

# Experimental Instructions to “Inefficiency and Social Exclusion in a Coalition Formation Game: Experimental Evidence”

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The experimental instructions were originally written English. Then translated to German and Japanese and translated back to English. We include here also the message form and the personal history forms handed out to the subjects. The instructions have been the same for both treatments, except for the value of the 2-person coalition. This is indicated with (2100) for T2-2100, [1200] for T1-1200, and {2500} for T2-2500. The phrases “(Phase 1)” and “(Phase 2)” at the beginning of the instructions were not part of the original instructions.

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### **(Phase 1) Instructions:**

You will now participate in an experiment that has the purpose to study how people behave in bargaining situations. During the experiment you will participate in eight bargaining rounds. At the end, two of the bargaining rounds will be chosen at random, and you will be paid in cash what you have earned in these rounds.

A bargaining round involves the choice of bargaining partners and the division of a particular number of points between these partners. All bargaining partners have to agree on the division; otherwise neither side receives any points in this round. There is a cash value per point. This cash value of a point is the same for everybody. The cash value will be written on a message form that is used to transmit the choice of the bargaining partners and proposals from one bargaining partner to the others.

Before you have entered this room you were randomly assigned whether your **“Code Name”** is **“R”**, **“M”** or **“L”**. You will keep this **“Code Name”** during the whole experiment. If you are, for instance a **“M”** you are in a group with exactly one person of the **“R’s”** and with exactly one person of the **“L’s”**. Such a group consists therefore of three persons, one **“R”**, one **“M”**, and one **“L”**. You will stay together with the same persons for one round. After every round you will be matched with two new persons. **Hence, you will never meet the same persons more than once.**

If your Code Name is **“R”** you are the one who has to choose the bargaining partners and to make a proposal, if your Code Name is **“M”** you are the first one who has to respond to the proposal, if your Code Name is **“L”** you are the second who has to respond to the proposal.

You also got a folder. In this folder you will find a table card with your ID#. (Please take it out and put it on your desk.) You are not allowed to reveal your ID# to anyone other than the experimenter during or after the experiment.

### **The basic idea:**

In every round each person with the Code Name **“R”** has to make two decisions.

1. He/she has to choose the bargaining partner(s) with whom he/she wants to bargain. **“R”** can either choose both group members or only one of them. Thereafter,
2. a proposal has to be made by **“R”**. That is he/she has to make a proposal how to divide a particular number of points between him/herself and the chosen bargaining partner(s).

After that “M” and/or “L” have to decide to accept or reject the proposal. An agreement is made only if all chosen bargaining partners accept the proposal. Otherwise everybody earns nothing in this round.

**Here is how a round proceeds:**

See also the attached Flow Diagram. Look at it, while we are going through the following steps.

**Step 1:**

At the beginning of every round we will hand out to the persons in the “R”-group, a pre-numbered **Message Form** for this round. The Message Forms are like this attached to the instructions. Let’s have a look at this form. There is the round number written on the form, as well as the identification numbers of the persons with whom you are in a group for this round.

“R” has now to decide if he/she wants to choose both other group members as bargaining partners, or only one of them. This you do by circling one or both of the “Code Names”, in the first row of the table on the Message Form. “R” has to circle at least one “Code Name”.

**Step 2:**

After that, “R” has to make a proposal.

A proposal is of the following form:

**Step 2.A:**

- If “R” has chosen **both other group members as bargaining partners** that is, if he/she has circled both “Code Names”, “R” has to make a **proposal to both chosen bargaining partners**. This is done by filling in the number of points he/she wants to have for himself/herself, and wants to give to his/her bargaining partners. In this case each proposal must **add up to no more than 3000 points**. The proposal has to be made in **steps of 10 points**.

**Step 2.B**

- If “R” has chosen **only one group member as bargaining partner**, that is if he/she has circled only one of the two “Code Names”, “R” makes a **proposal, only to the chosen bargaining partner**. This is done by filling in the number of points he/she wants to have for himself/herself, and wants to give to his/her partner. In this case each proposal must **add up to no more than 2800 (2100) points**. The proposal has to be made in **steps of 10 points**.

