Coordination as a Collateral Benefit:
Lab-in-the-Field Evidence from a Conditional Cash Transfer Program

Supplementary Online Material

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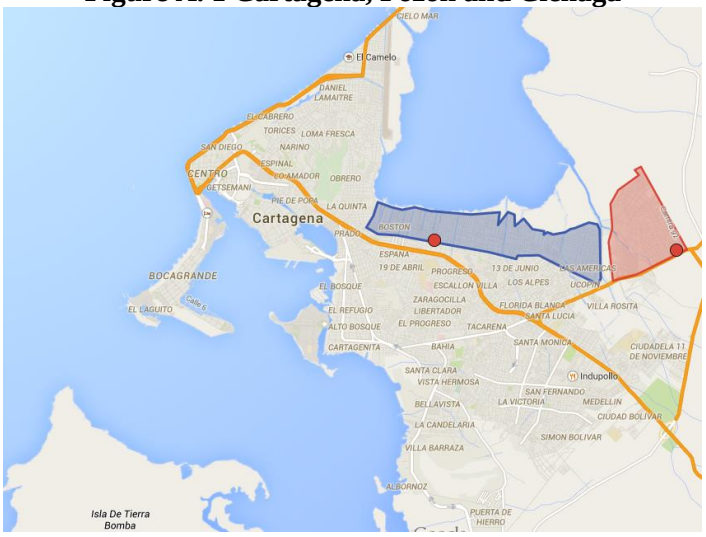
For the last version, please click here

i. The Voluntary Contribution Mechanism[1] (See Attanasio et al. 2015)

In our game, each player receives an endowment of one token to be invested either in a private or a group account. The decision is made privately and simultaneously. The earnings are calculated in the following way: if the player chooses to invest in the private account, the token is converted into $5 and will be given entirely to her. In addition each player receives, regardless of how she has invested her own her token, $0.40 for each token invested in the group account by any other member in the group of 25 players. Therefore, her total earnings at the end of this round are ($5) + ($0.40 x Sum of Tokens invested by the group). If the player chooses to invest her token in the group account, she will receive 0.4 for each token invested in the group account by her and in the rest of the group. In this case her total earnings at the end of the round will be ($0) + ($0.40 x Sum of Tokens invested by the group). Each player makes her private decision by selecting a card which says if she is going to invest her money in the group account or to keep it for herself (i.e. private account). The experimenter then collects the "decisions cards," totals them up, multiplies by $0.40 the amount and credits the relevant amounts to each player. The relevant amounts, however, are only revealed and paid at the end of the session and after a second round of the same game[2].

Figure A. 1 Cartagena, Pozón and Ciénaga



Source: http://midas.cartagena.gov.co/ and Map data © 2014 Google. Red dots are where the sessions were held. The red area is Pozón and the blue one Ciénaga.

ii. Group allocation using social network data

In our experiment, each player was asked about her relation with all the other players, where the options given were: (a) relative, (b) friend, (c) acquaintance or (d) unknown. In addition, we also asked for every known person whether the player considered that person to be trustworthy. We also asked the

[1] The experimental design of the VCM described here was developed by Juan Camilo Cárdenas, Maria Claudia Lopez, Natalia Candelo and this author.

[2] The marginal per capita return (MPCR) of this game is one of the lowest in the literature. The goal was to mimic a measure of what would be called bridging social capital, the ability to overcome social dilemmas in a very large group. Instead, we argue it matches more closely the reality we are trying to depict. Given the level of deprivation in the neighborhoods we study, the intensity of the social dilemma is arguably much higher than in most other lab, or even lab-in-the-field, studies, and a low MPCR is better fitted than a higher one. In addition, the low MPCR makes our results more forceful. Because the power of our analysis would have been maximized if we had had a MPCR of 50%, a low value provides evidence that if the coefficient is subject to any bias it will be downward bias. Since we claim to provide a social capital measure, where social dilemmas are key -and hence a low MPCR appropriate-, the low MPCR provides an additional source of validity to the measure.

player to choose who would be considered as a leader in the community within the session. For every session, we are able to construct a relationship matrix that describes the shape of existing networks among players[3]. Let $R = (r_{ij})_{i,j=1,..,N}$ be an NxN matrix of self-reported connectivity among players in a session of N participants, $x_k = (x_{ki})_{i=1,...,N}$ an $Nx1$ vector with binary elements x_{ki}=1 if player i belongs to group k or 0 otherwise. We chose $(x_k)_{k=A,B,C}$ to maximize $Z_A - Z_C$ subject to

(1)
$$Z_A = x_A' R x_A$$
$$Z_C = x_C' R x_C$$
$$\sum_i x_{ki} = 8 \text{ for } k = A, C$$
$$\sum_{k=A,B,C} x_{ki} = 1 \text{ for each } i = 1, .., N$$

With the self-reported data on network connectivity within the session, we built a connectivity index for every player, given by whom the individual is acquainted with, the type of relationship and whether the individual considers the other person trustworthy: 3 points for each friend and relative, 2 points for each trustworthy acquaintances and 1 point for each untrustworthy acquaintances.[4] We ordered the individual's score and allocated the participants into three different groups: group A, with the first eight participants with the highest score, the most connected individuals; group C, with the last eight participants with the lowest score, the least connected and group B, the remaining players[5].

iii. Relation between the CCT and behavior in the cooperation game

In Table 4 and 5 we report the results for the regression analysis of willingness to cooperate in round 1 and round 2. In both cooperation decisions, the presence of at list one ML in the session increases the likelihood to cooperate by 17%. This result is robust to different specifications and highlights the importance of leaders in collective action (Jones and Olken 2005, Kosfeld and Rustagi 2015).

