

Instructions for Participant A

You are about to participate in a scientific study. A research foundation has provided funds for conducting this research. Please read the following instructions carefully. The instructions inform you about everything you need to know to participate in the study. If you do not understand something, please raise your hand and wait for an instructor, he will answer the question at your terminal.

For participating in this study and arriving on time, you have already earned a show up fee of **10 Swiss Francs**. During the study you may receive additional money by earning **Points**. The amount of points you earn during the study will depend on your decisions and the decisions of other participants.

All points that you earn during the study will be converted to Swiss Francs at the end of the experiment. The conversion rate is

10 Points = 1 Swiss Franc

At the end of the study you will receive the amount of money that you earned during the experiment plus the 10 Swiss francs show up fee.

During the study, it is strictly forbidden to communicate with each other. In addition, please use only the functions on the computer which relate directly to the study. Communication or using the computer in a way unrelated to the study will lead to exclusion from the study. If you have questions we are happy to assist you.

This study consists of two parts:

Part 1:

The first part of the study lasts for **7 periods**. The first two of these are practice periods and won't be paid. In this part of the study you make decisions on your own and your decisions have no consequences for other participants. Equally, the decisions of the other participants have no consequences for you.

Part 2:

The second part of the study lasts for **10 periods**. In the second part of the study, you and the rest of the participants have been divided into two groups: Participant As and Participant Bs.

During the whole study you will be a Participant A.

In each period you will be matched with a different participant from group B. At no time will you or any other participant be informed of the identity of the individuals that you match with.

The detailed instructions of part 1 and part 2 of this experiment are similar. For this reason, the instructions will first explain how to play the game in the second part of the study. At the end of the instructions, the specific details about the first part will be given.

Summary of Part 2

In this part of the study you will be matched with a different participant from group B in each of 10 periods. In each period, you and the other participant have the task of picking a single card out of 35 possible choices. Initially, all but one of these cards will be shuffled and turned faced down so that you and Participant B can not see their location. A single **Green Card** will remain face up.

The 34 cards that are face down contain:

1. **The Red Card**
2. **The Blue Card**
3. **32 Blank Cards**

Each period has the following steps:

1. **Step 1 - Keep or Transfer the Decision Right:** In each period, as Participant A you have the right to decide the card chosen at the end of the period.
 - You may keep the right
 - Or you can transfer the right to Participant B. In this case, Participant B has the right to decide the card position chosen at the end of the period.
 2. **Step 2 - Search:** After you either kept or transferred the decision right to Participant B, you and Participant B can, separately from each other and at a cost, search for the Red and Blue Cards.
 - If your search is successful, you will be informed about the positions of the Red and Blue card.
 - If your search is unsuccessful, all cards but the Green card remain covered.
- The same conditions apply to participant B. However, you will not be informed about the success of B's search. Equally, B will not be informed about the success of your search.
3. **Step 3 – Recommendation:** The participant without decision right can recommend a card position to the other participant. The recommendation will be transmitted to the participant who holds the decision right, before he makes his decision.
 4. **Step 4 – Card Selection:** The participant with decision right chooses a card.
 5. **Step 5 – Income:** You and participant B are informed about your incomes in this period.

Detailed Description

The Setup

The screen below shows the cards at the beginning of each period. 35 cards are reshuffled in each period and placed at a random position. Only **the Green Card's location remains fixed at position 18** and is initially visible to you and participant B:

Position 1 ?	Position 2 ?	Position 3 ?	Position 4 ?	Position 5 ?	Position 6 ?	Position 7 ?
Position 8 ?	Position 9 ?	Position 10 ?	Position 11 ?	Position 12 ?	Position 13 ?	Position 14 ?
Position 15 ?	Position 16 ?	Position 17 ?	Position 18 GRÜNE KARTE	Position 19 ?	Position 20 ?	Position 21 ?
Position 22 ?	Position 23 ?	Position 24 ?	Position 25 ?	Position 26 ?	Position 27 ?	Position 28 ?
Position 29 ?	Position 30 ?	Position 31 ?	Position 32 ?	Position 33 ?	Position 34 ?	Position 35 ?