**Step 3:**

The form is collected and given to the predesignated person of the “M”-group. This will be done even if “R” has not circled the “Code Name” of this person. If the “Code Name” has been circled, he/she has to enter a response, by circling either **“accept”** or **“reject”**. If the “Code Name” has not been circled, he/she has to draw a line through the part where otherwise the decision has to be indicated.

**Step 4:**

The form is collected again and given to the predesignated person of the “L”-group. This is done even if “R” has not circled the “Code Name” of this person. If the “Code Name” has been circled, he/she has to enter a response, by circling either **“accept”** or **“reject”**. If the “Code Name” has not been circled, he/she has to draw a line through the part where otherwise the decision has to be indicated.

**Step 5:**

“R” will be informed about the decisions of “M” and “L”, and

**Step 6:**

“M” will be informed about the decision of “L”.

Hence, **everybody in a three-person group will be informed about everybody’s decision in this group**. Nobody else will know how you have decided.

There are **several possibilities** now:

- If “R” has circled both “Code Names” and both bargaining partners’ response is “accept” each bargainer is credited with the cash value of the points agreed upon.
- If “R” has circled only one “Code Name” and the partners’ response is “accept”, “R” and the chosen bargaining partner are credited with the cash value of the points agreed upon. In this case the group member who has not been chosen by “R” gets nothing.
- If at least one of the chosen bargaining partner(s) response is “reject”, the round ends without anyone earning anything.

**The above steps are summarized in the attached Flow Diagram.**

At the end of a round the message forms are collected and **you are assigned to new group members for the next round.**

Remember, at the end of this experiment we will randomly select two rounds from the rounds conducted and pay each person the cash value that person earned that round. Because each round might be one of the two chosen you should make your decision in each round as if that is one of the rounds that will determine your earnings.

Do you have any questions so far?

**Admissible Messages:** No communication is allowed except that indicated on the Message Form. Whom “R” wants to choose as bargaining partner(s) is to be indicated by circling the “Code Name(s)”. A proposal must be written as a number that is divisible by ten on the places indicated on the message form. A response is to be indicated by circling either “accept” or “reject”. **Nothing else than that is to be written on the Message Form.**

If you violate these rules your agreements will be invalid and you will not be paid anything for the round.

**Exchange Rate Table:** All proposals are made in **points**. On the attached table you find the cash values for every possible division of the points.

**Personal History Forms:** Inside your folder you will find a set of Personal History Forms. There is one form for each round. Please fill it out **for each round**. These forms will provide you with a history of chosen bargaining partners, the point proposals made, which proposal if any, was accepted, and their cash values to you and to your group members. You may wish to review the history of your previous bargaining rounds when developing decisions in later rounds.

All the information on these forms is strictly private. You are not allowed to show this form to any other participant.

**Method of Payment:** At the end of this session we will randomly select two rounds from the rounds conducted and pay each person the cash value of the points that person earned in these rounds. Payment will be made in separate rooms for the “R”, “M” and “L” group. The selection mechanism will be conducted separately for each group. (Since selection is randomly, the three groups may not be paid on the same basis.)

**Final Comments:** You will be matched with different persons in each round. Your ID# is your own private information. Do not reveal your number to anyone other than the experimenter. What you earn is your own business.

Do you have any questions?

### **Practice Round:**

We will now go through a practice round together. Feel free to ask questions at any point during this practice round. You got a folder with an “R”, an “L” or an “M” on it. Those with an “R” are the persons with the Code Name “R”. Those with an “M” are the persons with the Code Name “M”, those with an “L” are the persons with the Code Name “L. Please take your pens, work pads, and the set of Personal History Forms out of your folder. Please use only the pen provided.

We will now hand out the **Practice Round Message Form** to the persons with the Code Name “R”. They then will make their **Practice Round decisions**.

*“R”:*

Consider your decision. Notice the different number of points you have to divide if you are choosing both other group members as your bargaining partners and if you are only choosing one of them to be your bargaining partner. Notice also the cash value/point. Remember that if no agreement is made each member in your group will receive nothing in this round. Your proposal is accepted only if all bargaining partners that you have chosen accept your proposal. That is, if you choose both group members as your bargaining partners both have to accept. If you choose only one group member as your bargaining partner only the chosen partner has to accept.