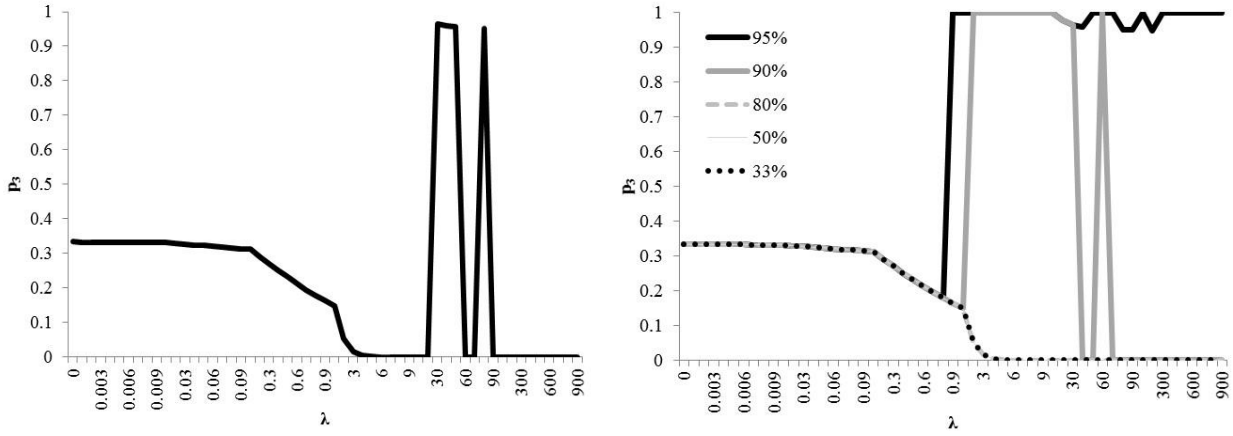
We also observe that being a ML decreases the individual willingness to cooperate in the first round by 12%. This result is consistent with previous studies on spitefulness (Fehr, Hoff, and Kshetramade 2008, Kosfeld and Rustagi 2015) and the role of status on cooperation (Brooks, Hoff and Pandey 2014). Spiteful preferences -the desire to reduce another's material payoff for the mere purpose of increasing one's relative payoff- (Fehr et al. 2008) and in social psychology, by sacrificing total surplus and equality for the sake of a larger payoff difference between "self" and "other." (Van Lange 2009). Fehr et al. (2008) suggest that the willingness to reduce another's material payoff is stronger among individuals belonging to high caste status in India.

iv. Capturing beliefs: a Quantal Response Non-Equilibrium approach

Figure A2 Quantal Response Equilibrium p_3 as a function of λ

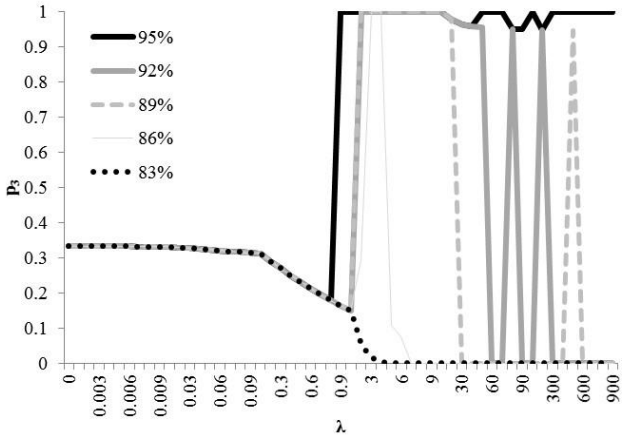
Figure A3. Pseudo-Quantal Response Equilibrium p_3 as a function of λ

[3] The fact that the network structure is not randomized but endogenous to the experiment is also a novelty in the literature of coordination and networks.
[4] The performance of the index was robust to different specifications.
[5] The size of group B varied according to the size of the session. The average size of group B was 8.7 (s.d. 0.73).



Note: Different series correspond to different values for p_3^0

Figure A4. Pseudo-QRE for initial values of p_3 close to 90%



Note: Different series correspond to different values for p_3^0

One concern of depending on the initial conditions of the system is the stability of the result. In order to understand this potential issue more carefully we look at various slices in our grid search, which we present in Figure 3: as the initial condition ($\boldsymbol{p_3^0}$) increases, there is a transition from a trend towards 1 to fluctuation in the outcome value $\boldsymbol{p_3}$, after which a (more stable) different trend is achieved which stays at high values of $\boldsymbol{p_3}$.

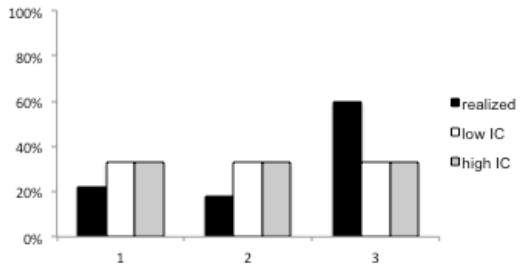
Panels in Figure A7 show the comparison between predicted and realized effort distributions by attributes that were considered as potential drivers for λ : level of education, age, household head, household size, and age. None of these attribute turned out to introduce a meaningful distinction in the formation of beliefs: the only one is the length of exposure[6].

