Online Procedures Appendix: *Cooperation in Repeated Interactions: IQ, Memory, Records, and Attention*

Guillaume R. Fréchette
NYU

Sam Kapon
Berkeley Haas

Emanuel Vespa
UCSD

September 21, 2026

Contents

INSTRUCTIONS

You are about to participate in an experiment on decision-making. What you earn depends partly on your decisions, partly on the decisions of others, and partly on chance. Please turn off cell phones and similar devices now. Please do not talk or in any way try to communicate with other participants. We will start with a brief instruction period. If you have any questions during this period, raise your hand and your question will be answered so everyone can hear.

Part I: General Instructions

The first part of the experiment will ask you to solve a sequence of 12 puzzles and 12 word-recall questions. One puzzle and one word recall question will be randomly selected for payment: you will receive $5 if you answered the selected puzzle correctly, $5 if you answered the selected word recall question correctly, and $0 otherwise. You will learn your payment for this part of the experiment at the end of the session, after Part II.

A) **Phase A (Word Recall):** The first phase consists of 12 word-recall questions, with the first 3 being practice so they will not count towards payment. *In this phase, you are not allowed to write anything down.* For each recall question,

- You will first be shown between two and five target categories—an example with three is:

colors-animals-relatives

- Then, a sequence of words will flash on your screen, one at a time, some of which may not be in any of those categories—for instance the words may be:

inch, aluminum, mother, horse, blue, yellow, red, wolf, aunt,

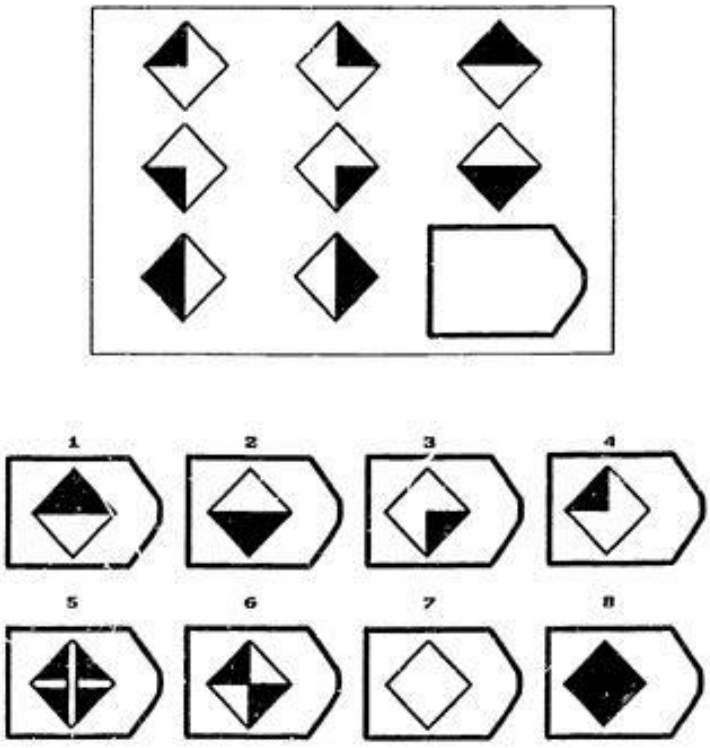
mile, green, bear, father, yard, lion, pig

- Finally, you will have to write the *last* word in each category (in any order); in this case, the correct answer would be

green, **pig**, **father**

When all participants have finished, we will move on to the next phase of Part I.

B) **Phase B (Puzzles):** The second phase consists of a series of 12 puzzles. For each puzzle, you will see a set of pictures with one of the pictures missing. Below that will be 8 possible choices to fill in the missing picture. Your task is to choose one of these pictures to complete the pattern. Below is an example; the correct answer is 8. Notice that 8 fits both the row pattern, as well as the column pattern. You will have 15 minutes to complete the 12 puzzles, after which we will move on to the next part of the experiment. You are allowed to move forwards and backwards between puzzles and change your answers using the buttons on your screens. Once the 15 minutes have passed you will no longer be able to change any answers.