Use your exchange rate table to see the cash values of different decisions you might make. Don't write on anything other than your work pad until you are sure what your decision will be. Remember, each proposal must **sum up to no more than 3000 points** if you have chosen **both other group members** as your bargaining partners, and **to no more than 2800 (2100) points** if you have chosen **only one group member** as your bargaining partner. Remember also that proposals are only allowed to be made **in steps of 10 points**.

When you have decided take your **“Practice Round”-Personal History Form** and circle the “Code Names” of the group member(s) you have chosen to be your bargaining partner(s). Enter the proposal in your **Personal History Form** for this round, and fill in the cash values you and your group members will receive if your proposal is accepted.

**Do not write on the message form until you are certain what decisions you want to make.**

You may not change a message once you have written it on the Message Form without the permission of the experimenter. Now enter your decisions. When you have finished place the Message Form upside down to your right so that we can collect it.

When all persons with the Code Name “R” have made their decisions the message forms will be collected and delivered to the persons with the Code Name “M”.

## ***“M”:***

Write the decisions you have just received on your **“Practice Round”-Personal History Form**. Notice the cash value/point. Look at your exchange rate table to see what the cash values are. Remember:

- ◆ If you are the only one who has been chosen as the bargaining partner by the “R”, and if you accept the proposal an agreement is made, and you will earn the cash value the proposal gives to you. If you reject the proposal everybody in your group will earn nothing in this round.
- ◆ If you *and* “L” are chosen as bargaining partners it also depends on the decision of “L” if an agreement is made:
  - If you accept the proposal and “L” also accepts the proposal, you will earn the cash value the proposal gives to you.
  - If the “L” rejects the proposal nobody will get anything in this round; independent of your decision.
  - If you reject the proposal the round will end without anybody getting anything for this round; independent of the decision made by “L”.
- ◆ If you are not chosen as a bargaining partner you will not get anything in this round; independent of the decision of “L”.

If “R” has circled your “Code Name”, decide whether to accept or reject the proposal you have just received. If your “Code Name” has not been circled draw a line through “your” part on the Message Form. Indicate your decision on your Personal History form.

**Do not write on the message form until you are certain what you wish to do.**

You may not change a message once you have written it without the permission of the experimenter. When you have finished place the Message Form upside down to your right so that we can collect it.

When all persons with the Code Name “M” have responded the forms will be delivered to the persons with the Code Name “L”.

## ***“L”:***

Write the decisions you have just received on your **“Practice Round”-Personal History Form**. Notice the cash value/point. Look at your exchange rate table to see what the cash values are. Remember:

- ◆ If you are the only one who has been chosen as the bargaining partner by “R”, and if you accept the proposal an agreement is made, and you will earn the cash value the proposal gives to you. If you reject the proposal everybody in your group will earn nothing in this round.

- ◆ If you *and* “M” are chosen as bargaining partners it also depends on the decision of “M” if an agreement is made:
  - If you accept the proposal and if “M” has also accepted the proposal, you will earn the cash value the proposal gives to you.
  - If the “M” has rejected the proposal nobody will get anything in this round; independent of your decision.
  - If you reject the proposal the round will end without anybody getting anything for this round; independent of the decision made by “M”.
- ◆ If you are not chosen as a bargaining partner you will not get anything in this round; independent of the decision of “M”.

If “R” has circled your “Code Name”, decide whether to accept or reject the proposal you have just received. If your “Code Name” has not been circled draw a line through “your” part on the Message Form. Indicate your decision on your personal history form.

**Do not write on the message form until you are certain what you wish to do.**

You may not change a message once you have written it without the permission of the experimenter. When you have finished place the Message Form upside down to your right so that the experimenter can collect it.

When all persons with the Code Name “L” have responded the forms will be handled over to the persons with the Code Name “R” again.

**“R”:**

Update your Personal History Form.

After all persons with Code Name “R” have updated the Personal History Form the Message Form will be collected and handed out to “M” again.

**“M”:**

Update your Personal History Form.