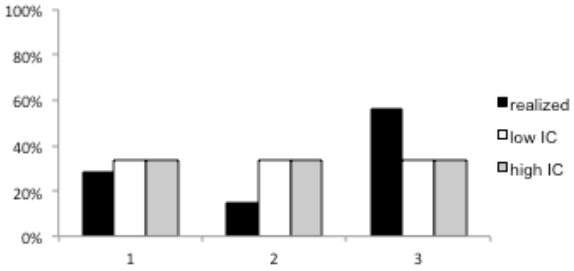
Figure A7 Predicted and realized effort distributions by individual attributes

A.7.1 Level of education attained

a. Less than Secondary completed **b. Secondary complete or higher**

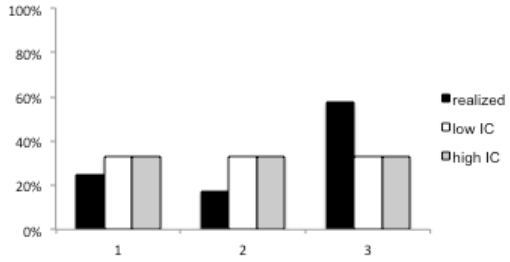
[6] We also considered whether the individual membership in organizations and whether the individual is a leader.



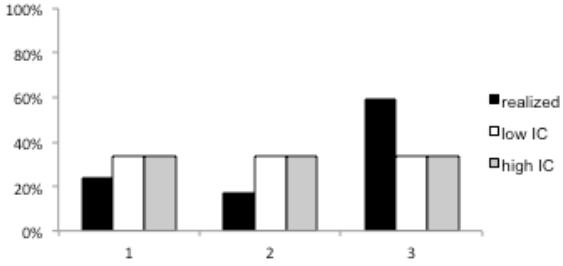


A.7.2.Age

a. Population younger than 35

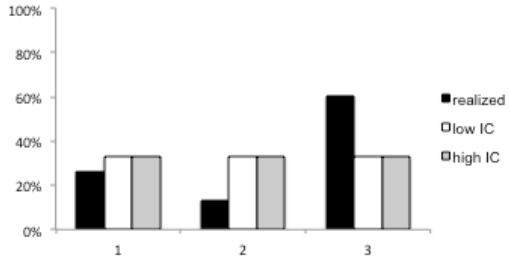


b. Population older than 35

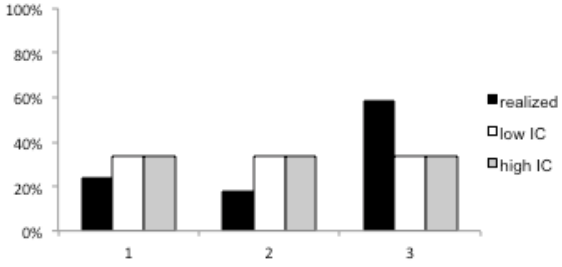


A.7.3.Status in household

a. Head of household

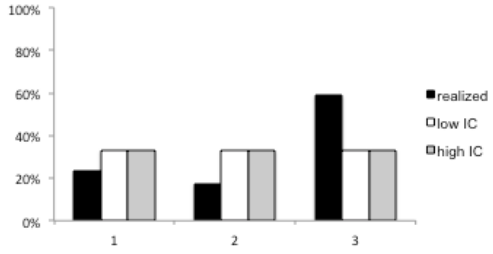


b. Non-head of household

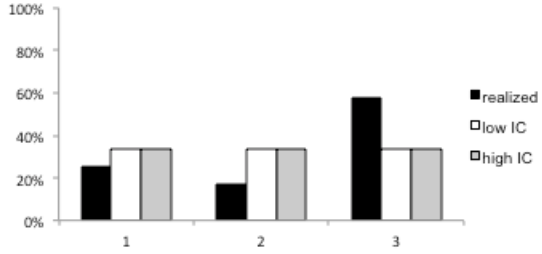


A.7.4. Number of people in the household

a. Less than or equal to five people



b. More than five people



v. Complementary Tables

Table A.5. a. Marginal effects of probit regression model. Cooperation in round 1

Variables	I	II	III	IV	V	VI	VII
Beneficiary longer than a year (enrolment)	-0.12* (0.07)	-0.15** (0.07)	-0.14*** (0.05)	-0.12** (0.06)	-0.06 (0.05)	-0.04 (0.04)	-0.07* (0.04)
Cooperation decision round 2			0.29*** (0.08)				0.20*** (0.08)
Degree of Player (friends)		0.00 (0.01)	-0.00 (0.01)			0.01 (0.01)	-0.00 (0.01)
Degree of Player (relatives)		0.01 (0.05)	0.02 (0.05)			0.02 (0.05)	0.02 (0.05)
Degree of Player (acquaintances)		-0.01 (0.02)	-0.01 (0.02)			-0.02 (0.02)	-0.02 (0.02)