The Cards

In each round there are four kinds of cards: (1) The **Green Card**, (2) **The Red Card**, (3) **The Blue Card**, and (4) **32 Blank Cards**. At the start of each period, all but the green card are randomly shuffled and placed face down at random positions. At the end of each period, you or Participant B chooses one of these Card Positions. The card selected has payment consequences for you and participant B:

- Blanks: You and participant B get 0 points.
- The Blue Card: You get 35 points, Participant B gets 40 points
- The Red Card: You get 40 points, Participant B gets 35 points
- The Green Card: You get 10 points, Participant B gets 10 points

Card Overview

Card	Your Earnings	Earnings Participant B
Blue	35	40
Red	40	35
Green	10	10
Blank	0	0

Step 1: You can transfer or keep the decision right

Either you or participant B chooses a card position at the end of the period. The chosen card determines the earnings of you as well as participant B. At the beginning of each period you hold the decision right. You can

- Keep the decision right
- Transfer the decision right

If you keep the decision right, you make the final decision about the chosen card. If you transfer the right, Participant B makes this decision.

Step 2: The search for cards

In each period, you can search for the Blue and the Red cards. **If your search is successful, all cards will be turned and you will be able to see the positions of the Red and Blue Card.** If your search is unsuccessful you will, as before, only know the position of the Green Card. All other cards remain covered.

Participant B also has the possibility to search for the Red and the Blue Card. Your search and the search of Participant B are completely independent from each other. You will not be informed as to whether participant B searched successfully, and Participant B does not know whether you searched successfully.

If, for example, participant B searched successfully but you did not, only participant B is informed about the position of the Red and the Blue Card. You do not receive this information.

How does search work?

You and Participant B can independently **choose a search intensity between 0 and 100. The search intensity equals exactly the probability, with which all cards are turned.**

$$0 \leq \text{Search Intensity} \leq 100$$

A search intensity of 0 means that the cards will be NEVER turned. A search intensity of 100 means that the cards will be ALWAYS turned. For intermediate values it may happen that the cards are turned or not

The cost of search

The higher you choose the search intensity, the higher are your costs. The costs of participant B are identical to your costs. The following table shows the costs for every possible search intensity. It is only possible to choose search intensities in increments of 5.

Search intensity	0	5	10	15	20	25	30	35	40	45	50
Costs in points	0	.06	.25	.56	1	1.56	2.25	3.06	4	5.06	6.25

Search intensity	55	60	65	70	75	80	85	90	95	100
Costs in points	7.56	9	10.56	12.25	14.06	16	18.06	20.25	22.56	25

Please always consider this table when you choose search intensities. Your costs will remain the same throughout the experiment.

The higher you choose the search intensity, the more likely it is that the cards will be turned and you are informed about the position of the Red and the Blue Card. But your costs are also higher, the higher you choose the search intensity

The Success of Search:

Based on your chosen search intensity, the computer will determine whether search is successful as follows:

Your chosen search intensity is between 0 and 100. The computer then randomly draws one out of a hundred balls, which are numbered from 1 to 100. If the drawn number is smaller or equal your chosen search intensity, all cards will be turned. If the number is larger than your search intensity, no card will be turned. Hence, the search intensity equals exactly the probability with which all cards will be turned.

Examples:

1. You choose a search intensity of 15:
If the randomly drawn ball has a number between 1 and 15 (=15 out of 100 balls) all cards will be turned. If the number is larger than 15 (16-100, and therefore 85 balls), no cards will be turned.
2. You choose a search intensity of 75:
If the randomly drawn ball has a number between 1 and 75 (=75 out of 100 balls) all cards will be turned. If the number is larger than 75 (76-100, and therefore 15 balls), no cards will be turned.

At no point in time will you be informed about the search intensity of participant B. Equally, participant will ever be informed about your search intensity.

If your search was successful, all cards will be turned and you know the positions of the Red and the Blue cards. You will then see the following screen (example):

Position 1 0	Position 2 0	Position 3 0	Position 4 0	Position 5 0	Position 6 0	Position 7 0
Position 8 0	Position 9 ROTE KARTE	Position 10 0	Position 11 0	Position 12 0	Position 13 0	Position 14 0
Position 15 0	Position 16 0	Position 17 0	Position 18 GRÜNE KARTE	Position 19 0	Position 20 0	Position 21 0
Position 22 0	Position 23 0	Position 24 0	Position 25 0	Position 26 0	Position 27 0	Position 28 0
Position 29 BLAUE KARTE	Position 30 0	Position 31 0	Position 32 0	Position 33 0	Position 34 0	Position 35 0

Step 3: The recommendation

After the search, the participant without decision right can **recommend a card position** to the other participant.

- If you transferred the decision right, you can send a recommendation to Participant B.
- If you kept the decision right, Participant B will send a recommendation to you.

Depending on whether the recommender's search was successful, he will either be informed and know the location of all the cards or be uninformed and know the position of only the Green Card. Independent of this information, he can recommend any position.

