

## Appendix A: Instructions<sup>1</sup>

[Screen 1]

This is an experiment, funded by a research foundation, to study decision making. You will be earn money in “experimental dollars” during the experiment. At the end of the experiment you will be paid in cash in real dollars (each experimental dollar is worth a real \$0.13, or thirteen cents). The amount you will earn will depend on your and others’ decisions. The maximum possible earning is \$50 (real dollars) and the minimum possible is \$8. You are likely to earn an amount in between. Please make sure you understand the decision process.

[Screen 2]

### Your Group

You will be placed in a group of four. The people in your group will not change during the experiment, but you will not know the identity of who is in your group, during the experiment or afterwards. The other three people in your group will have “screen names” of B, C, and D. Your screen name, on your screen, is A, but your screen name will be different on others’ screens.

There will be 10 periods in the experiment. Although the real identity of each of the other people in your group is unknown to you, each screen name will refer to the same person during a period. (But at the end of each period the screen names will be randomly switched, and then fixed for the period.)

[Screen 3]

### Earnings

Each period is like the others, so we will describe how your earnings for the first period are determined.

At the beginning of the period each person in your group will receive \$10 (experimental dollars). You must decide how to divide this amount between a group account and a personal account.

The money you assign to your personal account goes into your earnings.

An amount equal to 0.4 times the group’s total assignment to the group account goes into your earnings.

$$\text{Earnings} = (\text{amount in personal account}) + (0.4)(\text{total in group account})$$

[Screen 4]

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<sup>1</sup> These instructions are for the variant of the experiment with reduction option and numerical cheap talk. Instructions for variants without one or both of these elements are missing the screens that pertain to them.

The next four screens are set up to help you test your understanding of the experiment. For each of the screens that follows, there is a paper worksheet on your desk. Fill in the blanks in the worksheet first, then enter the information in the practice decision screen. The numbers you type in the practice screens are for practice only and will not affect your earnings from the experiment.

### Practice Questions

#### Practice 1.

Fill out the stage I section below for the following situation. The four members of your group each have \$10. Every member of your group has assigned \$10 to the group account and \$0 to their personal account.

1. Amount you assigned to group account: \$ \_\_\_\_\_
2. Amount you assigned to your personal account: \$ \_\_\_\_\_  
(= \$10 – group account assignment on line 1)
3. Total number of dollars assigned to your group account: \$ \_\_\_\_\_
4. Income from the group account for a member of your group: \$ \_\_\_\_\_  
(0.4 • group account total in line 3)
5. Your earnings after stage I: \$ \_\_\_\_\_  
(group account income in line 4 + personal account income in line 2)

Now, go back to the practice screen. Type in your contribution in the window and submit it to make sure your calculations are correct.

#### Practice 2.

Fill out the stage I section below for the following situation. The four members of your group each have \$10. Every member of your group has assigned \$0 to the group account and \$10 to their personal account.

1. Amount you assigned to group account: \$ \_\_\_\_\_
2. Amount you assigned to your personal account: \$ \_\_\_\_\_  
(= \$10 – group account assignment on line 1)
3. Total number of dollars assigned to your group account: \$ \_\_\_\_\_
4. Income from the group account for a member of your group: \$ \_\_\_\_\_  
(0.4 • group account total in line 3)
5. Your earnings after stage I: \$ \_\_\_\_\_  
(group account income in line 4 + personal account income in line 2)

Now, go back to the practice screen. Type in your contribution in the window and submit it to make sure your calculations are correct.

Practice 3.

Person 2 assigned \$10 to the group account and \$0 to his personal account, person 3 assigned \$5 to the group account and \$5 to his personal account and person 4 assigned \$0 to the group account and \$10 to his personal account.

Fill out the stage I section bellow for the above situation where you assigned \$5 to the group account.

1. Amount you assigned to group account: \$ \_\_\_\_\_
2. Amount you assigned to your personal account: \$ \_\_\_\_\_  
(= \$10 – group account assignment on line 1)
3. Total number of dollars assigned to your group account: \$ \_\_\_\_\_
4. Income from the group account for a member of you group: \$ \_\_\_\_\_  
(0.4 • group account total in line 3)
5. Your earnings after stage I: \$ \_\_\_\_\_  
(group account income in line 4 + personal account income in line 2)

Now, go back to the practice screen. Type in your contribution in the window and submit it to make sure your calculations are correct.

