the member of the Faculty of Engineering' to refer to the two participants you will be matched with. This matching will be constant throughout the experiment. You will not be told who these people are either during or after the experiment. The only information disclosed is their Faculty membership. Also, they will not be told who you are. As a matter of fact and as explained below, participants from the Faculty of Social Sciences and the Faculty of Engineering will not even know that this experiment took place.

In this part of the experiment, we will give money to the member of the Faculty of Social Sciences or to the member of the Faculty of Engineering depending on your choices. Hence, *the money donated is not your money* and nothing is taken from you.

There are only members of the Faculty of Arts in this room; hence, none of your choices in Part 1 will affect someone in this room nor will their choices affect you.

The experimental material for Part 1 of the experiment is composed of the present instructions and the envelope labelled 'Part 1'. Do not open the envelope until instructed to do so.

We will start by describing the tasks.

## Tasks

There will be three types of tasks, which we call **allocation tasks**, **equivalence tasks** and **circle tasks**.

### Allocation tasks

Allocation tasks ask you to choose between two alternatives. Here is an example:

**Option A:** We give  $\pounds y$  to *the member of the Faculty of Social Sciences*

**Option B:** We give  $\pounds z$  to *the member of the Faculty of Engineering*

Choose **A** or **B**:

You will choose one of the two options by writing 'A' or 'B'. There will be a range of such tasks involving different money amounts.

### Equivalence tasks

In equivalence tasks, we propose an allocation of a specific amount to either the member of the Faculty of Social Sciences or the member of the Faculty of Engineering. We then ask you to specify how much money we would have to *give to you* instead so that you would think that amount of money was just as good as the proposed allocation. Here is an example:

How much money *given to you* would be just as good as us giving  $\pounds w$  to *the member of the Faculty of Social Sciences*?

Please write the amount here:

We will refer to this amount as your equivalence valuation of giving  $\pounds w$  to the member of the Faculty of Social Sciences.

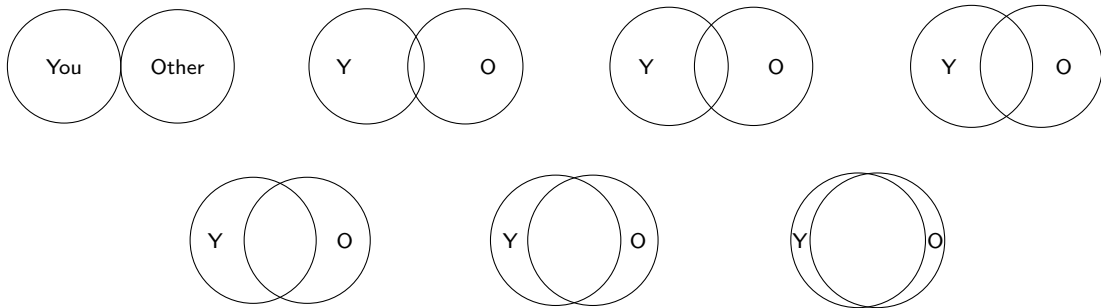
The participant (and hence the Faculty) and the amount of the allocation will change from task to task.

We will never actually give money to you as part of those tasks, but as explained later your answers to the equivalence tasks may affect which participant we will give money to, so please give considered and careful answers.

### Circle tasks

For these tasks, we will ask you how you feel toward the participants you have been matched with. You will be asked in this way:

Please consider the member of the Faculty of Engineering. Select the pair of circles that best represents how you feel toward *the member of the Faculty of Engineering*:



Indicate your answer by drawing a line around the pair of circles you select.

## Procedure

In a minute, we will ask you to open the envelope labelled 'Part 1'. In it, you will find a booklet containing several of the aforementioned tasks in a random order. On each page, just as at the top of these instructions, you will notice a number: this is your identification number.

As a consequence of your decisions, one of two people with whom you will be matched with—the member of the Faculty of Social Sciences and the member of the Faculty of Engineering—will get paid. We will now explain who and how much. After the experiment and after everybody has left, we will open the envelopes. We will then randomly select one pair of amounts, say  $(\pounds y, \pounds z)$ , independently for each participant. You would have encountered each of those two amounts twice:

- both of them at the same time in an allocation task, where you had to choose between giving  $\pounds y$  to the member of the Faculty of Social Sciences and giving  $\pounds z$  to the member of the Faculty of Engineering;
- each of them separately in equivalence tasks, where you had to tell us the amount of money given to you that you think is just as good as giving to the member of the Faculty of Social Sciences or to the member of the Faculty of Engineering.

We will then flip a coin to select between the allocation task and the equivalence task:

- If the allocation task is selected, we will give the money to the person you chose;
- If the equivalence task is selected, we will give the money to the person for which you indicated a higher equivalence valuation.

