INSTRUCTIONS

Thank you for participating in this session today! In this session, you will earn money. These instructions will explain how to earn money, so please read carefully. Before we begin, we will read the instructions together. If, after we have read through the instructions, you still have questions, please raise your hand and someone will come by to help you. Now that the experiment has begun, **we ask that you do not talk at all during the session**. Also, at this point, please turn off/silence your cell phones. Again, if you have any questions, please raise your hand and you will be addressed individually.

This session is being conducted under the Williams College Department of Economics. As per department policy, we promise there will be no deception in this session. If we were to deceive you in any way, we would be required to debrief you following the session. As there is no deception, there will be no debriefing in this session.

As you entered the room, you were given a number on a piece of paper. This number will be your ID number for the session. Your decisions will be tied only to your ID number. You will make all actions and decisions on the computer, and your decisions will be communicated to others via computer. Furthermore, your ID number will not be revealed to other subjects and other subjects will not learn what decisions and earnings you make.

This session moves step by step. No subject proceeds to the next step until all subjects complete the current step. Steps are completed by clicking a "Submit" button on the computer screen. Therefore, to keep the session moving, please do not forget to click when you are done with your decisions.

## 1. Introduction

This experiment lasts for ten rounds. All subjects have been randomly split into three groups. No subject knows who else is in their group. In each round, you will be randomly matched with another subject from your group, forming a 2-person pair. You can only be paired with other subjects in your group, but you will never know the identity of the person you are matched with.

Each pair consists of one Role 1 player and one Role 2 player. For each of the 5 other people in your group, you will be paired with that person for two rounds. One of these rounds you will be Role 1, and in the other round, you be will Role 2. Thus, in total, you will act as Role 1 for 5 rounds and Role 2 for 5 rounds. However, you will never be paired with the same person in the same role more than once. You will be assigned roles and pairings in random order. You will never be told who you are paired with, but you will be told which role you are at the start of each round.

Your earnings in each round will depend on the decisions of you and your match. The number of points you have at the end of each round determines your earnings from that round. After all rounds have been completed, we will randomly select one round for payment. This will be explained in further detail later.

## 2. Overview of the experiment

In each round, you will be making one or more decisions. At the start of each round, you will be informed whether you are Role 1 or Role 2. In each round, Role 1 will start with 100 points,

while Role 2 will start with 20 points. Each round consists of 3 stages. In Stage 1, Role 1 chooses how many of his points to transfer to his matched Role 2 player. Role 2 is informed of her match's Stage 1 choice when making her choice in Stage 2.

In Stage 2, Role 2 will choose an action. The actions differ both in the number of points it costs Role 2 to choose that action and in the number of points Role 1 receives if that action is chosen.

In Stage 3, Role 1 will decide whether to purchase **tokens**. Tokens purchased by Role 1 reduce Role 2's point total. These decisions will be described in further detail below.

