



- Instructions -

You are participating in a sociological experiment. Please read the following instructions carefully. These instructions are equal for all the participants. The instructions state everything you need to know in order to participate in the experiment. If you have any questions, please raise your hand. One of the experimenters will approach you in order to answer your question.

You can earn money by means of earning points during the experiment. The number of points that you earn depends on your own choices and the choices of other participants. At the end of the experiment, the total number of points that you earn during the experiment will be exchanged at an exchange rate of:

150 points = 1 Euro

The money you earn will be paid out in cash at the end of the experiment without other participants being able to see how much you earned. Further instructions on this will follow in due time. During the experiment you are not allowed to communicate with other participants. Turn off your mobile phone and put it in your bag. Also, you may only use the functions on the screen that are necessary to carry out the experiment. Thank you very much.

- Overview of the experiment -

The experiment consists of *six scenarios*. Each scenario consists of *one trial round* and *four paid rounds* (altogether 30 rounds of which 24 are relevant for your earnings).

In all scenarios you will be *grouped* with three other randomly selected participants in a group of four. At the beginning of each of the 30 rounds, the groups and the positions within the groups will be randomly changed. Therefore, the participants that you are grouped with in one round are very likely different participants from those you will be grouped with in the next round. It will not be revealed with whom you were grouped at any moment during or after the experiment.

The participants in your group will be shown as circles on the screen (see Figure 1). You are displayed as a **blue** circle, while the other participants are displayed as **black** circles. Please be aware: your blue circle will not be at the same position in each round due to the changing of groups and positions at the beginning of a new round.

Earning Points

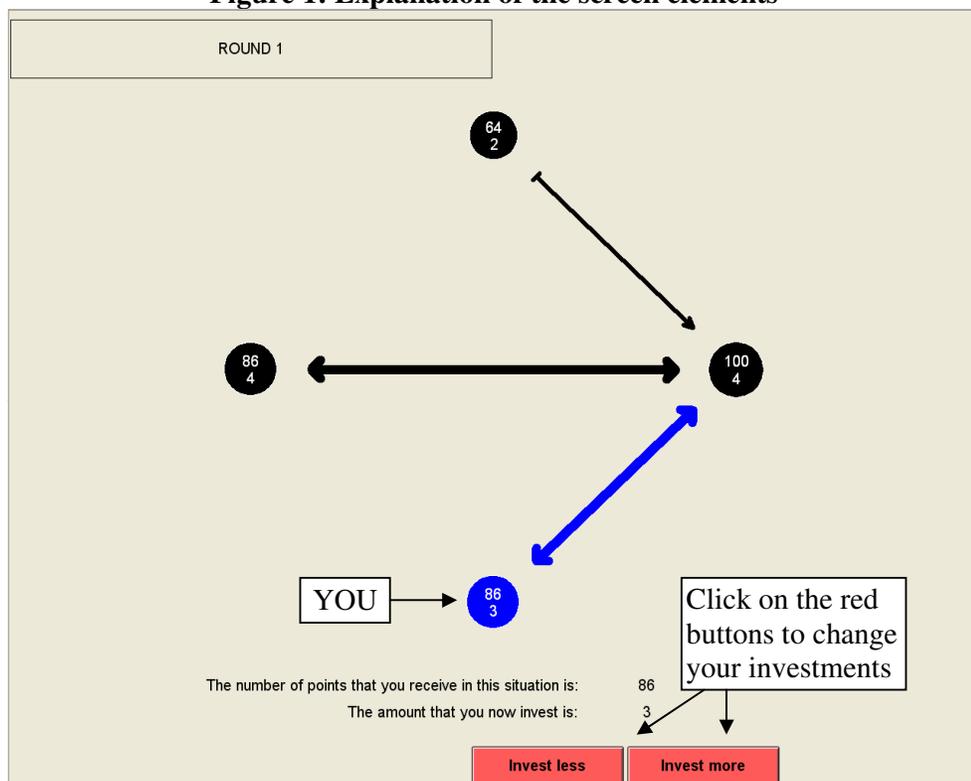
You can earn points in a round by *investing*. By clicking on one of the two red buttons at the bottom of the screen you increase or decrease your investment (see Figure 1). Also, you will be able to *connect* to other participants in your group during each round. All participants that are connected to you will be called your *neighbors* (all the details about how you can become neighbors with other participants can be found in the next paragraph ***Forming Links*** of this instructions manual). Your investments pay off more when you are connected to a participant who also invests. However, there are also *costs* attached to having a link with another participant: you both pay some points for being

neighbors. Therefore, the points you will receive depend on your own investment, how many neighbors you have and how much your neighbors invest. How your earnings are exactly calculated will be discussed at the end of these instructions, so you do not need to worry about this yet.