Effort decision		0.06	0.06**				0.03
		(0.04)	(0.03)				(0.03)
Beneficiary is a ML						-0.07	-0.05
						(0.05)	(0.06)
There is at least 1 ML in the session						0.18***	0.16***
						(0.04)	(0.04)
1 if player is chosen as leader by anyone in the group						-0.03	-0.02
						(0.05)	(0.05)
Percentage of informal leaders in the session						0.14	0.28
						(0.23)	(0.21)
Basic characteristics	No	No	No	Yes	Yes	Yes	Yes
Experimental variables	No	No	No	No	Yes	Yes	Yes
Network Information	No	No	No	No	No	Yes	Yes
Observations	714	714	714	712	712	712	712

Robust Standard errors that are clustered at the session level in parenthesis. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table A.5. b. Marginal effects of probit regression model. Cooperation in round 2

Variables	I	II	III	IV	V	VI	VII	VIII	IX
Beneficiary longer than a	-0.03	0.00	0.01	0.02	0.01	0.02	0.04	0.09*	0.10**
year (enrolment)	(0.08)	(0.08)	(0.08)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Cooperation decision round 1		0.28***	0.28***	0.28***		0.21***	0.21***	0.19***	0.19***
		(0.07)	(0.07)	(0.07)		(0.07)	(0.07)	(0.06)	(0.06)
Degree of Player (friends)			0.02*	0.02*				0.02*	0.02*
			(0.01)	(0.01)				(0.01)	(0.01)
Degree of Player (relatives)			-0.01	-0.01				-0.02	-0.02
			(0.04)	(0.04)				(0.05)	(0.04)
Degree of Player			0.01	0.01				-0.01	-0.01
(acquaintances)			(0.01)	(0.01)				(0.01)	(0.01)
Effort decision				-0.02			-0.02		-0.02
				(0.04)			(0.04)		(0.03)
Beneficiary is a ML								-0.12***	-0.12***
								(0.04)	(0.04)
There is at least 1 ML in the								0.17***	0.17***
session								(0.0`6)	(0.06)
1 if player is chosen as leader								-0.03	-0.03
by anyone in the group								(0.03)	(0.03)
Percentage of informal								-0.68*	-0.68*
leaders in the session								(0.36)	(0.36)
Basic characteristics	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Experimental variables	No	No	No	No	No	Yes	Yes	Yes	Yes
Network Information	No	No	No	No	No	No	No	Yes	Yes
Observations	714	714	714	714	712	712	712	712	712

Robust Standard errors that are clustered at the session level in parenthesis. * Significant at 10%;** significant at 5%; *** significant at 1%.

Table A.5. c. Control variables in Table A6a Marginal effects of a probit regression model.

Independent Variable: Cooperation in round 1	IV	V	VI	VII
1 if the player is a woman	0.06	0.13*	0.14**	0.17***
	(0.10)	(0.07)	(0.06)	(0.04)
Age	0.01***	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)
Level of education (0 to 5)	-0.02	-0.03**	-0.03*	-0.02
	(0.02)	(0.02)	(0.02)	(0.01)
Number of years living in the neighborhood	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
1 if the player is displaced (self-declared)	0.02	0.01	0.02	0.00
	(0.05)	(0.06)	(0.06)	(0.05)
1 if the player is the head of household	-0.02	-0.02	-0.03	-0.03
	(0.06)	(0.06)	(0.06)	(0.06)
1 if If the player has a partner	-0.07	-0.06	-0.06	-0.03
	(0.06)	(0.05)	(0.05)	(0.04)
Number of people per room	0.02	0.02	0.02	0.01
	(0.01)	(0.01)	(0.01)	(0.01)
1 if the player has her own housing	-0.06	-0.05	-0.06*	-0.05
	(0.04)	(0.03)	(0.03)	(0.03)
1 if the player's home has no electricity	0.18*	0.17	0.20*	0.18
	(0.10)	(0.11)	(0.11)	(0.11)
1 if the player has a landline	-0.04	-0.05	-0.06	-0.05
	(0.05)	(0.05)	(0.05)	(0.05)
1 if the player has a cellphone	0.03	0.01	-0.00	-0.01
	(0.04)	(0.03)	(0.03)	(0.03)
1 if the player's home has water pipe access	0.00	-0.01	-0.01	-0.03
	(0.06)	(0.05)	(0.05)	(0.05)
1 if the player's home has sewage	-0.03	0.00	0.00	-0.00
	(0.04)	(0.03)	(0.03)	(0.04)
1 if She has received (different from FA) any other government aid	-0.04	-0.03	-0.03	-0.02
	(0.03)	(0.04)	(0.04)	(0.03)
Wealth perception (0-the poorest, 1-the richest)	0.10	0.05	0.05	0.06
	(0.07)	(0.07)	(0.07)	(0.08)
1 if Perceives that HH income is above the average	-0.00	-0.04	-0.03	-0.03
	(0.07)	(0.07)	(0.07)	(0.08)
1 if the HH has a sound player	0.00	0.01	-0.00	0.00
	(0.04)	(0.04)	(0.04)	(0.04)
HH income	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
1 if the HH has a DVD player	0.03	0.00	0.02	0.01
	(0.04)	(0.04)	(0.05)	(0.04)
1 if there is at least one man in the group		0.13**	0.15***	0.13***
		(0.06)	(0.05)	(0.05)
1 if Experimenter n°2 (female) in 2008		0.07	0.11	0.10
		(0.07)	(0.07)	(0.06)
1 if the player understood the activity perfectly		-0.05	-0.06	-0.06
		(0.04)	(0.04)	(0.04)
Number of players in session		-0.06**	-0.07***	-0.06***
		(0.02)	(0.02)	(0.02)
1 if First session in the day		0.23***	0.18***	0.13**
		(0.07)	(0.07)	(0.06)
Average level of cooperation in the last two sessions [a]		0.30**	0.27*	0.20
		(0.14)	(0.14)	(0.13)
Participant socioeconomic characteristics	Yes	Yes	Yes	Yes
Experimental variables	No	Yes	Yes	Yes
Network Information	No	No	Yes	Yes
Observations	712	712	712	712