### 3. Decisions

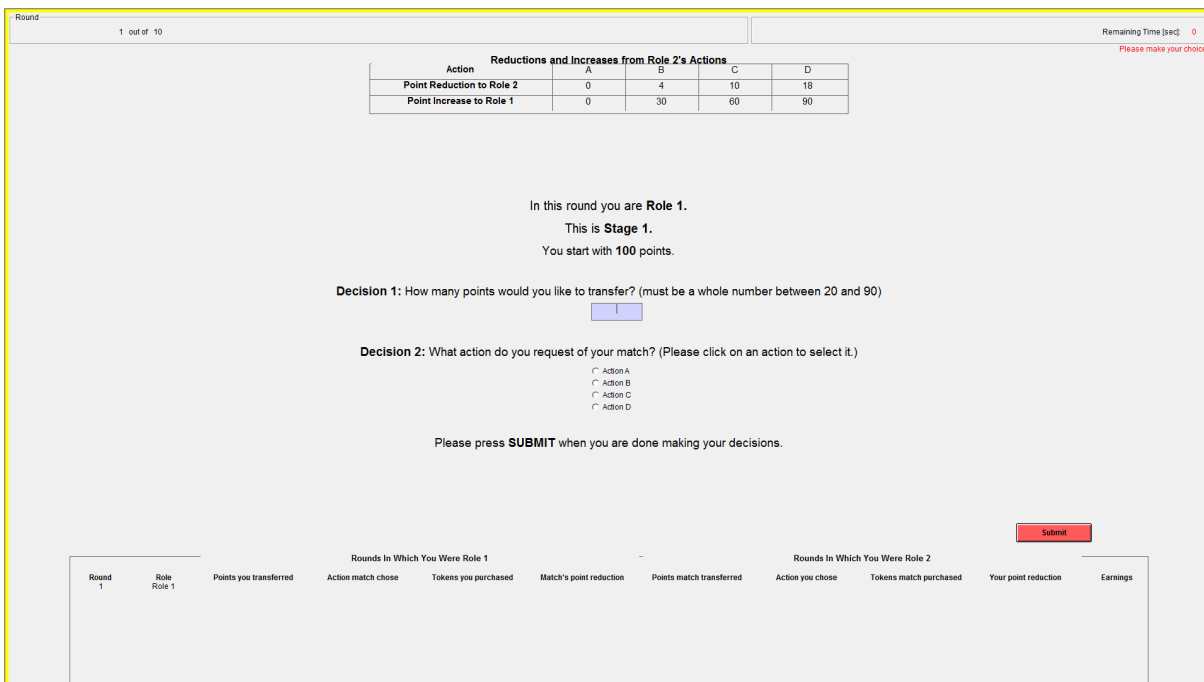Decisions come in three stages:

Stage 1:

(**Decision 1**) Role 1 chooses an amount of points to transfer to Role 2. This is done by entering the amount in a box located in the center of the screen (see below).

- Transfers are taken from Role 1's points and added to Role 2's points.

- This transfer must be in whole points.

- Role 1 can choose any transfer from 20 points to 90 points.

- **Example:** Role 1 transfers 35 points. Now, Role 1 has 65 points (100 minus 35), and Role 2 has 55 points (20 plus 35).

(**Decision 2**) In addition, Role 1 must specify a desired Role 2 action for the next stage. In the next stage, Role 2 will be choosing an action (A, B, C, or D). We explain these actions below. Role 1 indicates his desired Role 2 action by selecting one of four buttons provided in the lower part of the screen (see below).

- Role 1 must specify which of the four actions he desires that Role 2 choose.

- Role 2 will be informed of Role 1's choice in the next stage.

- **Example:** Role 1 desires Action C.

**Stage 1 Decision Screen:**

Notice, the header at the top of the screen indicates what round is being played. Also, underneath the header is a table regarding Role 2's actions. This table will be explained when we explain Stage 2 decisions.

At the bottom of the screen in a history table. This table displays decisions made and earnings from previous rounds. The table splits this information into the rounds in which you were Role 1, and the rounds in which you were Role 2. This table will always be at the bottom of the screen during a round.

Stage 2:

Role 2 is informed of her match's transfer and desired action. She must then choose an action. Her action affects both Role 1's and Role 2's point totals, as described below. Role 2 indicates her action by selecting one of four buttons provided in the lower part of the screen (see below).

- Role 2 can choose one of four actions: A, B, C, or D.

- Each action reduces Role 2's points and increases Role 1's points; the different actions correspond to different Role 2 reductions and Role 1 increases.

- The decrease to Role 2 and the increase to Role 1 for each choice is given by the following table (in points). This table will be displayed at the top of the screen whenever either player makes a decision.

| Action | A | B | C | D |
|---|---|---|---|---|
| **Point Reduction to Role 2** | 0 | 4 | 18 | 20 |
| **Point Increase to Role 1** | 0 | 30 | 60 | 90 |

- **Example:** Role 2 receives 35 points from Role 1. Role 2 is informed of Role 1's desired action, Action C. Suppose Role 2 then chooses Action B. Role 1 gets 30 points from this

choice. Role 2 loses 4 points from this choice. Role 1 then has 95 points (100 minus 35 = 65, plus 30). Role 2 then has 51 points (20 plus 35 = 55, minus 4).

**Stage 2 Decision Screen:**



Stage 3:

In this stage, Role 1 decides how many **tokens** Role 1 will purchase. Each token purchased reduces Role 1's point total by 1 point, and also reduces Role 2's point total by 3 points. Role 1 indicates her token decision by filling in a box located in the center of the screen (see below).

