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The impact of individual differences on network relations

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Appendix **B**

Instructions Experiment Chapter 3

Instructions in the experiment were given as screens programmed into the experimental design. We present the instructions for Treatment 2 from which all other conditions are simplified cases. Instructions are presented for participant A:

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

In this experiment you will earn money.

You will earn points during the experiment. The number of points that you earn depends on your own choices and the choices of other participants. The number of points others earn, depends on their own choices and your choice, as well. At the end of the experiment, the total number of points you earn during the experiment will be exchanged at an exchange rate of: 5 points = 1 euro cent

The money you receive will be paid anonymously and in cash at the end of the experiment. The other participants will not learn what you receive and you will not learn what the others have received, either. Further instructions will follow on the next screens. During the experiment you are not allowed to communicate with other participants and you are not allowed to use your cell phones.

Overview of the Experiment - Part 1

In today's experiment you can earn money. In every round of the experiment you receive 10 tokens that you allocate as you want to different projects: individual and combined. Then you are informed of the choices made in that round and the points you earn. The instructions below explain the experiment in detail. Please scroll down the bar on the right to read the rest of the instructions.

Formation of groups: At the beginning of the experiment all participants will be randomly divided into groups of four (4) people. The groups are fixed during the entire experiment, so that you will participate only with the same three other participants.

Assigning ID's: The computer randomly assigns an ID to each participant of a group. There will be 4 ID's: Participant A, Participant B, Participant C and Participant D. These ID's will stay fixed during the entire experiment. Your ID during the entire experiment is participant A. You will participate in 20 rounds of decision making with your group and then you will be asked to answer a short questionnaire.

Decision making: For every round you are given 10 tokens that you can allocate as you want. You have the option to allocate tokens to your individual project and/or to the combined projects with any of the other three participants in your group. In the individual project only you are involved. So the points you earn depend only on your decision of how many tokens you allocate to the individual project. In each combined project another participant from your group is involved. So the points you earn depend on your decision and the decision of the other participant. You will see a screen as illustrated below, where you decide how to allocate the 10 tokens you have. The total of your allocations cannot be greater than the 10 tokens you have available in each round (see Figure B.1).

The following example illustrates what happens if only one participant allocates some of his (her) tokens to a combined project, while the other participant does not allocate any tokens to that combined project.

Example: Only allocations larger than zero (0) have an effect:

If YOU allocate 5 tokens to a combined project with another participant and the OTHER participant allocates 0 tokens to this project, you produce no points together. In the same way, if YOU allocate 0 tokens, no matter how much the OTHER allocates to the combined project, you produce nothing with that participant.

Summary: You earn points depending on your choices and the choices of the other participants in your group. Only positive allocations by both participants have an effect on combined projects. The total number of points you earn are exchanged for money.

Overview of the experiment - Part 2.

Points earned and profit: In each round, after the decision making, you will see a screen as illustrated below. This is an information screen and you will not need to make any decision on it. The screen gives you information about the decisions that have already been made in the current round by YOU and the OTHER participants. It also shows how many points you have earned in each project, in total, and the money you get. Please scroll down the bar on the right to read the rest of the instructions.

The screen is composed of four elements: (1) the chart of projects, (2) the table of allocations, (3) your summary table, and (4) the profit table (see Figure B.2).

The chart of projects: The chart of projects has the number one (1) in the illustration below. Every participant in your group is represented by a circle with its own ID. If a participant allocated any tokens to her individual project, there will be a loop connected to the circle of that participant. The different allocations to combined projects are represented by arrows from one circle to another. If there is an arrow from one participant to another, this means the first participant allocated at least one (1) token to the combined project with the second. If the arrow has two heads, one on each side, it means that both participants allocated tokens to their combined project together.

Example 1: The chart of projects: In the illustration below, participants A and C have allocated tokens to earn points individually (so there is a loop connected to the circles of participants A and C), but participants B and D did not allocate tokens to earn points alone (so there is NO loop connected to B or D). Participant A allocated to the combined project with B and C but not with D (so there is an arrow from A to B, A to C, but NO arrow from A to D). Participant B allocated only to the combined project with D (so there is an arrow from B to D). Participant C did not allocate tokens to any combined project, only to his (her) individual project (so there is only a loop connected to C but NO arrows from C to any other participant). Participant D allocated all the tokens to his (her) combined projects (so there are arrows from D to all others but NO loop connected to the circle of D).

(2) *The table of allocations:* The table of allocations has the number two (2) in the illustration below. This table shows the exact allocations made by every participant in your group. The rows show the IDs of the participants that allocate the tokens. The columns show the IDs of the participant with whom the project is formed. The cell where the two ID's intersect shows the number of tokens allocated.