When all persons with Code Name “M” have updated their Personal History form the Message Forms will be collected.

**The round is now over.** The experimenters will collect the Message Forms.

We have now completed a practice round. In the bargaining that is about to begin you will engage in several such rounds against **different** group members. The last round will be announced. After the experiment, two of these rounds will be chosen at random to determine your payoff.

**A final remark:** You are not allowed to speak during the experiment. If you like to ask a question please raise your hand. If you do not obey to this rule you will not be paid anything for the respective round.

Do you have any questions?

**(Phase 2) Instructions:**

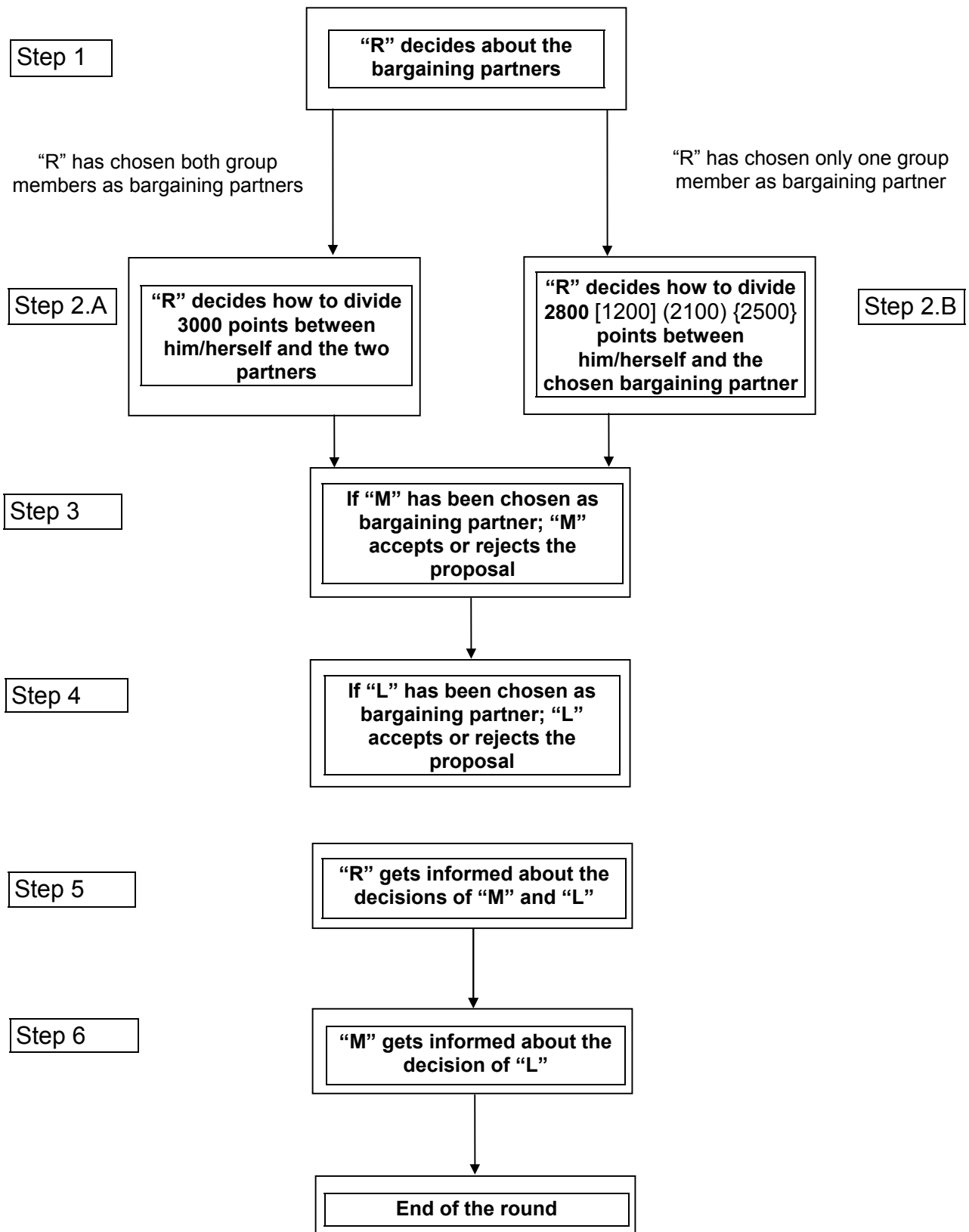
You will now participate in a new experiment. The rules of this experiment are the same as in the experiment you just participated in.