At the end of each round you receive the amount of points that is shown on the screen at that moment in time. In other words, your final earnings only depend on the situation at the end of every round. The points you will *receive* can be seen as the *top number* in your circle (see Figure 1). Your circle will be blue on the screen while the other circles will be black. The *bottom number* in your circle indicates the amount you *invest*. These numbers can also be found at the bottom of your screen. Moreover, the *size of your circle* changes with the points that you will receive: a larger circle means that you will receive more points. For half of the six scenarios you will be able to see how much the others in your group earn and how much they invest by looking at the numbers in their black circles. For the other half of the scenarios you do not have this information: the circles of others will be completely black and will not change in size (see Figure 2a-2c).

Each round lasts *between 90 and 120 seconds*. The end will be at an unknown and random moment in this time interval. Therefore, different rounds will not last equally long.

Figure 1: Explanation of the screen elements



Forming Links

As indicated above, you will be able to connect to other participants in your group during each round. Starting from an empty network (see Figure 2a), you can let other participants know that you want to create a link with them by clicking once on the particular participant. A thin **blue** arrow from you to the other participant will appear (see Figure 2b). The other participant can accept your proposal for a link by clicking on

Figure 2a:
Starting situation at
the beginning of each
round

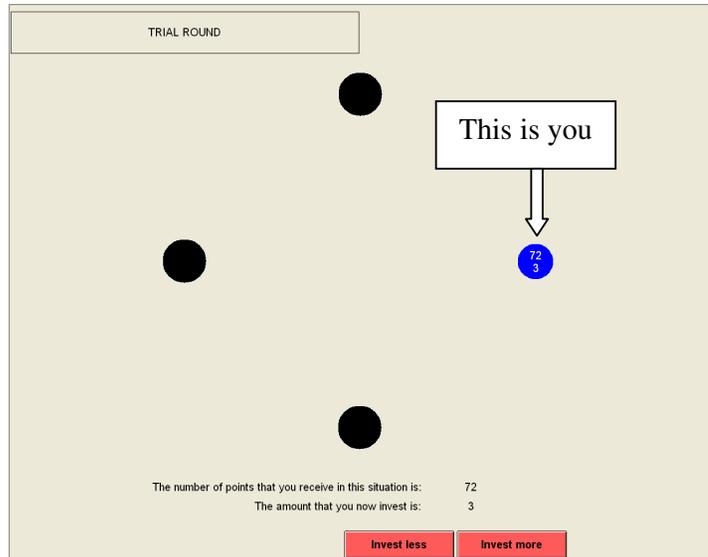


Figure 2b:
You proposed a link
to one of the other
participants

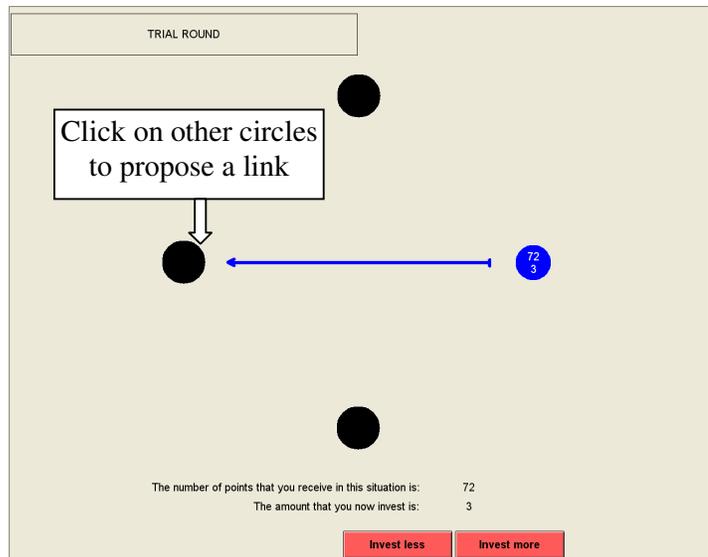
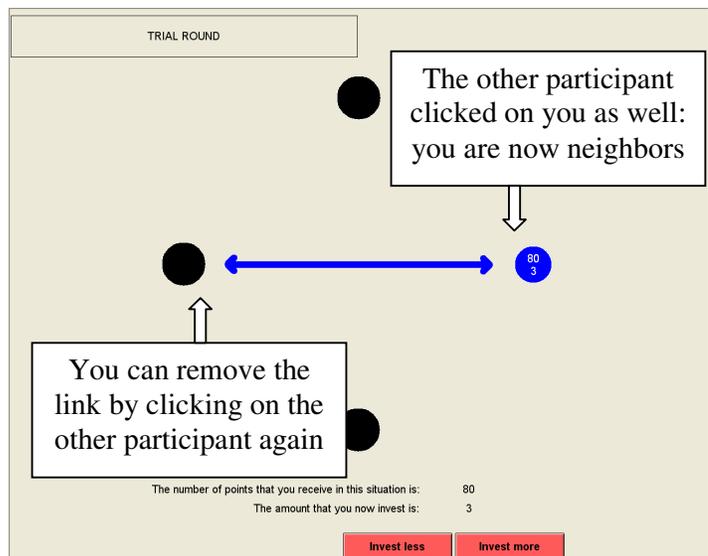