Example 2: The table of allocations: The cell where row A (From A) and column A (To A) intersect illustrates the number of tokens participant A allocated to his (her) individual project. The cell where row B (From B) and column C (To C) intersect, illustrates the number of tokens B allocated to his (her) combined project with C. In the same way, the cell where row C (From C) and column B (To B) intersect illustrates the number of tokens that participant C allocated to his(her) combined project with B.

(3) *Your summary table:* Your summary table is numbered as three (3) in the illustration below. This table shows how many points you have earned individually and in each combined project, given your decisions and the decisions of the other participants.

(4) *The profit table:* This table shows the total number of points you earn and the profit you receive by exchanging the points at the exchange rate of: 5 points = 1 euro cent.

Using the Tables of Points.

Recall that in this experiment you are asked to choose the way you want to allocate 10 tokens to four (4) different projects. One project is individual, so your decision alone determines the points you earn. The other three (3) are combined projects with the other participants in your group. It is the decision made by both participants in a combined project what determines the points each earns. You cannot allocate more than 10 tokens in total among these four projects. Please scroll down the bar on the right to read the rest of the instructions.

The different tables: Individual and Combined: Please have a look at the tables on your desk (see Figure B.3). The table on the left (labeled Individual) illustrates the points you can earn ALONE. The tables on the right (labeled Combined) illustrate the points you can earn TOGETHER in the combined project with any other participant in your group depending on his (her) ID. In a combined project the points earned are the same for YOU and for the OTHER participant. For example, if ten (10) points are earned, both YOU and the OTHER participant will receive 10 points each.

How to use the tables: The Individual table (left hand side) has two (2) columns. The first column shows the number of tokens you allocate to your individual project, from zero (0) to

ten (10). The cells that represent tokens are black (see the Tables of Points you have received). The second column shows the points you earn individually. The cells that represent the points you earn are white (see the Tables of Points). For example, if YOU allocate zero tokens to the individual project you earn zero points from this project, and if YOU allocate 10 tokens to the individual project, you earn 33 points (see the Tables of Points).

The tables of combined projects (right hand side) show the points you earn in a combined project with any other participant in your group, depending on who he (she) is. The first column (vertical black) shows how many tokens YOU allocate to a combined project (see -Your tokens- on the Table of Points). The first row (horizontal black) shows what the OTHER participant allocates (see -Other's tokens- on the Table of Points).

To find out the number of points you earn in a combined project, look for the cell where the two allocations intersect. Recall that in a combined project the points obtained are the same for YOU and for the OTHER participant.

Example: Combined projects: If YOU allocate 3 tokens and the OTHER participant allocates 2 tokens, the points you earn in the combined project are shown in the cell where 3 horizontal and 2 vertical intersect (see the illustration). As you can observe in the Tables of Points if the OTHER participant is B, you each earn 16 points. If the OTHER participant is C or D, you each earn 13 points (see the Table of Points).

At the time you make your decision, you do not know what the other participants will do. Given there are 3 other participants, you do this same process to calculate the points you earn in each project. Keep in mind that you cannot allocate more than 10 tokens in total among your 4 projects. The total number of points you earn is obtained by adding the points you earn in each project as follows:

$$\text{Total Points} = \text{Points}_{\text{Alone}} + \text{Points}_{\text{with B}} + \text{Points}_{\text{with C}} + \text{Points}_{\text{with D}}$$

You are paid for the total number of points you earn. On the next screen you will practice on how to use the Tables of Points you have received.

Practice - How to use the Tables of Points.

This is a practice exercise. You will practice how to use the Tables of Points by considering the tokens YOU allocate to each project and the tokens the OTHER participants allocate to your combined projects together. In this exercise you will be given 3 cases. Each case is an invented example where you are told the way YOU allocated your tokens among the four projects you have available. You are also told the way the OTHER participants allocated their tokens in your combined project together. Your task in this exercise is to find the number of points you earned in each project (Individual, Combined with B, Combined with C, and Combined with D) using the Tables of Points. This is an exercise and you are NOT participating with the other participants yet.

Example: Cases and points: In the cases below, you are told the way you allocated your tokens to each project. Also the tokens the other participants allocated to the combined projects, as follows. "YOU (2-4-3-1), B (4), C (4), D (0)." This means that you allocated 2 tokens to your individual project, 4 tokens to your combined project with B, 3 tokens to your combined project with C and 1 token to your combined project with D. It also means that B allocated 4 tokens

to the combined project with you, C allocated 4 tokens to the combined project with you, and D allocated zero (0) tokens to the combined project with you.