Part II: General Instructions

1. In this part, you will be asked to make decisions in several matches and rounds.

   - In each round, you will be asked to choose either action A or action B.
   - You will be randomly paired with someone for a sequence of rounds.

   Each sequence of rounds is referred to as a match.

   You will choose your action by clicking on a row in the matrix below. The choice you make in each round is called your *intended choice*. After you make your choice, the computer implements your choice, but with some error: there is a chance that **A** is switched to **B**, or **B** is switched to **A**. Both you and your partner, who will be called *the other* in these instructions, will see the *implemented choices*, but not the other's *intended choice*.

	A	B
A	7,7	2,9
B	9,2	4,4

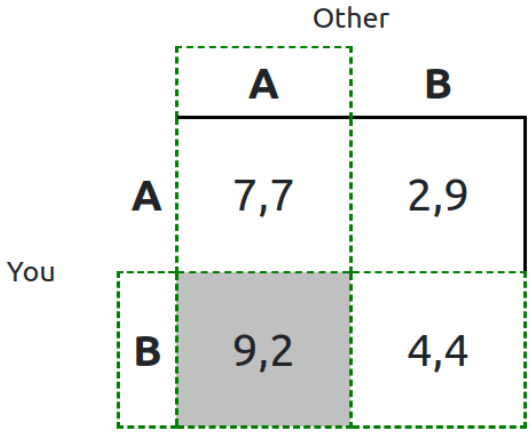
2. Your points are determined by the *implemented choices* according to the numbers in the matrix above. The first entry in each cell represents your points, while the second entry represents the points of the other. For instance, suppose the other chooses A. Then, if you choose A, you receive 7 points, as does the other. If you choose B, you receive 9 points, and the other receives 2. If the other chooses B and you choose B, you both receive 4. If the other chooses B and you choose A, you receive 2 points and the other receives 9.

3. The chance that your choice is implemented with error is 1/8 (12.5%). That is, there is a 12.5% chance that your *implemented* choice is different from your *intended* choice.

4. The chance that the other's choice is *implemented* with error is also 1/8. Whether your *implemented* choice is different from your *intended* choice is independent of the other's *intended* and *implemented* choices. For instance, given your *intended* choice, the information that your *implemented* choice is **B** is not informative about the relationship between the other's *intended*

choice and the other's *implemented* choice.

5. After you and your partner make choices, you will see your *intended* choice, your *implemented* choice, and your partner's *implemented* choice, but not your partner's *intended* choice. Your *intended* choice will be written beneath the table, while your *implemented* choice will be outlined in green and written beneath the table (on your screen the dashed lines in the figure below will show as green dashed lines) . Your partner's *implemented* choice will be outlined in green dashed lines and written beneath the table. An example screen is shown below. In this case, your *implemented* choice and your *intended* choice were the same, but this need not be the case. In gray, we highlight the intersection of your implemented choice and the other's implemented choice.



Your Intended Choice: **B**

Your Implemented Choice: **B**

Other's Implemented Choice: **A**

6. The points you receive from a match are determined by your *implemented choice* and the other's *implemented choice*, NOT your *intended choices*.

7. The length of a match, i.e. the number of rounds in a match, is determined randomly as follows: after each round, there is a 7/8 (87.5%) chance that the match will continue for at least another round. Specifically, after each round, whether the match continues for another round will be determined by a random number between 1 and 8 generated by the computer. If the number is lower than or equal to 7, the match will continue for at least another round, otherwise, if the number is 8, it will end. For example, if you are in round 2, the chance that there will be a third round is 7/8 and if you are in round 9, the chance that there will be a tenth round is also 7/8. That is, at any point in a match, the chance that the match will continue is 7/8.

8. Once a match ends, you will be paired randomly with someone for a new match. You will not be able to identify who you have interacted with in previous or future matches.