Practice 4.

Person 2 assigned \$10 to the group account and \$0 to his personal account, person 3 assigned \$5 to the group account and \$5 to his personal account and person 4 assigned \$0 to the group account and \$10 to his personal account.

Fill out the stage I section bellow for the above situation where you assigned \$6 to the group account.

1. Amount you assigned to group account: \$ \_\_\_\_\_
2. Amount you assigned to your personal account: \$ \_\_\_\_\_  
(= \$10 – group account assignment on line 1)
3. Total number of dollars assigned to your group account: \$ \_\_\_\_\_
4. Income from the group account for a member of you group: \$ \_\_\_\_\_  
(0.4 • group account total in line 3)
5. Your earnings after stage I: \$ \_\_\_\_\_  
(group account income in line 4 + personal account income in line 2)

How does this change affect the earnings of other members of your group, assuming that the switch of \$1 from your individual to your group account is the only change?

Now, go back to the practice screen. Type in your contribution in the window and submit it to make sure your calculations are correct.

[Screen 8]

### Reductions

There is another decision that affects your earnings. Once you learn the others' assignments to the group account, you have a chance to reduce others' earnings, and others have a chance to reduce your earnings. Suppose, in the last example, you decide to reduce B's earnings by \$3, C's earnings by \$5, and D's earnings by \$0. The total amount of reductions you make on others' earnings is \$8.

It costs you \$0.25 for each \$1 you reduce others' earnings. So your own earnings are reduced by  $(0.25)(\$8) = \$2$  in this example.

Just as you can reduce others' earnings, others can reduce yours. Suppose B reduces your earnings by \$1, C by \$3 and D by \$5. The total reduction of your earnings by others is  $(\$1 + \$3 + \$5) = \$9$ . You will learn that your earnings have been reduced by a total of \$9 but you will not learn who has reduced your earnings by what amount.

Similarly none of the others will learn by how much you have reduced their earnings, but only the total reductions.

Please fill in the sheet labeled practice 5 and the corresponding practice decision screen.

#### Practice 5.

It costs you \$0.25 to reduce the income of another person by \$1.00. Fill out the stage II section below for the following situation:

You assigned \$5 to the group account and \$5 to your personal account, person 2 assigned \$10 to the group account and \$0 to his personal account, person 3 assigned \$5 to the group account and \$5 to his personal account and person 4 assigned \$0 to the group account and \$10 to his personal account. You reduce person 2's earnings by \$2, person 3's by \$3 and person 4's by \$4. You receive a total of \$1 in reductions from other members of your group.

1. Amount you assigned to group account: \$ \_\_\_\_\_
2. Amount you assigned to your personal account: \$ \_\_\_\_\_  
(= \$10 – group account assignment on line 1)

3. Total number of dollars assigned to your group account: \$ \_\_\_\_\_
4. Income from the group account for a member of you group: \$ \_\_\_\_\_  
(0.4 • group account total in line 3)
5. Your income after stage I: \$ \_\_\_\_\_  
(group account income in line 4 + personal account income in line 2)
6. You reduced the earnings of others in your group by a total of: \$ \_\_\_\_\_
7. This cost you: \$ \_\_\_\_\_  
(0.25 \* the sum of your reductions from line 6)
8. Other members of your group reduced your earnings by: \$ \_\_\_\_\_
9. The total change in your income from stage 2: -\$ \_\_\_\_\_  
(line 7 + line 8)
10. Your total income for these two stages: \$ \_\_\_\_\_

Now, go back to the practice screen. Enter and submit your reductions to make sure your calculations are correct.

[Screen 9]

### Your Net Earnings

Your net earnings for a period will be:

$$\begin{aligned}
 &\text{Amount in personal account +} \\
 &(0.4)(\text{Total in group account}) - \\
 &(0.25)(\text{Total of your reductions of others}) - \\
 &\text{Total of reductions of your earnings made by others.}
 \end{aligned}$$

At the end of the experiment, the net earnings for the 10 periods will be totaled and converted from experimental dollars to real dollars. Then \$5 will be added for your participation.