Figure 2c:
A link is established
between you and the
other participant



you. If he does so, the thin blue arrow will change into a thick **blue** arrow pointing in both directions (see Figure 2c). You have now become neighbors. If the other participant does not accept the link, you may choose to withdraw your request by clicking again on the participant: the thin blue arrow would then disappear.

Similarly, other participants can propose a link to you by clicking on your circle. A thin **blue** arrow from the other participant to you will appear. You can accept the link by clicking on the participant who wants to become neighbors with you. If you do so, the thin blue arrow will change into a thick **blue** arrow pointing in both directions. If you do not want to become neighbors, you simply ignore the thin blue arrow. The other participant may withdraw the request for a link after a while by clicking on you again: the thin blue arrow would then disappear.

Once you have become neighbors with another participant, you can end this link at all times by clicking on the particular participant (see Figure 2c). Similarly, one of your neighbors may decide to end the link that you share by clicking on you (there is nothing you can do to prevent this).

In Figure 3 we summarize how all the possible situations where you are involved in look like on your screen. All (proposals for) links you are involved in will be blue on your screen, while (proposals for) links you are not part of will be black.

Important Remarks:

- It may occur that there is a time-lag between your click and the changes of the numbers on the screen because the computer needs some time to process your orders. One click is enough to change a link or to change your investment by one unit. A subsequent click will not be effective before the previous click is effectuated.
- **Therefore wait until a link is changed/your investment is adapted before making further changes!**

Figure 3: Link or no link? An overview of what you will encounter on your screen.

<i>No link</i>	You	Other
Both you (blue circle) as well as the other participant (black circle) do not show interest in the creation of a link at this moment.		
You propose a link to the other participant, showing that you are interested in creating a link with him or her. This is however not (yet) a mutual interest. You can withdraw your proposal by clicking on this participant another time		
The other participant proposes a link to you, making clear to you that he or she wants to form a link with you. If you want to, you can establish a link with the other participant by clicking once on this participant.		
Link present		
You and another participant both have indicated that they want to have a link with each another. The link is formed and is shown as a thick, blue colored, double-headed arrow. You can both remove this link by clicking on the other participant.		

- Your earnings -

Now we explain in detail how the number of points that you earn depends on the investments you make and the links you have. Read this carefully. Do not worry if you find it difficult to grasp immediately. We also present an example with calculations below. Next to this, there is a trial round for each scenario to gain experience with how investments and links affect your earnings.

General idea in all scenarios

All scenarios are basically the same. In all scenarios, the points you receive at the end of each round depend in a similar way on

- how much you invest
- how many neighbors you have
- how much your neighbors invest (if you have any)

There are two differences between the scenarios. As mentioned already, in three of the six scenarios you will be able to see how much the others in your group invest and earn, while in the other three scenarios you will not be able to see this. The other difference will be the number of points that it costs you to have a link. There will be three different cost levels (10, 30 or 50 points). You will face each cost level twice: once in a scenario with information about others' investments and earnings and once in a scenario without this information ($2 \times 3 = 6$ scenarios).

If you do not have any neighbors, you can see in each scenario in Table 1 (see next page) how many points each investment level earns you. These points are called your *Individual Earnings* (from investing).

If you do have one or more neighbors and you want to calculate your total earnings, you have to add additional points to these Individuals Earnings. However, you also have to subtract some points for each link that you have.