9. The first match to end after forty minutes will mark the end of the experiment. At the end of the experiment, we will total your points accrued across matches and you will be paid $0.033 for every point scored, rounded up to the nearest dollar.

Before we move on, let me remind you that:

- The length of a match is randomly determined. After every round there is a 7/8 chance that the match will continue for another round. You will interact with the same person for the entire match.

- After you and the other make your *intended* choices, the computer will implement your choices, possibly with error, and you will see both *implemented* choices. The chance that the *implemented* choice is the same as the *intended* choice is 7/8, and the chance that the *implemented* choice is different from the *intended* choice is 1/8. You will not see the other's *intended* choice and the other will not see your *intended* choice.

- Your points are determined by your *implemented* choice and the *implemented* choice of the other, not by the *intended* choices.

- After a match is finished, you will be randomly paired with someone for a new match.

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1. In this part, you will be asked to make decisions in several matches and rounds.

   - In each round, you will be asked to choose either action A or action B.
   - You will be randomly paired with someone for a sequence of rounds.

   Each sequence of rounds is referred to as a match.

   You will choose your action by clicking on a row in the matrix below. The choice you make in each round is called your *intended choice*. After you make your choice, the computer implements your choice, but with some error: there is a chance that **A** is switched to **B**, or **B** is switched to **A**. Both you and your partner, who will be called *the other* in these instructions, will see the *implemented choices*, but not the other's *intended choice*.

	A	B
A	7,7	2,9
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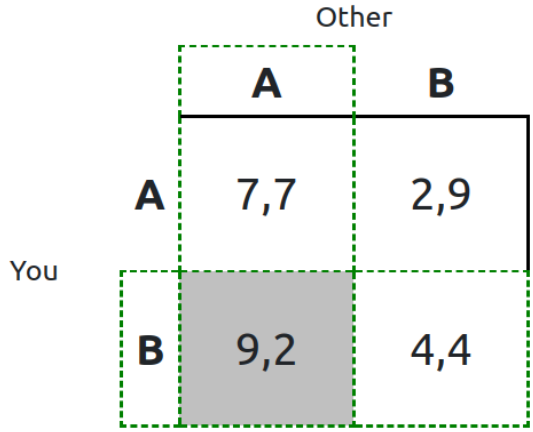
2. Your points are determined by the *implemented choices* according to the numbers in the matrix above. The first entry in each cell represents your points, while the second entry represents the points of the other. For instance, suppose the other chooses A. Then, if you choose A, you receive 7 points, as does the other. If you choose B, you receive 9 points, and the other receives 2. If the other chooses B and you choose B, you both receive 4. If the other chooses B and you choose A, you receive 2 points and the other receives 9.

3. The chance that your choice is implemented with error is 1/8 (12.5%). That is, there is a 12.5% chance that your *implemented* choice is different from your *intended* choice.

4. The chance that the other's choice is *implemented* with error is also 1/8. Whether your *implemented* choice is different from your *intended* choice is independent of the other's *intended* and *implemented* choices. For instance, given your *intended* choice, the information that your *implemented* choice is **B** is not informative about the relationship between the other's *intended* choice

and the other's *implemented* choice.

5. After you and your partner make choices, you will see your *intended* choice, your *implemented* choice, and your partner's *implemented* choice, but not your partner's *intended* choice. Your *implemented* choice will be outlined in green dashed lines (on your screen the dashed lines in the figure below will show as green dashed lines) . Your partner's *implemented* choice will be outlined in green dashed lines. An example screen is shown below. In gray, we highlight the intersection of your implemented choice and the other's implemented choice.



6. Throughout your match, you will have access to the history of your previous *intended* choice, as well as both your and your partner's previous *implemented* choices. You will also have access to the same history for previous matches that you have played. The history for previous matches can be accessed by clicking on the drop-down menu next to the words "History for Match".

7. The points you receive from a match are determined by your *implemented choice* and the other's *implemented choice*, NOT your *intended choices*.