Given you allocated 2 points to your individual project you earn 17 points (see the Tables of Points). Given you allocated 4 and B also allocated 4 to your combined project together, you look for the cell where 4 horizontal and 4 vertical intersect in the table labeled Combined with participant B. In this combined project you earn 23 points. You allocated 3 and C allocated 4 tokens to your combined project together. Then, you look for the cell where 3 horizontal and 4 vertical intersect in the table labeled Combined with participant C or D. In this combined project you earn 17 points. Finally, you allocated 1 and D allocated zero (0) tokens to your combined project together. Then, you look for the cell where 1 horizontal and 0 vertical intersect in the table labeled Combined with participant C or D. In this combined project you earn zero (0) points. The total number of points you earned is calculated simply by adding the points of each project:

$$\text{Total Points} = 17 + 23 + 17 + 0 = 57$$

This is the way you can calculate the points you earn using the Tables of Points you have received. Once you have introduced the solutions to the practice exercise click the OK button. If all your answers are correct you will go to the next screen, otherwise a message will be displayed informing you where the error is, so you can fix it.

The practice is over!

On the following screen you will start the decision making of the experiment. You will play 20 rounds in a group with three other participants. Each participant in the group has been given an ID (A, B, C, or D). Your ID and that of the other participants is fixed for the entire experiment. The group composition is fixed as well, so that you will participate the 20 rounds with the same three other participants.

You earn money depending on your choices and the choices of the other participants in your group. Recall that the exchange rate is: 1 euro cent for every 5 points you produce.

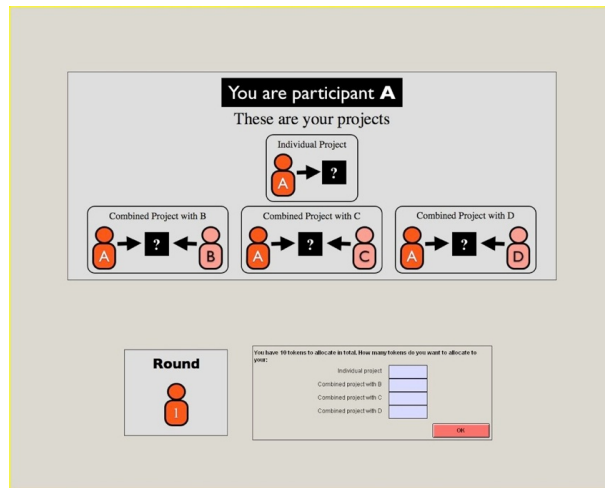


Figure B.1: Overview Experiment - Part 1

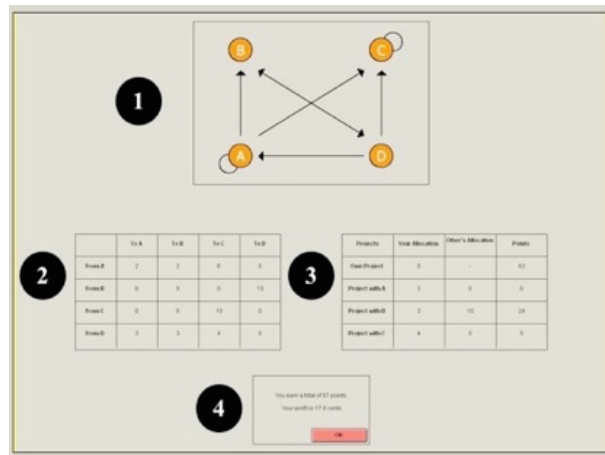


Figure B.2: Overview Experiment - Part 2

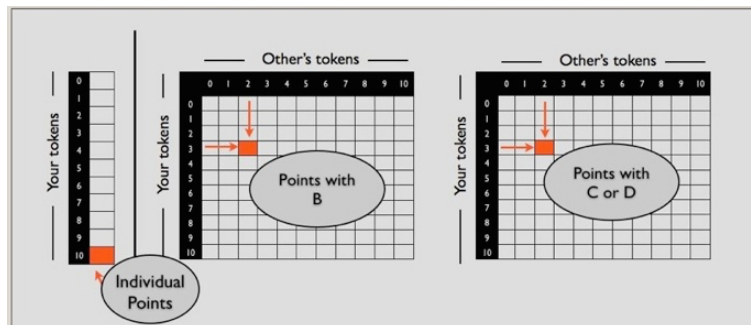


Figure B.3: Instruction: Tables of Points