Let us illustrate this with an example. Imagine two fictitious Faculties: the Faculty of Xenostudies and the Faculty of Patascience. As explained earlier, assume you have been paired with one member from each of those fictitious Faculties. Imagine that the amounts  $(\pounds 5, \pounds 10)$  are selected. During the experiment, you encountered those amounts in the following allocation task:

**Option A:** We give  $\pounds 5$  to the member of the Faculty of Xenostudies  
**Option B:** We give  $\pounds 10$  to the member of the Faculty of Patascience

Choose **A** or **B**: A

Suppose you chose **A**, that is, giving  $\pounds 5$  to the member of the Faculty of Xenostudies you have been paired with.

You also faced an equivalence task with the member of the Faculty of Xenostudies:

How much money given to you would be just as good as us giving £5 to the member of the Faculty of Xenostudies?

Please write the amount here: 4

We will refer to this amount as your equivalence valuation of giving £5 to the member of the Faculty of Xenostudies.

This example supposed that you stated that the member of the Faculty of Xenostudies having £5 and you getting £4 makes you indifferent. You faced a similar question with the member of the Faculty of Patascience:

How much money given to you would be just as good as us giving £10 to the member of the Faculty of Patascience?

Please write the amount here: 2

We will refer to this amount as your equivalence valuation of giving £10 to the member of the Faculty of Patascience.

Here, imagine that you stated that the member of the Faculty of Patascience having £10 and you getting £2 are just as good.

Finally, we use a coin flip to determine whether it is your response to the allocation task, or your responses to the equivalence tasks that determine the person we will pay on your behalf:

- If the allocation task is selected, we are going to give £5 to the member of the Faculty of Xenostudies because this is what you chose in the allocation task involving the member of the Faculty of Xenostudies and the member of the Faculty of Patascience.
- If the equivalence task is selected, we are going to give £5 to the member of the Faculty of Xenostudies because your equivalence valuation of giving £5 to the member of the Faculty of Xenostudies (£4) is greater than your equivalence valuation of giving £10 to the member of the Faculty of Patascience (£2).

Hence, in this particular example, the money is always given to the member of the Faculty of Xenostudies. This would not have been the case had the answers been different.

At this stage, we will know to whom the money is allocated and we will give the money accordingly. Members of the Faculty of Social Sciences and the Faculty of Engineering will get paid on 13 January 2015 during an experimental session at 10am or at 3pm. You are free to come to the laboratory that day at any of these times to monitor the payment.

We will never tell members of the Faculty of Social Sciences and of the Faculty of Engineering about this experiment. For participants receiving money, the money will appear to come from the experimenter. Participants not receiving money will not know they could have received some money had your choices be different.

## Questions on the procedure

We would like to make sure you understand the procedure fully. Please answer the following questions. Once you have finished, raise your hand and an experimenter will come to your desk to verify your answers. There is no identification number on top of those pages so that the experimenters cannot learn your identification number. When s/he comes, please make sure s/he cannot see the other pages. Your answers here have no consequence for the rest of the experiment.

### Question 1

Imagine the amounts (£5,£12) are selected after the experiment. The following choices have been made in the relevant allocation tasks and equivalence tasks:

**Option A:** We give £5 to the member of the Faculty of Social Sciences

**Option B:** We give £12 to the member of the Faculty of Engineering

Choose **A** or **B**: B

How much money given to you would be just as good as us giving £5 to the member of the Faculty of Social Sciences?

Please write the amount here: 4

We will refer to this amount as your equivalence valuation of giving £5 to the member of the Faculty of Social Sciences.

How much money given to you would be just as good as us giving £12 to the member of the Faculty of Engineering?

Please write the amount here: 14

We will refer to this amount as your equivalence valuation of giving £12 to the member of the Faculty of Engineering.

What happens if the allocation task is selected? Please tick one:

- We will give £5 to the member of the Faculty of Social Sciences
- We will give £12 to the member of the Faculty of Engineering

What happens if the equivalence task is selected? Please tick one:

- We will give £5 to the member of the Faculty of Social Sciences
- We will give £12 to the member of the Faculty of Engineering



## Question 2

Imagine the amounts (£5,£8) are selected after the experiment. The following choices have been made in the relevant allocation tasks and equivalence tasks:

**Option A:** We give £8 to the member of the Faculty of Engineering

**Option B:** We give £5 to the member of the Faculty of Social Sciences

Choose **A** or **B**: **B**

How much money given to you would be just as good as us giving £5 to the member of the Faculty of Social Sciences?

Please write the amount here: **7**

We will refer to this amount as your equivalence valuation of giving £5 to the member of the Faculty of Social Sciences.

How much money given to you would be just as good as us giving £8 to the member of the Faculty of Engineering?

Please write the amount here: **3**

We will refer to this amount as your equivalence valuation of giving £8 to the member of the Faculty of Engineering.