8. The length of a match, i.e. the number of rounds in a match, is determined randomly as follows: after each round, there is a 7/8 (87.5%) chance that the match will continue for at least another round. Specifically, after each round, whether the match continues for another round will be determined by a

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9. Once a match ends, you will be paired randomly with someone for a new match. You will not be able to identify who you have interacted with in previous or future matches.

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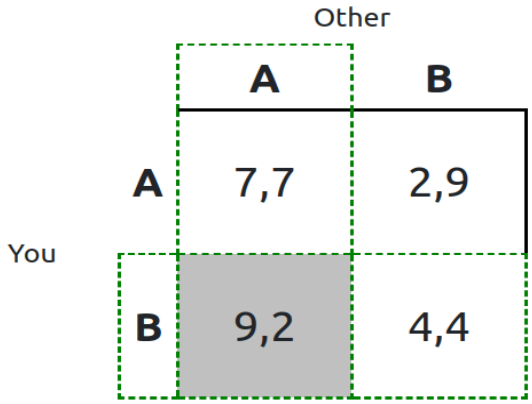
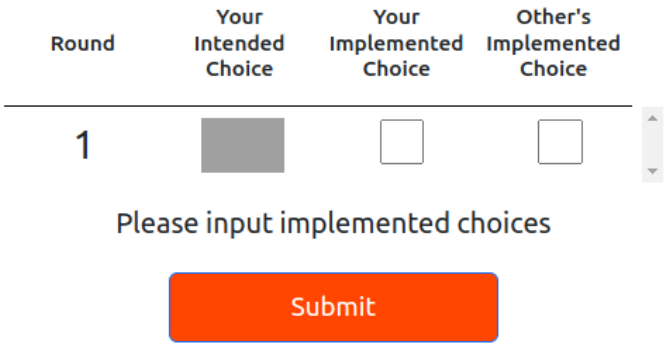


6. After you and your partner make choices, on the same screen where you observe both *implemented* choices, you will have to enter both *implemented* choices in the history table. You will not be able to continue until you have done this correctly. An example in round 1 is shown below; you must input your *implemented* choice and the other's *implemented* choice, which can be read directly off the matrix shown above. The gray box in the column "Your Intended Choice" will automatically be populated with your *intended choice.*



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5. You will also see a history table, which shows your *intended* choice and *implemented* choice, as well as your partner's *implemented* choice, in every round of the match. The history for previous matches can be accessed by clicking on the drop-down menu next to the words "History for Match".

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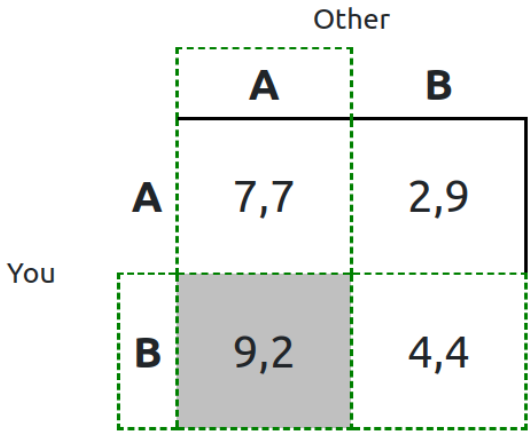

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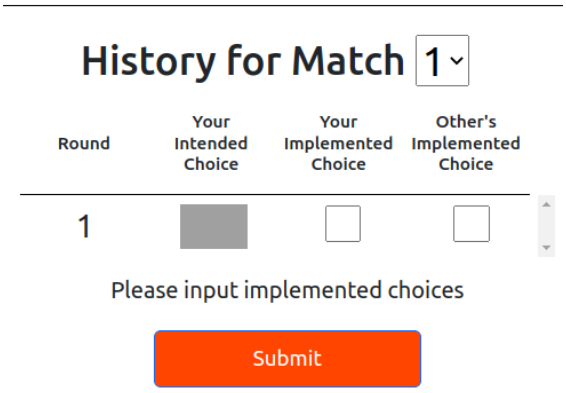

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