Robust Standard errors that are clustered at the session level in parenthesis. * Significant at 10%;** significant at 5%; *** significant at 1%.

Table A.5. d. Control variables in Table A6b Marginal effects of a probit regression model.

Indep. Variable: Cooperation in Round 2	V	VI	VII	VIII	IX
1 if the player is a woman	-0.24	-0.19	-0.19	-0.19	-0.19
	(0.18)	(0.18)	(0.18)	(0.19)	(0.20)
Age	0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Level of education (0 to 5)	-0.01	-0.01	-0.01	-0.01	-0.01
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Number of years living in the neighborhood	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
1 if the player is displaced (self-declared)	0.08	0.05	0.05	0.07	0.07
	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)
1 if the player is the head of household	0.00	0.02	0.02	0.01	0.01
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
1 if If the player has a partner	-0.15***	-0.12**	-0.12**	-0.13***	-0.13***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Number of people per room	0.00	-0.00	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
1 if the player has her own housing	-0.04	-0.02	-0.02	-0.03	-0.02
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
1 if the player's home has no electricity	0.12	0.09	0.09	0.09	0.09
	(0.10)	(0.09)	(0.09)	(0.09)	(0.09)
1 if the player has a landline	0.03	0.04	0.04	0.04	0.03
	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)
1 if the player has a cellphone	0.08**	0.07**	0.07**	0.06*	0.06*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
1 if the player's home has water pipe access	0.06	0.06	0.06	0.06	0.07
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
1 if the player's home has sewage	-0.03	-0.00	-0.00	0.00	0.00
	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
1 if She has received (different from FA) any other government aid	-0.07**	-0.06**	-0.06**	-0.07**	-0.07**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Wealth perception (0-the poorest, 1-the richest)	-0.02	-0.05	-0.04	-0.03	-0.03
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
1 if Perceives that HH income is above the average	0.03	0.02	0.02	0.01	0.01
	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
1 if the HH has a soundplayer	0.02	0.00	0.00	-0.02	-0.02
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
HH income	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
1 if the HH has a DVD player	0.04	0.01	0.01	0.03	0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
1 if there is at least one man in the group		0.12	0.12	0.14*	0.13*
		(0.09)	(0.09)	(0.07)	(0.07)
1 if Experimenter n°2 (female) in 2008		-0.03	-0.02	0.06	0.07
		(0.07)	(0.07)	(0.05)	(0.06)
1 if the player understood the activity perfectly		0.01	0.01	0.02	0.02
		(0.05)	(0.06)	(0.05)	(0.05)
Number of players in session		0.02	0.02	0.00	-0.00
		(0.03)	(0.03)	(0.04)	(0.04)
1 if First session in the day		0.26***	0.26***	0.24***	0.24***
		(0.07)	(0.07)	(0.07)	(0.07)
Average level of cooperation in the last two sessions [a]		0.20	0.22*	0.14	0.17
		(0.13)	(0.13)	(0.13)	(0.13)
Participant socioeconomic characteristics	Yes	Yes	Yes	Yes	Yes
Experimental variables	No	Yes	Yes	Yes	Yes
Network Information	No	No	No	Yes	Yes
Observations	712	712	712	712	712

Robust Standard errors that are clustered at the session level in parenthesis. * Significant at 10%;** significant at 5%; *** significant at 1%.

Table A.6. Calibrated of the sensitivity parameter $\hat{\lambda}$

$\hat{\lambda}$		Initial Condition	
		Low beliefs	High beliefs
Individual	Short exposure	0	0
Characteristic	Long exposure	0	200

vi. Experimental Instructions

The sentences in italic are not read in public; they are instructions for a supervisor and coordinators.

The supervisor introduces the team, the session and reads the consent form in order to obtain oral consent.

Exercise 1 ***(The Public Goods Game) (Attanasio et al. 2009, 2015)***

You are going to take part in the first exercise that consists of two decision rounds. Now, we will describe in detail the process that will be repeated in all two decision rounds.

In each round each participant in this room will make a decision in an individual, simultaneous, and silent way. In the beginning of each round, you will be endowed with one token which you will be asked to invest in one of two accounts: a Private (and individual) Account or a Group Account.

Your earnings will partly depend on your decisions and partly on the decisions of the other participants in this room. Specifically, your earnings in each round will depend on the number of tokens in your Private Account and on the total number of tokens in the Group Account in the following way:

• You earn $5,000 if you invest (put) your token in the Private Account.
• For each token that you and other participants invest (put) in the Group Account, every participant will obtain $400.

Note again that each decision is individual and that you should make your own decision without consulting other participants and without announcing where you have put the token: in the Private or in the Group Account.