What happens if the allocation task is selected? Please tick one:

- We will give £5 to the member of the Faculty of Social Sciences
- We will give £8 to the member of the Faculty of Engineering

What happens if the equivalence task is selected? Please tick one:

- We will give £5 to the member of the Faculty of Social Sciences
- We will give £8 to the member of the Faculty of Engineering

### Question 3

Which tasks are relevant if the amounts (£5,£10) are selected? Tick all that apply:

- How much money given to you would be just as good as us giving £20 to the member of the Faculty of Engineering?

Please write the amount here:

We will refer to this amount as your equivalence valuation of giving £20 to the member of the Faculty of Engineering.

- Option A:** We give £5 to the member of the Faculty of Social Sciences  
**Option B:** We give £8 to the member of the Faculty of Engineering

Choose **A** or **B**:

- Option A:** We give £5 to the member of the Faculty of Social Sciences  
**Option B:** We give £10 to the member of the Faculty of Engineering

Choose **A** or **B**:

- How much money given to you would be just as good as us giving £5 to the member of the Faculty of Social Sciences?

Please write the amount here:

We will refer to this amount as your equivalence valuation of giving £5 to the member of the Faculty of Social Sciences.

- Option A:** We give £5 to the member of the Faculty of Social Sciences  
**Option B:** We give £12 to the member of the Faculty of Engineering

Choose **A** or **B**:

- How much money given to you would be just as good as us giving £10 to the member of the Faculty of Engineering?

Please write the amount here:

We will refer to this amount as your equivalence valuation of giving £10 to the member of the Faculty of Engineering.

X1

You can now open the envelope labelled 'Part 1', take out the booklet and start completing the tasks. *Once you have completed a task, please turn the page and do not consider it again.* Once you have completed all the tasks, replace the booklet in the envelope along with the present instructions and close the envelope. Then, please raise your hand. When everybody has finished, we will collect the envelopes and mix them under the supervision of several randomly selected participants.

Notice that each envelope returned will look exactly the same, and since your identification number is attributed randomly we will not be able to tell who filled which booklet.

If you have any question, please raise your hand and an experimenter will come to your table to answer it.

## Appendix B Conditional preference reversals

Instead of looking at the net proportion of preference reversals, as I did in the main text, one can also compute for each subject the conditional reversal rates:

$$\begin{aligned}\text{Prop}(\text{standard reversal} \mid \omega_s \text{ chosen}) &= \frac{\text{number of standard reversals}}{\text{number of times } \omega_s \text{ chosen}}, \\ \text{Prop}(\text{counter reversal} \mid \omega_x \text{ chosen}) &= \frac{\text{number of counter reversals}}{\text{number of times } \omega_x \text{ chosen}}.\end{aligned}$$

Using these, there is a preference reversal phenomenon if the rate of conditional standard reversals is higher than the rate of conditional counter reversals. Table B.1 reports average reversal rates as well as within-subject tests of the phenomenon. We reach the same conclusion as in the main text: the preference reversal phenomenon definitely exists in the Faculty Setting, but much less so or even not at all in the Charity Setting.

Note that, since some subjects always chose one or the other option, reversal rates cannot always be computed, which results in a decrease in the number of observations. Further, as pointed out by Ball et al. (2012, Appendix A.1), one should be careful when using these conditional reversal rates to test for the preference reversal phenomenon if we understand preferences as being stochastic.

## References

Ball, Linden J., Nicholas Bardsley, and Tom Ormerod (2012), “Do preference reversals generalise? Results on ambiguity and loss aversion.” *Journal of Economic Psychology*, 33, 48–57.

**Table B.1:** Conditional reversal rates (number of observations in parentheses) for each Setting and tests of the preference reversal phenomenon.

		All	$s_s \leq s_x$	$s_s < s_x$		
Faculty	Standard reversal, $\omega_s$ chosen	78.79 (40)	80.05 (35)	80.49 (17)		
	Counter reversal, $\omega_x$ chosen	18.85 (48)	18.16 (38)	13.57 (14)		
	$z$ statistic	3.71* (33)	3.47* (28)	2.76* (11)		
		All	Known	Known + $s_s \leq s_x$	Known + $s_s < s_x$	
Charity	Standard reversal, $\omega_s$ chosen	35.25 (34)	38.25 (19)	32.94 (17)	23.85 (13)	
	Counter reversal, $\omega_x$ chosen	17.31 (39)	5.83 (30)	8.33 (21)	14.58 (12)	
	$z$ statistic	64.10 (21)	1.78* (13)	1.37 (11)	0.44 (8)	

*Notes.*  $z$  statistic from one-sided Wilcoxon matched-pairs signed-ranks test. A symbol indicates significance at  $\alpha = 0.05$ .  $s_s \leq s_x$ : recipient of  $\omega_s$  received a weakly higher Inclusion of Other in the Self (in the Faculty Setting) or Inclusion of Ingroup in the Self (in the Charity Setting) score than recipient of  $\omega_x$ ;  $s_s < s_x$ : strictly higher.

Known: subject indicated for both charities 'I know the name but I have only a vague idea of what it does' or 'I know the name and I have a good idea of what it does'.