5/31/96

Experiment Instructions:
Interests with Delegation

Supplies:
1. Paper and pencils for notes. Big coin and dice.
2. Registration forms. Post-experimental questionnaire. Money: dollars and dimes.
3. Number the consent forms so that we know who passes and fails important quiz questions.
4. Get signaling sheets ready: Heads. Tails.

When Subjects enter Lab:
_____ Ask them to read and sign consent forms.
_____ Pay on-time bonus.
_____ Pay extras.

Welcome to the UCSD Political Science Experimental Lab. Today's experiment is part of a six-month study on decision making. During and after the experiment, we will pay you for your participation. The amount we pay you depends on your decisions, the decisions of others, and chance. While we cannot guarantee that you will earn any specific amount, we can guarantee that if you are careful, make good decisions, and complete the experiment, then you can expect to earn between $20 and $60. Today's experiment will last no longer than 2 hours.

This is a pen-and-paper experiment. Thus, you are to record all of your actions on questionnaires that we will later distribute. Along the way, you may have some questions about the experiments. If you do, please raise your hand and one of us will assist you. It is important that you do not communicate with any other participant at any time during the experiment. If you do, we will ask you to leave. [Pause]

Now we are going to tell you how you can make some money. *You make money by predicting the outcomes of coin tosses*. Specifically, we pay you 50 cents for correctly predicting the outcome of a coin toss. So, for example, suppose that we toss a coin and that you predict heads. If heads is the correct prediction, then we pay you 50 cents. By contrast, if heads is an incorrect prediction, then you earn nothing. Are there any questions about how you earn money?

[Distribute Trial 1-6 questionnaire]

We are now handing out the first questionnaire. Whenever we give you a new questionnaire, the first thing you should do is write your full name on it. This will help us pay you.

To see an example of how our experiment works, please look at Practice Toss 1 on your questionnaire. In Practice Toss 1, the subject predicts that the coin will land on tails. If it

does, then we pay the subject 50 cents. If it lands heads instead, then the subject earns nothing.

In this experiment, there are 32 coin tosses for you to predict. To make a prediction, put a check on the line next to the word Heads or Tails when we instruct you to do so. Once you make a prediction for a particular coin toss, you cannot scribble it out or change it. If you do, then you earn nothing for that coin toss, even if the check mark that is not scribbled out is correct. Are there any questions about how to make a prediction?

Throughout the experiment, we will vary the difficulty of making a correct prediction. In some trials, it will be easy to make correct predictions. In other trials, it will be more difficult. The coin tosses in the first two trials should be very easy to predict. This is true because we will toss the coin and show you the result *before* we ask you to make predictions.

We will now toss the first coin. [Toss the coin]. The outcome of Trial 1 is [heads/tails]. [show all participants the result]. Please make a prediction about the outcome of Trial 1. [Subjects make predictions.]

We will now check the results and pay you for your predictions.
[Check results and pay.]

We will now toss the second coin. [Toss the coin]. The outcome of Trial 2 is [heads/tails]. [show all participants the result]. Please predict the outcome of Trial 2. [Subjects make predictions.]

We will now check the results and pay you for your predictions.
[Check results and pay.]

We will now toss the coin four more times. Unlike before, however, we will record, but will not tell you, the results of the four tosses. Thus, you must make your prediction ***without knowing the outcome of*** each toss. To move the experiment along, we will reveal coin toss outcomes and pay you your remaining earnings at the end of the experiment.

As before, we pay you 50 cents for every correct prediction that you make. Remember that you earn nothing if you scribble out your prediction. We will now toss the third coin and record the result. [Toss the coin.] Please predict the outcome of Toss 3.

We now toss the [fourth fifth sixth] coin and record the result. [toss the coin and record the result.] Please predict Toss [4 5 6].

We will now collect your questionnaires. [**Collect Trial 1-6 questionnaires.]**

Please pay close attention to the following set of instructions. We now add a simple but important change to the way the experiment proceeds. To understand this change, you

should listen carefully to the instructions. When we finish reading these instructions, you will take a brief quiz on them. In return, we will pay you 25 cents for every quiz question that you answer correctly.

