

Experimental Instructions

Introduction

You are about to participate in an experiment in decision-making. The instructions are simple. If you follow them carefully and make good decisions, you can earn a considerable amount of money. You are awarded \$6 for showing up on time and participating in the experiment. Your additional earnings depend on your decisions, the decisions of other participants, and chance. You will be paid in cash at the end of the experiment. All payments will be made in private.

We will proceed as follows. First, I will review and explain the instructions. Then you will have a chance to ask any questions you might have. After that we will start with the experiment. **No talking during the experiment!**

General description of the experiment

You will interact anonymously with one another by reviewing some information on your computer screens and inputting answers in response to questions posed on your screen. At the start of the experiment, all participants will be randomly divided into two groups, labeled X and Y: there are exactly 10 members in each group. Your assignment to the X or to the Y group will be indicated on your computer screen and *will not change for the duration of this experimental session*.

The session today consists of 20 periods. Each period you and each of the other participants must decide whether or not to buy a token. For each participant, one token costs 18 cents. You can buy only one token each period. Your decision to buy or not buy a token is known only to you; no one in your group or the other group will know of your decision to buy/not buy a token in any period of this session, even after the session is over. After everyone has made their decision to buy or not buy a token, the total number of tokens bought by each group is calculated by the computer program and will appear on your computer screen. The group whose members bought the most tokens is declared the winner. If both groups have bought the same number of tokens – i.e., if there is a *tie* – then a predetermined tie-breaking rule (announced at the start of each period) is used to determine the winner. Each member of the winning group receives a payoff of \$1.00, and each member of the losing group earns \$0.00, regardless of whether or not they bought a token. Your *net* payoff depends on whether or not you bought a token, as buying a token costs you 18 cents.

Detailed description of a period

At the start of each period, the computer program randomly determines which of the two groups, X or Y wins a tie if there is one in that period. There is a .5 probability that X wins a tie and a .5 probability that Y wins a tie. The group that wins a tie each period will be indicated on the first stage screen of every individual's monitor, *before* decisions are made in that period.

On this first stage screen, you are asked to make a decision: whether or not you want to buy a token.

Click on one of the radio buttons, labeled “yes” or “no”, to indicate your choice. When you are satisfied with your decision, click the “submit” button. You can change your choice any time prior to clicking the submit button.

Once everybody has clicked the submit button, the computer program will calculate the number of tokens bought by the X and Y groups. It will then determine the winner for the period (using the tie-

breaking rule if necessary). The program will also determine each individual's net payoff for the period. All of this information will be reported back to you on your computer screen at the end of each period.

The payoff tables 1 and 2 on page 3 below present all possible *gross* payoffs to you under different scenarios. In essence, if your group wins a tie this period and your group has bought at least as many tokens as the other group, then each member of your group wins \$1 (100 cents). In all other cases you win 0. If your group loses a tie and in this period your group has bought more tokens than the other group, then each member of your group wins \$1 (100 cents). In all other cases you win 0.

Remember, however, that buying a token costs you 18 cents! Thus, if you buy a token and your group *wins*, your earnings for the period from the token purchase decision consists of the gross payoff to each member of the winning team (100 cents) minus the cost of buying a token (18 cents), i.e., your net payoff is 82 cents. If your group wins but you did not buy a token, your gross payoff (100 cents) is the same as your net payoff for the period. If you buy a token and your group *loses*, your payoff from your token purchase decision that period consists of the gross payoff from losing (0) minus the cost of buying a token (18 cents), i.e., your net payoff is -18 cents. If your group loses but you did not buy a token, your gross payoff (0) is the same as your net payoff for that period. Summarizing, your *net* earnings from the token purchase decision each period is either: 82 cents, 100 cents, -18 cents or 0 cents.

The computer will keep track of your total earnings from all 20 periods played. If your cumulative payoff total involves fractions of cents, this total will be rounded up to the nearest cent at the end of the session. You will earn this total amount plus the \$6 amount you have been awarded for showing up to today's experiment. Notice that it is possible for you to have a negative balance from token purchase decisions, for instance, if you buy a token in every period and your team loses every period. If you end the experiment with a negative balance, this amount is deducted from your \$6 show-up award.