Role 1 makes this choice after being informed of Role 2's action.

- Role 1 specifies how many tokens to purchase after learning what action Role 2 chose (A, B, C, or D).

- Role 1 can only purchase whole tokens.

- Role 1 can purchase 0 to 5 tokens.

- Role 2's point total will be reduced by 3 points for each token Role 1 purchases.

- **Example:** Role 1 chooses 3 tokens. Role 1 now has 92 points (100 minus 35 = 65, plus 30 minus 3). This "minus 3" comes from Role 1's reduction choice of 3. Role 2 has 42 points (20 plus 35 = 55, minus 4 minus 9). This "minus 9" comes Role 1's reduction choice of 3.

**Stage 3 Decision Screen:**

**Reductions and Increases from Role 2's Actions**

| Action | A | B | C | D |
|---|---|---|---|---|
| Point Reduction to Role 2 | 0 | 4 | 10 | 18 |
| Point Increase to Role 1 | 0 | 30 | 60 | 90 |

In this round you are **Role 1**.

This is **Stage 3**.

You have transferred **35** points to your match.

You have chosen **Action C** for your desired effort level.

Role 2 has chosen effort level B.

How many tokens would you like to purchase for reducing Role 2's point total? (Must be a whole number from 0-5)

Each token purchased reduces your point total by **1 point** and reduces Role 2's point total by **3 points.**

Please press **SUBMIT** when you are done making your decision.

## 4. Earnings

At the end of each round, all decisions from the round are summarized. In addition, you will be informed of both your own and your match's earnings from that round. Earnings for each role are calculated by the following:

**Role 1:**

| | |
|---|---|
| START | 100 points |
| MINUS | (transfer to Role 2) points |
| PLUS | (increase from Role 2's action) points |
| MINUS | (reduction tokens purchased) points |
| EQUALS | (earnings from this round) points |

**Role 2:**

| | |
|---|---|
| START | 20 points |
| PLUS | (transfer from Role 1) points |
| MINUS | (reduction from Role 2's action) points |
| MINUS | (reduction from Role 1's tokens) points |
| EQUALS | (earnings from this round) points |

**Example:** For added clarity, we return to our example:

**Role 1:**

| | |
|---|---:|
| START | 100 points |
| MINUS | (transfer to Role 2) 35 points |
| PLUS | (increase from Role 2's action) 30 points |
| MINUS | (reduction tokens purchased) 3 points |
| EQUALS | (earnings from this round) 92 points |

**Role 2:**

| | |
|---|---:|
| START | 20 points |
| PLUS | (transfer from Role 1) 35 points |
| MINUS | (reduction from Role 2's action) 4 points |
| MINUS | (reduction from Role 1's tokens) 9 points |
| EQUALS | (earnings from this round) 42 points |

**Review Screen:**



A summary of the round's decisions is displayed on a review screen. This review screen also shows how earnings were calculated for both you and your match in that round. Also, you can see previous round's decisions and earnings in the history table at the bottom of the screen. When you are done reviewing the round, do not forgot to click OKAY to move on to the next round.

## 5. Payment

After all rounds have been completed, **one of the ten rounds will be selected at random to be the paying round for all subjects.** In front of all of you, one subject will pick a card numbered 1-10 from a deck that another subject will shuffle. Your payment will be determined

only by your points in the round whose number corresponds to that card.

The instructions above explained your earnings in points. The exchange rate of points to US dollars is given by:

$$4 \text{ Points} = \$1 \text{ Dollar}$$

Even though some actions reduce earnings of one or another subject, we have set up the experiment so that no subject can ever lose money.

Soon, you will enter your ID number into the computer. We will use your ID number to pay you. After all rounds have been completed, you will be asked to complete a brief questionnaire. While you do this, we will place each subject's earnings in an envelope marked with that subject's ID number. Then you will pick the envelope matching your ID number. This way, your individual earnings will remain private. Once everyone has received his/her envelope, the session is completed, and you may leave.

## 6. Example scenarios

Prior to the ten rounds of the session, you will have to answer questions about several example scenarios. These are done to ensure that you understand how the decisions work. This quiz will be done on the computer. Every subject must answer all questions correctly before we proceed to the actual session. If you find that you have questions as you try to answer these questions, we will come to you and help you in private.