Social Ties and Coordination on Negative Reciprocity: The Role of Affect[☆]

Ernesto Reuben[a], Frans van Winden[b,*]

[a] *Northwestern University, Kellogg School of Management, 2001 Sheridan Road, Evanston IL 60208, USA*

[b] *University of Amsterdam, Department of Economics, Roetersstraat 11, 1018 WB Amsterdam, The Netherlands*

ABSTRACT: This is an experimental study of negative reciprocity in the case of multiple reciprocators. We use a three-player power-to-take game where a proposer is matched with two responders. We compare a treatment in which responders are anonymous to each other (strangers) with one in which responders know each other from outside the lab (friends). We focus on the responders' decisions, beliefs, and emotions. Our main findings are: (1) friends punish the proposer more than strangers, (2) friends are more likely to coordinate their punishment (without communication), and (3) both punishment and coordination are explained by the responders' emotional reactions.

JEL Codes: D01, C92, Z13

Keywords: reciprocity, affect, social ties, social norms, experiment

Appendix A – Instructions and Relationship Questions

A.1 Instructions (translation from Dutch)

These are the instructions for the friends treatment. The instructions for the strangers treatment were very similar, and are available upon request.

Introduction

In order to sign up for this experiment, you had to sign up together with a second participant. For convenience, we will refer to this second participant as your partner. In the experiment each of you will be assigned to a 3-person group, that is, you plus two other participants. We will explain how groups are formed later on.

Throughout the experiment, the type of decision you make will depend on your position in your group. Some of you will be positioned to move first, and some of you will be positioned to move second. Participants moving first will be referred to as As while participants moving second will be referred to as Bs.

Before the experiment started each desk was assigned either an A or a B. Therefore, by randomly assigning the yellow cards (in the reception room), each participant was randomly assigned a position. Once you are informed which position has been assigned to you, the corresponding letter will appear on the top-right part of the screen.

The 3-person group that you belong to depends on your position as well as on the position of others in the following way:

- Your group (including yourself) consists of one A and two Bs.
- If you are a B:
  - Then, the other B in your group is your partner (the person with whom you signed up).
  - The other participant will be a randomly chosen A.
- If you are an A:
  - Then your partner (the person with whom you signed up) is also an A and thus he/she is not in your group.
  - The other two participants will be a randomly selected pair of Bs that signed up together for the experiment.

Note: Each group, and thus also your group, was formed randomly in the sense that the A in the group does not know who the B's are, and similarly the B's do not know who the A is.

The experiment

At the beginning of the experiment each participant – this includes all A participants and all B participants – will receive 10 euros as his/her initial endowment. The experiment consists of two phases. In phase one, only the A participant must make a decision. Similarly, in phase two, only the B participants must make a decision. Hence, every participant makes only one decision. In addition to the decision, during the experiment you will be asked to answer a few questions.

Phase one: A chooses a percentage

In this phase, A must choose a percentage and type it into the corresponding field on the screen. This percentage determines how much of the money of each B in the group after phase two, will be transferred to A. The percentage chosen by A must be an integer between 0 and 100 (inclusive). If you wish to make any calculations, you can use the calculator located on your desk.

Once you are satisfied with your decision, you have to confirm it by clicking on the button "Ready". Note that all decisions are final; once you have clicked on "Ready" there is no way of changing your choice. Once A has completed phase one, phase two begins.

Phase two: each B chooses a percentage

At the beginning of this phase, each B is informed of the percentage chosen by A. At this point, each B must also choose a percentage and type it into the corresponding field on the screen. This percentage determines how much of his/her initial endowment will B destroy. The percentage chosen by B must be an integer between 0 and 100 (inclusive). Hence, the transfer from each participant B to participant A will be based on the endowment of B that is left.

Once you are satisfied with your decision, you have to confirm it by clicking on the button "Ready". Note that all decisions are final; once you have clicked on "Ready" there is no way of changing your choice. Once each person has made his/her decision, phase two ends.

Payoffs

After phase two, all participants will be informed of the amount of money they have earned during the experiment. You will also be informed of the amount of money earned by the other two participants in your group.

Example of how to calculate your payoffs

We will now give an example for the purpose of illustration. Remember that all participants in your group have an initial endowment of 10 euros. Suppose that in phase one participant A decides that 30% of the endowment of each participant B will be transferred to him/her (participant A). In phase two, each B can destroy part or everything of his/her initial endowment. Suppose that both Bs decide to destroy 0% percent of their initial endowment. The transfer from each B to A is then equal to 3 euros (30% of 10 euros). The earnings of each B are equal to 7 euros (namely, the initial endowment of 10 euros minus the transfer of 3 euros). The final endowment of A is equal to 16 euros (namely, the initial endowment of 10 euros plus twice a transfer of 3 euros).

Now suppose that in this example, one of the B participants decides to destroy 50% of his/her initial endowment. In this case, his/her transfer to A is only 1.5 euros (namely, 30% of the endowment that was not destroyed, i.e. is 30% of 5 euros). The earnings of A are equal to 14.5 euros (namely, the initial endowment of 10 euros plus 3 euros transferred from the B who destroyed 0% plus 1.5 euros transferred from the B who destroyed 50%). The earnings of the B who destroyed 0% are again 7 euros, and, finally, the earnings of the B who destroyed 50% are 3.5 euros (namely, 50% of the initial endowment of 10 euros minus the transfer of 1.5 euros).

In summary

In the experiment you will be divided into groups of 3, each consisting of one A and two Bs (who signed up together for the experiment). The roles of A and B where randomly and anonymously assigned by drawing your table number. Each participant receives 10 euros as an initial endowment. Then there are two phases. In phase one, A decides on a percentage that indicates how much of the endowments of each B after phase two will be transferred to A. In phase two, each B decides what percentage of his/her initial endowment will be destroyed.

If you have any questions now, please raise your hand. If you do not have any questions, please click on "Ready". Note that once you click on "Ready" you will not be able to go back to the instructions. Next, we will ask you to answer a few questions in order to familiarize you with the calculation of your earnings.

A.2 Questions measuring the strength of the relationship of friends

We ask you to answer a few questions concerning your partner (the person with whom you registered for the experiment).

1. Which of the following best describes the relationship between you and your partner (check all that apply)?

   a. We have no relationship at all (e.g. we just met to sign up together for the experiment).

   b. We are just acquaintances (e.g. we knew each other before the experiment but we normally don't interact).

   c. We are coworkers (e.g. we see each other only at the university (work) and we have little contact besides then).

   d. We are friends (e.g. we see each other under various environments and we know each other's friends).

   e. We are involved in a romantic relationship (e.g. we are currently dating, boyfriend/girlfriend, or husband/wife).

2. During the last 6 months, how would you characterize the frequency of contact between you and your partner (circle one number)?

No Contact – 1 2 3 4 5 6 7 – Very Frequent Contact