The only difference to the former experiment is that if “R” chooses only one group member as bargaining partner, there are **1200 {2500} points** to divide, now. If “R” chooses both group members as bargaining partners there are – as in the previous experiment – **3000 points** available.

The method of payment is the same as in the previous experiment. That is: At the end, two of the bargaining rounds will be chosen at random, and you will be paid in cash what you earned in these rounds.

There will be no practice round. Do you have any questions?

# Here is how a round proceeds



# Message Form

ROUND XXX

ID# R XX

ID# M XX

ID# L XX

Points to be divided:

If "R" chooses **both other group members as bargaining partners** the proposal must add up to **no more than 3000 points**. The proposal has to be made **in steps of 10 points**.

If "R" chooses **only one group member as bargaining partner** the proposal must add up to **no more than 2800 [1200] (2100) {2500} points**. The proposal has to be made **in steps of 10 points**.

Cash value/point:

1 point = 0.1 ATS (1 YEN)

"R" chooses as bargaining partner(s) (circle one or both):

"M"

"L"

"R" proposes:

"R" gets \_\_\_\_\_ points

"M" gets \_\_\_\_\_ points

"L" gets \_\_\_\_\_ points

End of "R" message

"M" responses (circle one if "M" is circled above):

accept

reject

End of "M" response

"L" responses (circle one if "L" is circled above):

accept

reject

End of "L" response

**Personal History Form**

Round **XXX**

My Code Name: **L**

My ID# **L X**

**Personal History**

Cash value/point

1 point = 0.1 ATS (1 YEN)

**“R” has chosen the following bargaining partners:**

L

M

(Please circle the chosen bargaining partner(s).)

**The proposal is:**

**Points:**

I get \_\_\_\_\_ points

M gets \_\_\_\_\_ points

R gets \_\_\_\_\_ points

**Cash value:**

I earn: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

M: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

R: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

**The proposal was accepted by:**

me

M

**The proposal was rejected by:**

me

M

**Agreement was made:**

yes

no

My cash payoff: \_\_\_\_\_

M's cash payoff: \_\_\_\_\_

R's cash payoff: \_\_\_\_\_

## Personal History Form

Round **XX**

My Code Name **M**

My ID# **M X**

### Personal History

Cash value/point

1 point = 0.1 ATS (1 YEN)

**“R” has chosen the following bargaining partners:**

L

M

(Please circle the chosen bargaining partner(s).)

#### The proposal is:

##### Points:

I get \_\_\_\_\_ points

L gets \_\_\_\_\_ points

R gets \_\_\_\_\_ points

##### Cash value:

I earn: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

L: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

R: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

#### The proposal was accepted by:

me

L

#### The proposal was rejected by:

me

L

#### Agreement was made:

yes

no

My cash payoff: \_\_\_\_\_

L's cash payoff: \_\_\_\_\_

R's cash payoff: \_\_\_\_\_

## Personal History Form

Round **XX**

My Code Name: **R**

My ID# **R X**

### Personal History

Cash value/point

1 point = 0.1 ATS (1 YEN)

I have chosen the following bargaining partners:

L

M

(Please circle the chosen bargaining partner(s).)

The proposal is:

**Points:**

I get \_\_\_\_\_ points

M gets \_\_\_\_\_ points

L gets \_\_\_\_\_ points

**Cash value:**

I earn: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

M: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

L: \_\_\_\_\_ points x 0.1 ATS (1 YEN)/point = \_\_\_\_\_.

The proposal was accepted by:

M

L

The proposal was rejected by:

M

L

Agreement was made:

yes

no

My cash payoff: \_\_\_\_\_

M's cash payoff: \_\_\_\_\_

L's cash payoff: \_\_\_\_\_