Now we are going to explain you how to make a decision. Each participant will receive two cards like these.

Show two cards on both sides. Explain that each card has a participation number and a round number. (See Figure A2)

One of the cards has the word "MY TOKEN" written on one side, called henceforth the MY TOKEN card, and the other card has a blank side, called henceforth the BLANK card. When everyone is ready to make a decision, one coordinator will go around the room with a bag to collect one card from each of you.

Show a bag. Explain that this bag indicates the Group Account.

If you want to invest your token in the Private Account, you just need to keep the MY TOKEN card in your pocket and put the BLANK card in the bag. Alternatively, if you want to invest your token in the Group Account, then you need to put the MY TOKEN card in the bag and keep the BLANK card in your pocket.

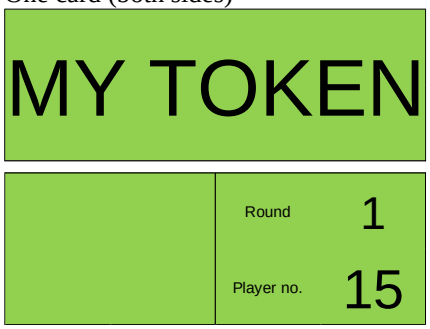
Once every participant has put one card in the bag, coordinators will count how many tokens have been

placed in the Group Account, that is, how many MY TOKEN cards have been put in the bag. The number of tokens that have been placed in the Group Account in this round will not be revealed until the end of all two exercises. This information will be publicly announced at the end of all the exercises when we compute your total earnings.

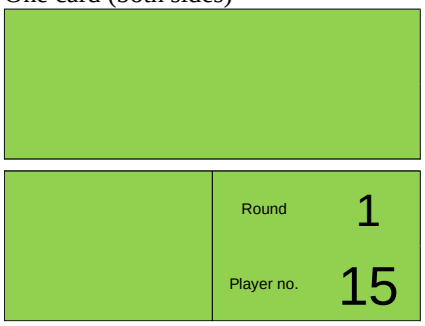
Figure A. 3. Public Goods game Decision cards.

a. Decision cards for the placer no. 15 in the first round: [MY TOKEN], [Round], [Player number]

One card (both sides)

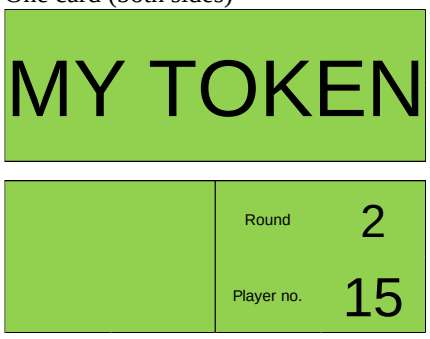


One card (both sides)

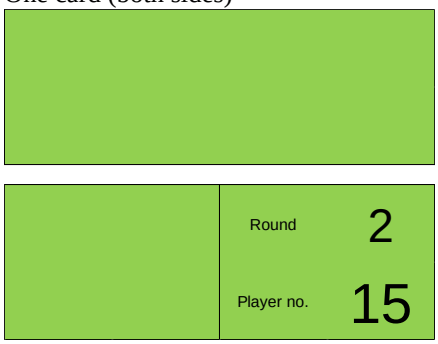


b. Decision cards for the placer no. 15 in the second round: [MY TOKEN], [Round 2], [Player number 15]

One card (both sides)



One card (both sides)



Note that you will retain one card after you have made a decision, regardless of where you have put the token. Please keep one remaining card by the end of today's activities. We will use the card you retain when we compute your earnings. Please do not show any other participants the card you have retained. This entire procedure of decision making is intended to make sure that other participants will not know what decision you have made.

You will explain this exercise further with several examples below. Please remember not to use extreme examples such as the case in which all the participants put their tokens in the Group Account and the case in which all the participants put their tokens in the Private Account. If a participant asks a question by referring to one of these examples, reply to that question by giving afterwards the other example showing what happens in the other situation, and write down the occurrence in the session log.
Please do not skip any examples but go through all examples as in the instructions. Please make sure that all understand the exercise by using the examples below. It is not necessary to follow script by script in each example. However, it is necessary to use the same values in each example that are shown in the instructions.

Now let's take several examples to see how the exercise works. Please pay careful attention and feel free to ask any question if you do not understand examples. Throughout the examples, we will assume that there are 25 participants.

Show which card one should put in each example. After each example a coordinator should show how one should fold the card so that a coordinator cannot read the card.

• Suppose that you decided to invest your token in the Private Account. In other words, you have put the BLANK card in the bag and have kept the MY TOKEN card in your possession. After all the participants made their decisions, a coordinator will count how many MY TOKEN cards are in the bag. Suppose that there were 13 MY TOKEN cards in the bag. That is, 13 out of 25 people decided to put their tokens in the Group Account and the other 12 people (including you) decided to keep their tokens in their Private Accounts. Then, each participant will earn $5,200 (= 13*$400) pesos from the Group Account. Since you have decided to keep your token in your Private Account, you will earn $5,000 pesos from the Private Account. Therefore, your earnings in this round are the sum of earnings from the Group Account and the Private Account, which is $5,200 + $5,000 = $10,200 pesos.