The change in the experiment is that, from now on, we will randomly select one of you to see the outcome of the coin toss and send a report to the other subjects about it. We call that one person the coin toss reporter. The rest of you continue to be coin toss predictors, as before, and will not be shown the coin toss result. Thus, one of you will be the reporter and 11 of you will be predictors.

[Distribute Common Interests handout (questionnaire attached).]

While you are looking at the first page of your handout, suppose, for a moment, that you are selected to be the reporter. As the reporter, you are the only subject who gets to see the coin toss outcome. Your only job is to determine what I can tell the predictors about the coin tosses.

As your handout shows, the sequence of events in the upcoming trials is as follows. First, we toss a coin, then we record the coin toss outcome in our computer, doing this makes calculating your payoffs easier and helps us pay you faster at the end of the experiment, then we show the coin toss outcome to the reporter. Then, the reporter make a report. He or she can report heads or tails, what report the reporter makes is entirely his or her decision. Next, one of the experimenters uses an index card to silently the reporter's report to me. Then, I read the report to the predictors. We send the report in this way so that the predictors will not learn anything about the reporter from the sound of his or her voice. Each trial ends with the predictor's predictions. Note that the predictors do not see the coin toss result -- all they hear is the reporter's report about it. Also, and unlike the predictors, I do not see the true coin toss outcome, all I see is the reporter's report.

If you turn to the next page of your handout you can see that predictors continue to earn money as before -- we pay a predictor 50 cents every time they make a correct prediction. The reporter earns money is different than the way. We pay the reporter 50 cents every time a predictor makes a correct prediction. The reporter earns nothing every time a predictor makes an incorrect prediction. So, if all 11 predictors make correct predictions, then we pay the reporter $5.50 cents, and the predictors 50 cents each. If only 3 predictors make correct predictions, then we pay the reporter $1.50 and the three predictors who got the coin toss right 50 cents each. The eight predictors who got the coin toss wrong earn nothing. If no one makes correct predictions, then the reporter and all of the predictors earn money. Are there any questions about how the reporter and the predictors earn money?

Let's go through a quick example. [Toss the coin.] We toss the coin and show it to the reporter, who in this case is one of the experimenters. [Show the outcome.] Next, the reporter [experimenter] checks a statement, and I announce it. [announce a false statement]. The predictors then check heads or tails. For the real tosses, we will not

reveal the coin toss result until the end of the experiment. For this example, however, we can tell you that the coin actually landed on _. Thus, the reporter has made a false statement in this case. If all the predictors followed the reporter's advice, then no player would have earned any money for this coin toss.

Lets try one more. [Toss the coin.] The reporter has stated that the coin landed on _. In this example, we can tell you that the reporter has made a true statement. If all the predictors followed the reporter's advice, then each predictor would have made $.50 and the reporter would have made $5.50. Are there any questions.

We will now give you a quiz on the instructions. We will pay you 25 cents for every question that you answer correctly. Feel free to look at the information on your handout during the quiz. Write your name on the quiz and begin taking it when you receive it.

[Distribute Quiz 1.]

[Check, correct, and collect Quiz 1.]

We will now use a coin and a six-sided die to determine who will be the reporter. [roll the die]. To protect the integrity of the experiment, we ask all of you to place your heads on your desk for just a moment. [Pause.] Will the reporter please move to the reporter's chair. [Pause.] You may lift your heads off your desk now.

We are now ready for the next trial. [toss the coin and show to the reporter]. [check report.] The report for Trial number [7 8 9 10] is [heads/tails]. Please make your predictions.

We will now collect your questionnaires. **[Collect Common Interests handout].**

We are now ready to move to the next set of trials. Please pay close attention to these instructions as they will be followed by a quiz in which we pay you 25 cents for every question that you answer correctly.

[**Distribute Conflicting Interests handout.**]

The next set of coin tosses differs from the previous set in one important way. This time the reporter makes more money when the predictors make *incorrect predictions*. That is, the reporter makes 50 cents for every predictor who gets the coin toss wrong and nothing for every predictor who gets it right.