How many points do you have to add for the joint investments of you and your neighbor? In each scenario, these *Joint Earnings* are equal to twice your own investment level times the investment level of your neighbor:

$$\text{Joint Earnings} = 2 \times \text{Own investment} \times \text{Neighbor's investment}$$

For example, if you invest 2 and your neighbor 3, these investments lead to Joint Earnings of $2 \times 2 \times 3 = 12$ points for each of you. Of course, when you are in the scenarios where the other circles are completely black you cannot calculate this number yourself (but the computer still does this for you). How much each link will cost depends on the scenario. Before the start of a new scenario, you will get a message on your screen that tells you how much the *Link Costs* are for that scenario (10, 30 or 50 points). This screen also tells you whether you will or will not be able to see how much the others in your group invest and earn. Please read these messages carefully.

As indicated before, each scenario starts with a trial round. At the top of the screen you can also see whether you are in a trial round or a paid round. Trial rounds are indicated by "TRIAL ROUND" (see, for example, Figure 2a-c) while paying rounds are indicated by "ROUND" (see, for example, Figure 4).

To summarize, the total earnings as displayed on your screen during the experiment can be calculated as following:

$$\text{Total Earnings} = \text{Individual Earnings} + \text{Joint Earnings} - \text{Link Costs}$$

- **Individual Earnings:**

Table 1: Individual Earnings from investing

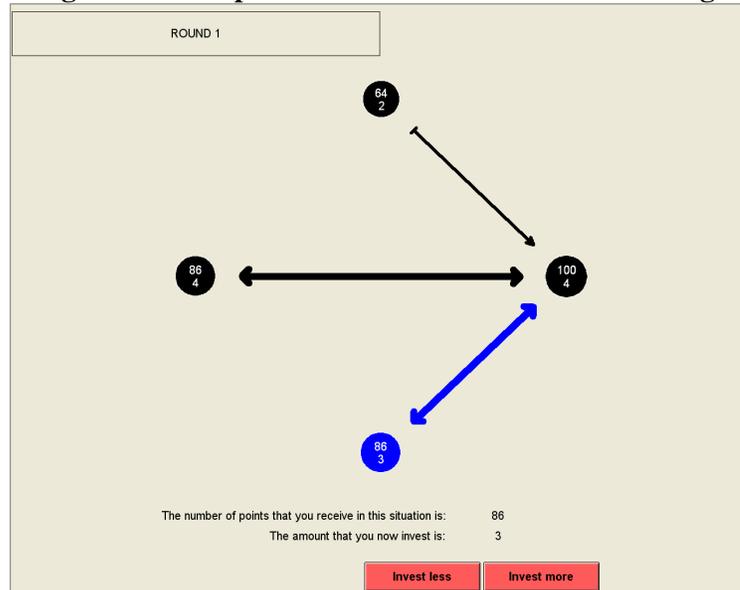
Investment level	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Individual Earnings	0	40	64	72	64	40	0	-56	-128	-216	-320	-440	-576	-728	-896

- **Joint Earnings:** $2 \times \text{Own investment} \times \text{Neighbor's investment}$
- **Link Costs:** Differs per scenario

Example Scenario: calculating total earnings

Suppose the situation is as shown in Figure 4, and the Link Costs for this scenario are 10 points for each link that you have. We will now calculate the total earnings for you and the person to your right hand. You could try to calculate the total earnings for the other two participants yourself.

Figure 4: Example situation to calculate total earnings



You have:

- investment level 3, which gives you Individual Earnings of 72 (see Table 1);
- one link to someone with investment level 4, which gives you Joint Earnings equal to $2 \times 3 \times 4 = 24$;
- Link Costs for one link are $1 \times 10 = 10$.

Together this leads to the following Total Earnings for you:

$$\begin{array}{rcccccc} \text{Total Earnings} & = & \text{Individual Earnings} & + & \text{Joint Earnings} & - & \text{Link Costs} \\ 86 & = & 72 & + & 24 & - & 10 \end{array}$$

The person to your right has:

- investment level 4 which gives Individual Earnings of 64;
- one link to you with investment level 3, which gives this person Joint Earnings equal to $2 \times 4 \times 3 = 24$;
- one link to someone with investment level 4, which gives this person Joint Earnings equal to $2 \times 4 \times 4 = 32$;
- Link Costs for two links are $2 \times 10 = 20$.

Together this leads to:

$$\begin{array}{rcccccccc} \text{Total Earnings} & = & \text{Individual Earnings} & + & \text{Joint Earnings} & - & \text{Link Costs} & \\ 100 & = & 64 & + & 24 + 32 & - & 20 & \end{array}$$

- Questionnaire -

After the 30 rounds you will be asked to do one small additional task through which you can earn some money. We also ask to fill in a questionnaire. Please take your time to fill in this questionnaire accurately. In the mean time your earnings will be counted. Please remain seated until the payment has taken place.