• Now consider the same above example. Instead of calculating the earnings of participants who have kept their tokens in Private Accounts, let's consider a participant who invested his/her token to the Group Account. This participant will not receive any earnings from his/her Private Account since his/her token was not invested in his/her Private Account. Therefore, his/her earnings in this round are simply earnings from the Group Account: $5,200 pesos.

• Now let's take another example. Suppose that you decided to invest your token in the Group Account. That is, you have put the MY TOKEN card in the bag. After all the participants made their decisions, a coordinator will count how many MY TOKEN card were put in the bag. Suppose that there were 20 MY TOKEN cards in the bag. That is, 20 out 25 people (including you) invested their tokens in the Group Account, while the other 5 people kept their tokens in their Private Accounts. Each participant will earn $8,000 (=20*$400) pesos from the Group Account. Since your token was not invested in your Private Account, you earnings are determined by the earnings from the Group Account, which is $8,000 pesos.

• Let's consider the same example but with a participant who kept the token in his/her Private Account. This participant earns $8,000 pesos from the Group Account. In addition, he/she earns $5,000 pesos from the Private Account since he/she invested the token in the Private Account. Therefore, the earnings for this participant are the sum of $8,000 and $5,000, which is $13,000 pesos.

• Let's have one more example. Suppose that you decided to invest your token in your Private Account. That is, you have put the Blank card in the bag. After all the participants made their decisions, a coordinator will count how many MY TOKEN card were put in the bag. Suppose that there were 5 MY TOKEN cards in the bag. It means that 20 out of 25 people (including you) kept their tokens in their own Private Accounts and the other 5 participants invested their tokens to the Group Account. Then, each participant earns $2,000 (=5*$400) pesos from the Group Account. In addition, you earn $5,000 pesos from your Private Account since you kept your token in the Private Account. Therefore, your earnings in this round are in total $7,000.

• Now consider the same example but with a participant who invested the token to the Group Account, that is, who put the MY TOKEN card in the bag. This participant will earn $2,000 pesos from the Group Account like all other participants. However, this participant will earn nothing from his/her Private Account since his/her token was not invested in his/her Private Account. Therefore, earnings for this participant in this round are $2,000 pesos.

In summary, if you invest your token in the Group Account by putting your MY TOKEN card in the bag, every participant in this room will earn from your investment by $400 pesos. Alternatively, if you invest your token in your Private Account by putting the Blank card in the bag, you will be the only one that earns $5,000 from this decision.

Is there any question?

Coordinators should make sure that all participants have understood the exercise itself and its procedure.

Shall we start the first exercise? Note again that your decisions are private: no other participant will know where you invest your own token. Please do not consult any other participants about what decisions you should make.

Let's start the first round of the exercise. Coordinators will hand out two cards (a MY TOKEN card and a BLANK card) for each participant. Remember that you keep one and put the other in the bag. **Please do not throw away the card you decided to keep**. **You need to keep this card by the end of today's activities. We will compute your earnings at the end, using cards you have kept.**

At this moment, coordinators distribute exercise cards to participants according to PARTICIPANT NUMBERs, that is, the order they were seated in the U. Please check if a number that is on two cards corresponds to an identification number of each participant. Check also that each coordinator delivers cards corresponding to a correct round.

Once all the participants have finished playing the first round, two coordinators count the numbers of blank cards and "MY TOKEN" cards in the bag. These coordinators should fill the MONITORS CALCULATION SHEET. Nothing is announced to participants at this point. Before initiating round 2 one of the coordinators should start taking care of the FINAL PAYMENTS SHEET (F6) outside the room and fill the payment receipts with full name and ID.

Important. When collecting cards, the coordinator should not have any physical contact with participants' cards. Each participant should put his/her card directly in the bag. Nevertheless, coordinators should verify if any participant has placed two cards in the bag or if there is a participant that has not decided yet. Coordinators inside the room cannot leave the group alone thus they cannot exit to count the results.

Please keep your retained card in your pocket by the end of today's activities. We will use this card when we compute your total earnings.

Now let's start the second round. Before the second round of this exercise, you will have an opportunity to communicate for 10 minutes with one or more participants in this room about this exercise. This communication is totally voluntary. After the 10-minute permitted time is over, all communications will be suspended. And we will proceed to the second round of this exercise. Coordinators will hand out two cards (a MY TOKEN card and a BLANK card) for each participant. Just as in the first round, you will just need to decide which card (either MY TOKEN card or BLANK card) you want to put in the bag. Again all decisions in this round will be private and be kept strictly confidential.

Past the 10 minutes, once all the participants have finished playing the second round, two coordinators should count how many blank cards and how many "MY TOKEN" cards there are in the bag. These two coordinators should fill the MONITORS CALCULATION SHEET and finish processing the PAYMENT SHEET.

Please keep this second round card safe, since we'll use these cards to calculate your earnings at the end of today's activities.

Today's first exercise is finished. Thank you all for the cooperation.

Before participating in the second exercise, we will ask each of you to fill out a short form. While a coordinator works with you to fill out a form, you are offered snacks that we have prepared for you. It will take approximately 20 minutes. After that, we will start the second exercise.

At this moment coordinators start to help each participant fill out the network-connectivity questionnaire. When all the participants finished the survey, one coordinator will process the information of network connectivity to form 3 different sub groups. Another coordinator is filling up the PAYMENTS SHEET. The rest of coordinators start asking the postgame survey to participants.