So, for example, if the coin lands on heads, then the reporter makes 50 cents for every predictor who incorrectly predicts tails and nothing for every predictor who correctly predicts heads. By contrast, each of the 11 predictors continue to earn money as before, earning 50 cents for every correct prediction they make and nothing for every incorrect prediction.

So, if all 11 predictors make incorrect predictions the reporter earns $5.50 and each of the predictors earns nothing. If only 3 predictors make incorrect predictions, then the reporter earns $1.50, the three predictors who got it right earn 50 cents each and the eight predictors who got it wrong get nothing. If all predictors make correct predictions, then the predictors get 50 cents each and the reporter earns nothing. *Remember that neither I nor the predictors observe the coin toss and that reporter can, but does not have to, tell the truth.* Are there any questions?

We will now give you a quiz on the instructions. Feel free to look at the information on your handout during the quiz. We again pay you 25 cents for every question that you answer correctly. Please write your name on the quiz and begin taking it when you receive it.

[Distribute Quiz 2.]

[Check, correct, and collect Quiz 2.]

We are now ready for the next trial. [toss the coin and show to the reporter]. [check report.] The report for Trial number [11 12 13 14] is [heads/tails]. Please make your predictions.

We will now collect your questionnaires. **[Collect handout and questionnaire.]**

We are now ready to move to the next set of trials. Please pay close attention to the new instructions as they will be followed by a quiz in which we pay you 25 cents for every question that you answer correctly. We are now going to change the experiment in a substantial way. The first change in the experiment is that each trial will now consist of two stages. We call these stages Stage 1 and Stage 2. Each of you will participate in either Stage 1 or Stage 2. None of you will participate in both stages. Stage 1 is totally new. We will give you more details about it in a moment. Stage 2 is the same as some of the previous trials. Since it is familiar, I will begin by describing to you the sequence of events in Stage 2. Then, we will discuss Stage 1.

[Distribute Delegation-Common Interests handout.]

Please look at the first page of your new handout. Here you can see the Stage 2 sequence of events.

First, we show the coin toss outcome to the reporter. Second, the reporter makes a report. Third, the report is delivered to the predictor. Fourth, the predictor makes a prediction. Then, we move to Stage 1 of the next trial. Note that in the next 8 trials, we go back to the situation where the reporter earns 50 cents every time the predictor makes a correct prediction. The reporter earns nothing when the predictor gets the coin toss wrong.

The main difference between Stage 2 and the previous trials is that now only two of you will participate in it. That is, from now on, only one of you will be a reporter and only

one of you will be a predictor. Are there any questions about the sequence of events in Stage 2.

On the second page of your handout is information about Stage 1. In each of the remaining experimental trials, ten of you will participate in Stage 1. We will call you Stage 1 players. Stage 1 players do not participate in Stage 2. That is, Stage 1 players are neither reporters nor predictors.

Stage 1 begins with the coin toss. Second, we record the coin toss outcome in our computer. Third, I direct Stage 1 players to look at their questionnaires. For each trial, a Stage 1 player's questionnaire contains two pieces of information.

The first piece of information on Stage 1 player questionnaires is the coin toss outcome. That is, all 10 Stage 1 players see and know the coin toss outcome for every remaining experimental trial. Note that we earlier today flipped the coin one time for each of the remaining experimental trials to make the experiment run efficiently.

The second piece of information on Stage 1 player questionnaires is an option. Below step 3 in the sequence of events you can see an example of such an option. In the example, the stage 1 player can choose to either earn a fixed amount of $1.40 or to earn $2 if the predictor in stage 2 correctly predicts the coin toss outcome. When Stage I players take this option, they make $2 when the predictor gets the coin toss right and earn nothing if the predictor makes an error. Thus, taking the option is like betting that the predictor will make a correct prediction. Are there any questions?