The participant with decision right is only informed about the recommended card position, and not, which card it is.

Example: The following screen shows how the recommendation is transmitted to the participant with decision right. (In the shown example the search of the participant with decision right was unsuccessful):

Position 1 ?	Position 2 ?	Position 3 ?	Position 4 ?	Position 5 ?	Position 6 ?	Position 7 ?
Position 8 ?	Position 9 ?	Position 10 ?	Position 11 ?	Position 12 ?	Position 13 ?	Position 14 ?
Position 15 ?	Position 16 ?	Position 17 ?	Position 18 GRÜNE KARTE	Position 19 ?	Position 20 ?	Position 21 ?
Position 22 ?	Position 23 ?	Position 24 ?	Position 25 ?	Position 26 ?	Position 27 ?	Position 28 ? Empfehlung
Position 29 ?	Position 30 ?	Position 31 ?	Position 32 ?	Position 33 ?	Position 34 ?	Position 35 ?

Step 4: Choosing a card

The participant with decision right can decide at the end of each period, which card is chosen.

- If you kept the decision right, you make this decision.
- If you transferred the decision right, participant B makes this decision.

If the search of the participant with decision right has been successful, he knows the position of the Red and the Blue card. If search was unsuccessful, he does not know these positions. In addition, he knows the recommendation of the other participant.

The participant with decision right can then, with this information, choose a card and the participants earn the points associated with that card minus the costs of search.

Step 5: The Incomes

The income of both participants is determined by the following two parts:

- The income associate with the chosen card
- Minus the costs of search

$$\text{Income in a period} = \text{Income from chosen Card} - \text{Costs of search}$$

Notice:

In each period you may make losses! These losses will be subtracted from your show up fee.

You make a loss in a period if your search costs exceed your earnings from the chosen card.

Example: Assume you chose a search intensity of 50. This costs 6.3 points. Assume further, that the participant with decision right chooses a Blank. Your earnings from the card is 0. Hence, your income in that period would be -6.3.

Summary of one Round

- 1) At the beginning of every period you decide, whether you want to transfer the decision right to participant B or whether you want to choose a card yourself.
- 2) Thereafter you and participant B can, independent of each other and at a cost, search for the position of the Red and the Blue Cards.
- 3) Both participants are informed about the success of their own search. They do not get any information about the search and the success of the other participant.
- 4) The participant without decision right can recommend a card position to the participant with decision right
- 5) The participant with decision right receives the recommendation of the other participant. Thereafter he can choose the final card.
- 6) The earnings associated with the chosen card are realized, and you and participant B are informed about your incomes.
- 7) You are randomly matched with another participant B, and a new round starts.

The first part of the study:

- 1) In the first part of the study, you are NOT in a group with a participant B. Hence, you always have the right to decide, which card is chosen. You cannot transfer it.
- 2) In each period you choose a search intensity, to find the positions of the Blue and the Red card. The cost of search and the earnings associated with the cards are identical to the second part of the study.
- 3) You are informed about the success of your search and you can choose a card. Since there is no second participant, there is also no recommendation.
- 4) The earnings associated with the chosen card are realized. Only the payment to you (participant A) is relevant. Since there is no participant B, only your points are paid out.
- 5) The first two periods are for practice purposes only, so you can get familiar with the program. Your earnings from these two periods will not be paid out. Your income from the following 5 periods, together with your income from the 10 periods in the second part of the study, will be paid out to you at the end of the study.

Control Questions:

Please answer the following control questions. Write down all calculations you make. If you have questions, please contact an instructor.

1. You kept the decision right and you chose a search intensity of 80. Your search was successful. Participant B recommended to you to choose the Green Card (position 18). You decided to choose the RED Card.

What are your search costs?

What is your final income?

2. You kept the decision right and you chose a search intensity of 30. Your search was unsuccessful. Participant B recommended to you to choose position 32. You decided to choose position 32. It is the BLUE Card.

What are your search costs?

What is your final income?

3. You kept the decision right and you chose a search intensity of 30. Your search was unsuccessful. Participant B recommended to you to choose position 24. You decided to choose position 28. It is a BLANK.

What are your search costs?

What is your final income?

4. You transferred the decision right and you chose a search intensity of 40. Your search was successful. You recommend position 23 to participant B (the RED card). Participant B chooses position 27. It is the BLUE Card.

What are your search costs?

What is your final income?

5. You transferred the decision right and you chose a search intensity of 40. Your search was successful. You recommend position 7 to participant B (the RED card). Participant B chooses position 7. It is the RED Card.

What are your search costs?

What is your final income?