

Polarization and Group Cooperation: Online Appendix

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February 2022

Supplemental Figures

Response	Main Experiment ($n = 456$)	Initial Survey ($n = 1573$)
Democrat	62.3%	44.8%
Republican	37.7%	33.8%
Female	41.5%	47.1%
Male	57.9%	52.2%
Asian	10.5%	8.33%
Black/African American	4%	5.7%
White	79.6%	76.7%
Age	39.7	40.15
College Graduate	68.2%	60.8%
Large City	23.3%	22%
Rural	10.1%	14.4%
Small City/Town	33.1%	31.2%
Suburb	33.6%	32.5%
Approve of Trump	29.6%	32.3%

Table A1

Demographic responses of participants in the main experiment and those who completed initial survey

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Instructions

Screen 1. Thank you for your responses. We will now ask you to participate in the experiment. You will receive an additional flat bonus payment of \$2 if you complete the game and could also earn bonuses up to an extra \$4. You will be able to participate only if you correctly answer the comprehension questions in a couple of pages so please read the instructions carefully.

This is an experiment on decision making. Your earnings will be based on the decisions made by you and others. It is therefore very important that you read these instructions carefully. Both how you will be paid and the participation of other people are exactly as we describe in the instructions.

During the experiment, you will earn tokens. At the end of the experiment, you will be paid \$0.01 US dollars per token you have earned (as described on the next page), plus the \$0.25 for filling out the initial survey and the flat payment of \$2 for completing the game.

This experiment is divided into different periods. There will be 10 periods in total.

Participants are divided into groups of three. You are with the same people in a group for all ten periods.

Screen 2. In each period you will be given tokens and have to decide how many tokens you would like to contribute to a project. Your earnings in the period will depend on the decisions made by you and the other two group members.

Each period consists of two stages:

In the first stage, you will receive tokens and have to decide how many tokens you contribute to a group project.

In the second stage, you will learn how much each member of your group contributed to the project.

The following pages describe the course of the experiment in detail.

Screen 3.

The first stage

At the beginning of each period, each participant in your group receives 20 tokens. In the first stage, you have to choose how many tokens you want to contribute to a group project and how many of them to keep for yourself. You can contribute any number of the 20 tokens to the group project. Each person will make this same choice.

Your earnings consists of two parts:

Your earnings from tokens kept: For each token that you keep for yourself you earn 1 token.

Your earnings from the group project: The tokens contributed to the group project are doubled and equally divided among the three group members. Thus your earnings from the group project are: $(\text{Total contributions to the project by all members}) \times 2/3$

Your total earnings for the period is therefore:

$$(20 - \text{your contribution to the project}) + 0.67 \times (\text{total contributions to the project})$$

The earnings of each group member from the project is calculated in the same way. Assume, for example, that the sum of the contributions of all group members is 9 tokens. This

amount is doubled and then divided three ways, so each group member receives $9 \times 2 / 3 = 6$ tokens from the project, and your earnings for the period are equal to 6 plus however many tokens you personally kept.

Notice that, for each token which you keep for yourself, you earn 1 token. If, instead, you contribute this token to the group project, then the total contribution to the project will rise by one token. Your income from the group project will rise by 0.67 tokens. Moreover, each of the other group members' income from the project will rise by 0.67 tokens. Your contribution to the group project therefore also raises the income of the other group members. For each token contributed to the project the total earnings of the group will rise by 2 tokens. Similarly, you also earn tokens for each token contributed to the group project by the other group members. For each token contributed by any member you earn 0.67 tokens.

In summary, your earnings in tokens at the first stage of a period are equal to: $20 - \text{your contribution} + (2/3) \times (\text{sum of contributions})$

The second stage

Each member in the group will be assigned an ID: either Participant A, Participant B, or Participant C. This ID will be the same for all ten periods.

After you have viewed your earnings for the period, you will see an information screen showing how much each group member contributed to the project. Specifically, the screen will report the contributions as well as the first stage earnings for Participant A, Participant B, and Participant C.

After the second stage, the period is over and the next period commences.

You will be matched with the same group of people for all 10 periods. (True/False)

If each person keeps all 20 tokens (that is, contributes 0 tokens), what will your payment be for that period? (0/14/20/40)

If each person contributes all 20 tokens, what will your payment be for that period? (0/14/20/40)

If the other two people each contribute 20 tokens and you contribute 0 tokens, what will your payment be for that period? (0/14/20/40/47)

(Those who pass the comprehension check are then bounced to oTree and see the following screens)

Screen 4.

In your group, the three participants will be labeled: Participant A, Participant B, and Participant C.

These roles will stay the same for all 10 periods.

You are Participant A.

[This part appears for those in the Partisan conditions with Democrat and Republican color coded as blue or red respectively]

Your group is as follows:

Participant A (you) – Democrat

Participant B – Republican

Participant C – Democrat

Screen 5 (No Punishment condition)

You will play the game for 10 periods. Each period will have two stages.

Stage 1: Each person will decide how many of their 20 tokens to contribute the group account.

Stage 2: After you have viewed your earnings for the period, you will see an information screen showing how much Participant A, Participant B, and Participant C contributed to the group account. You will then decide whether to reduce their earnings in the first stage by distributing points to them.

Screen 5 (Punishment condition)

You will play the game for 10 periods. Each period will have two stages.

Stage 1: Each person will decide how many of their 20 tokens to contribute the group account.

Stage 2: After you have viewed your earnings for the period, you will see an information screen showing how much Participant A, Participant B, and Participant C contributed to the group account and their earnings.

In Stage 2 you can decide whether to decrease the earnings of each other group member by assigning deduction points. The other group members can also decrease your earnings if they wish to. You will have to decide how many deduction points to assign to each of the other two group members. You can assign up to 5 points to each group member, or assign 0 points if you don't wish to change a group member's earnings. For each deduction point that you allocate to another group member his or her earnings are reduced by 3 tokens and your own earnings are reduced by 1 token.

Note that you will not be allowed to reduce the earnings of a group member to less than zero. After everyone has made a decision, you will be informed how many deduction points you received from the other group members and also what your total earnings in tokens for that period are. Note that you do not get to know how individual group members spend their deduction points.

Your total earnings for the period will equal: Stage 1 earnings - 3 x deduction points received - deduction points allocated. It is, in principle, possible that you make negative earnings in a period. However, you can always avoid negative earnings with certainty through your own choices.