[Screen 10]

### Process

At the beginning of each period there will be a communication stage. You will type in a possible amount for your group assignment. To do this you click on the red highlighted box, type in a whole number from 0 to 10, and press ENTER.

When others have typed in their possible amounts to the group assignment, you type in your possible reductions of others' earning. To do this, click on each of the blue highlighted boxes, type in a whole number, and press ENTER. At any time during this stage, you can adjust your possible assignment to the group account and your possible reductions, by clicking on a red or blue box, backspacing out the current number, typing in a new number, and pressing ENTER.

A clock will show you how much time you have for the communication stage. In the earlier periods you will have more time. In the later periods this stage will be shortened.

You are not committed to any of the numbers you type in during this stage.

Once the time ends for this stage, there is a decision commitment stage. First you type in your real and final choice for your assignment to the group account. When everyone in your group has done so, you type in your real and final choices for your reductions of others.

The net earnings for the period will be shown on the bottom box.

Any questions?

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## Appendix B. Additional Instructions for Face-to-Face Communication Treatments

### Discussion Period

Once the decision phase of the experiment begins, you will be asked to remain at your seat and to refrain from any form of communication with other participants, except by the entry of your decisions on the decision screens. After the completion of these instructions, however, you will be brought together with the other members of your group and will have an opportunity to talk with them for five minutes. During that time, you can discuss anything you like with one exception: promises of rewards or threats of punishment to occur after the experiment are not permissible.

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## Appendix C. Additional Instructions for Chat Room Treatments

[Screen 6]

### Communication

At three points during the experiment, you will have the opportunity to communicate with the other members of your group. During these communication periods, which will take place just before round 1, round 4, and round 7, you and other members of your group are invited to use your keyboards to type messages to one another. At the beginning of each communication period, you will learn which letter, A, B, C or D, has been assigned to you for that period. When you type a message to your group, your identification letter will appear before the message. This letter will remain fixed during the course of a given communication period and the immediately following decision stage.

During a communication period, you can indicate in the text of a message that that message is intended primarily for a particular group member, for instance by typing "I agree with

you, D.” However, any message sent to your fellow group members will appear on the screens of all members of your group (but not on those of members of other groups).

[Screen 7]

### Communication Rules

During a communication period, you can discuss anything you like, including what you think is the best approach to the experiment, what you plan to do, or what you would like others to do.

However, there are two restrictions on the types of messages that you may send.

First, you may not send a message that attempts to identify you to other group members other than by your letter A, B, etc. Thus, you may not use your real name, nicknames, or self-descriptions of any kind (“Tom Smith here,” “I’m the guy in the red shirt sitting near the window,” “It’s me, Sandy, from French class,” or even “As a woman [Latino, Asian-American, etc.], I think...”). To make sure that the rule of anonymity is adhered to, each message will be screened by a monitor who is a member of the experiment team before it is seen by the other members of your group.

The second restriction is that there must be no threats or promises pertaining to anything that is to occur **after** the experiment ends.

If a message is found to violate either rule, it will not go to the other members of your group, and you will receive a message from the monitor informing you of this fact.

A clock will show you how much time you have left in the communication period.

[Screen 8]

When a communication period ends, it is followed immediately by a decision period in which you and the other members of your group enter the amounts you are assigning to the group account, in the manner seen in the examples. These are binding decisions that affect your earnings from the experiment.

During the decision period that immediately follows a communication period, you and the other members of your group will be identified by the same letters A, B, C and D which you were assigned for the communication period. Those particular letter assignments will end, however, at the end of the first decision period following communication. In the next decision period, and in later communication periods, new random letters will be assigned. In a period that does not include communication, you will be identified to yourself simply as “You.”

[Screen 9]

This completes the instructions for the experiment. You will now have a chance to ask any questions you have in order to clarify how the experiment will work. It is important to note that once the question period ends and the experiment begins,

there is to be no further communication apart from what takes place through your terminals.