Experiment history

The program automatically records and reports back to you what happens in each period. The table at the bottom of your screen reminds you of your recent history of play (all past periods). Specifically, you are reminded of:

Period numbers.

Group you belong to (X or Y), which is the same in all periods.

Did your group win that period?

Number of tokens bought by your group that period.

Number of tokens bought by the other group that period.

Did you buy a token that period?

Your period earnings.

Your cumulative earnings (sum from all periods played so far).

Data from the most recent periods are shown on your screen; you can use the scroll bar to scroll down to see the history information from all previous periods.

Table 1: Gross payoff to members of your group *if your group wins a tie*. Payoffs are given in cents. **Remember, buying a token costs you 18 cents!**

		Number of tokens bought in your group											
		0	1	2	3	4	5	6	7	8	9	10	
Number of tokens bought in the other group	0	100	100	100	100	100	100	100	100	100	100	100	100
	1	0	100	100	100	100	100	100	100	100	100	100	100
	2	0	0	100	100	100	100	100	100	100	100	100	100
	3	0	0	0	100	100	100	100	100	100	100	100	100
	4	0	0	0	0	100	100	100	100	100	100	100	100
	5	0	0	0	0	0	100	100	100	100	100	100	100
	6	0	0	0	0	0	0	100	100	100	100	100	100
	7	0	0	0	0	0	0	0	100	100	100	100	100
	8	0	0	0	0	0	0	0	0	100	100	100	100
	9	0	0	0	0	0	0	0	0	0	100	100	100
	10	0	0	0	0	0	0	0	0	0	0	100	100

Table 2: Gross payoff to members of your group *if your group loses a tie*. Payoffs are given in cents. **Remember, buying a token costs you 18 cents!**

		Number of tokens bought in your group											
		0	1	2	3	4	5	6	7	8	9	10	
Number of tokens bought in the other group	0	0	100	100	100	100	100	100	100	100	100	100	100
	1	0	0	100	100	100	100	100	100	100	100	100	100
	2	0	0	0	100	100	100	100	100	100	100	100	100
	3	0	0	0	0	100	100	100	100	100	100	100	100
	4	0	0	0	0	0	100	100	100	100	100	100	100
	5	0	0	0	0	0	0	100	100	100	100	100	100
	6	0	0	0	0	0	0	0	100	100	100	100	100
	7	0	0	0	0	0	0	0	0	100	100	100	100
	8	0	0	0	0	0	0	0	0	0	100	100	100
	9	0	0	0	0	0	0	0	0	0	0	100	100
	10	0	0	0	0	0	0	0	0	0	0	0	100

Quiz.

Before we start playing, we ask you to answer the following questions in the space provided. This quiz does not affect your payoffs in any way – it is simply to give you some practice with various scenarios and ensure that you have a good understanding of the rules of play. The numbers in the example below are illustrative only; actual numbers in the experiment may differ. Please feel free to consult the instructions and payoff tables in answering these questions. We will come around to make sure that your answers to these questions are right before we start playing. If you have questions, please raise your hands and we will assist you.

1. You belong to group X. Group X wins a tie. You have bought a token. In total, group X has 9 tokens and group Y has 8 tokens.
 - a. Which group wins?

 - b. What is your payoff from your token purchase decision?

2. You belong to group Y. Group Y wins a tie. You have not bought a token. In total, group X has 7 tokens and group Y has 6 tokens.
 - a. Which group wins?

 - b. What is your payoff from your token purchase decision?

3. You belong to group Y. Group X wins a tie. You buy a token. In total, group X has 7 tokens and group Y has 7 tokens.
 - a. Which group wins?

 - b. What is your payoff from your token purchase decision?

4. You belong to group X. Group Y wins a tie. You have not bought a token. In total, group X has 3 tokens and group Y has 4 tokens.
 - a. Which group wins?

 - b. What is your payoff from your token purchase decision?

Please raise your hand when you have finished writing down your answers to this quiz and one of the experimenters will come around to review your answers. Then sit quietly until the experiment begins.