Sometimes, Stage I players will have a different option. That is, they can choose to either take the fixed amount or to earn $2 if the predictor in stage 2 gets the coin toss wrong. When Stage I players take this option, they profit from the predictor's mistakes and earn nothing when the predictor gets the coin toss right. Thus, taking *this* option is like betting that the predictor will make *an incorrect* prediction. Are there any questions about the stage 1 sequence of events?

On the next page of the handout, we show you how the stage 1 players can affect the earnings of the stage 2 players, our old friends the reporter and the predictor. You can see that no matter what else happens, we pay the reporter 50 cents if the predictor makes a *correct* prediction and nothing if the predictor makes an incorrect prediction.

Moving down the page, you can read about how the predictor makes money. For every stage 1 player who chooses to earn a fixed amount of $1.40, we pay the predictor half that amount or sixty cents. So if all 10 stage 1 players choose the fixed amount, we pay the predictor 10 times 70 cents or $7.00.

Moving down the page further you can see that for every stage 1 player who bets on the predictor's prediction, we pay the predictor $1 of he or she gets the coin toss right. For example, if all 10 stage 1 players bet on the predictor's prediction, and the predictor makes a correct prediction, then we pay the predictor $10 or 10 times $1. If the predictor

makes an incorrect prediction, he or she earns nothing. Note that we pay the predictor this way regardless of which bet the Stage I players took -- the bet that the predictor gets the coin toss correct or the bet that they get it incorrect. The predictor is never rewarded for making an incorrect prediction.

The next page of your handout provides more detailed examples of how the predictor is paid. Please take a minute to look at this page to understand how we pay the predictor and ask questions if there is something that you do not understand. [60 second pause.] Are there any questions about how we pay the predictor?

We will now give you a quiz on the new instructions. Feel free to look at the information on your handout during the quiz. We again pay you 25 cents for every question that you answer correctly. Please write your name on the quiz and begin taking it when you receive it.

[Distribute Quiz 3.]

[Check, correct, and collect Quiz 3.]

We now need to select the predictor. To make this selection, we again use a coin and a six-sided die. To protect the integrity of the experiment, we ask all of you to place your heads on your desk for just a moment. [Pause.] Will the predictor please move to the predictor's chair. [Pause.] You may lift your heads off your desk now.

[Distribute Toss 15-26 questionnaires.]

Stage I players, please look at the information on your questionnaires and choose an option for toss [15 16 17 18 19 20 21 22 23 24 25 26]. [10 second pause.]

We are now showing the coin toss outcome to the reporter. [10 second pause.]

We are now delivering the report to the predictor. Please make your prediction.

We will now collect your questionnaires. **[Collect handout and questionnaires.]**

[Distribute Delegation-No Knowledge handout.]

For the final set of coin tosses, we add a simple but important change to the way the experiment proceeds. In the 6 remaining experimental trials, we pay the reporter 50 cents every time a predictor makes an *incorrect* prediction. The reporter earns nothing if the predictor makes a correct prediction. Everything else about the experiment remains the same. Are there any questions?

We will now give you a quiz on the instructions. Feel free to look at the information on your handout during the quiz. We again pay you 25 cents for every question that you

answer correctly. Please write your name on the quiz and begin taking it when you receive it.

[Distribute Quiz 4.]

[Check, correct, and collect Quiz 4.]

[Distribute Toss 27-32 questionnaires.]

Stage I players, please look at the information on your questionnaires and choose an option for toss [27 28 29 30 31 32]. [10 second pause.]

We are now showing the coin toss outcome to the reporter. [10 second pause.]

We are now delivering the report to the predictor. Please make your prediction.

We will now collect your questionnaires. **[Collect questionnaires and handout.]**

Conclusion

This concludes the experiment. We will now compute the results and your payoffs. While we are doing this, we would like you to fill out a post experimental questionnaire.

Please respond to each of the questions carefully. In a few moments, we will call each of you individually to collect your questionnaire and to pay you. At that time, you are free to go. Thanks again for your participation.

[Tabulate results and call up each participant individually to collect post experiment questionnaire and pay them. Give each participant a receipt (with their social security number) and business card.]