Exercise II *(The Coordination game)*

Now you will participate in the second exercise. This exercise is independent of the first exercise which you already participated in. Your earnings in this exercise are not related to the decisions you made or earnings you obtained in the first exercise.

In this exercise, each of you will be assigned to one of three groups. Allocation into groups is determined by the coordinators. The allocation into groups will be announced after we explain the exercise. Each group will move to a separate classroom in order to participate in this exercise. After each group finishes the second exercise in a different classroom, we will meet all together again in this room and we will then proceed to calculate your earnings in the first exercise and in the second exercise.

Is there any question?

Shall we start?

This exercise consists of a single round in which you will make one decision. In this exercise, each participant in a group will make one decision, individually, simultaneously and in silence. Each participant will choose an individual level of effort to a Group Project. Any participant can neither see nor discuss what other participants in the group choose. There are three possible units of effort, $1, 2, 3$, where "1" may be interpreted as a low level of effort to the Group Project, "2" as a medium level of effort to the Group Project and "3" as a high level of effort to the Group Project. When you are ready to choose, you just need to mark with a cross X the number you wish to choose in the YELLOW DECISION SHEET as this one (see figure A3). In this card, there is the player number and the three possible options of levels of effort. You will choose your low, medium or high level of effort marking the cell with a X.

Exercise 2			
L1	L9		
Player no.	My Decision (level of effort)		
	1	2	3

Figure A. 4. Decision card, Minimum Effort game

Your earnings in this activity are determined as follows:
You will be in a group of 8 or 9 people.
At the beginning of the activity, each of you will have $3,000.
Your earnings will depend on your decision and the lowest level of effort among all group members.
Your earnings, given by these $3000 may decrease depending on the level of effort you choose and increase depending on the minimum level of effort in the group.

You decide the level of effort 1, 2 or 3 units of effort. You mark it on your yellow decision sheet. Once everyone in the group has made its decision, a coordinator will collect all yellow decision sheets.

We will know what the minimum level of effort is among all players in the group, this could be 1, 2, or 3 and multiply that minimum effort times $3000 and each of you win that amount.

If the minimum effort in the group is 1, i.e. the lowest level of effort among all the people in the group is 1, i.e., at least 1 person chose the low level of effort, the earnings for everyone in the group are $ 3,000 * 1 = $ 3000.

If the minimum effort in the group is 2, i.e. the lowest level of effort among all the people in the group is 2, i.e., no one chose 1 and at least one person chose the medium level of effort, the earnings for everyone in the group are $ 3,000 * 2 = $ 6000.

If the minimum effort in the group is 3, i.e. the lowest level of effort among all the people in the group is 3, i.e., no one chose either 1 or 2 and everyone chose 3, the high level of effort, the earnings for everyone in the group are $ 3,000 * 3 = $ 9000.

Then you must subtract from those earnings, according to your level of effort, $2,000 for each unit of effort you decided to add to the group project.

Per unit effort you must subtract $ 2,000: If you choose 1 unit of effort, the cost of this unit is (1*2000 = $2000) and you must subtract from your earnings $2000. If you choose 2 units of effort, the cost of these two units is (2*2000 = $4000) and you must subtract from your earnings $4,000. If you choose 3 units of effort, the cost for these three units is (3*2000 = $6000) and you must subtract from your earnings $6,000.

Which can be summarized in the following table:

The coordinator will show the formula and table on a poster (See figure A5).

In summary, the calculation of your earnings can be seen as follows:

My Earnings = $ 3,000 + $ 3,000 X the minimum effort in the group (the lowest level of effort among all group members) - $ 2,000 X each unit effort

In brief, your earnings decrease the higher your level of effort and increase the higher the minimum effort in the group.

To help participants understand their earnings, the coordinator will use the examples in that order.

How should we read this table? Each row, called my decision of level of effort indicates the earnings you could obtain for different levels of the minimum effort in the group. For example, if you choose 3, you can either win $6,000, $3,000, or $0. Each column indicates the earnings you could obtain for different minimum levels of effort in the group, i.e., the lowest effort among all effort levels chosen by the group. For example, if the minimum effort level chosen in the group is 2, then you win or $ 3,000 or $ 5,000.

Earnings Table

		Minimum level of effort chosen by the group		
		3	2	1
My decision (level of effort)	3	$ 6	$ 3	$ 0
	2	-	$ 5	$ 2
	1	-	-	$ 4

	$ 3	
+	$ 3	x Minimum level of effort in the group
-	$ 2	x My level of effort
	My Earnings	

Figure A. 8 Poster for the Coordination Game

Let's do some examples to understand how earnings are determined. Please pay close attention and feel free to ask if anything is not clear in the examples.

• Suppose you choose an effort level of 1. Since you have chosen the lowest level of effort possible, the minimum effort in your group is 1, regardless other levels of effort that the other participants have chosen. Then the group project benefit is $3,000 for each member ($3,000*1). Furthermore, the cost of your own effort level that is subtracted from your earnings is $2,000 ($2,000*1). Therefore, your earnings will be $3,000 + $3,000 - $2,000 = $4,000, which is where the row of your effort level 1 intersects with the minimal effort column equal to 1.

• Suppose you choose an effort level 3, and the minimum effort in your group is 1, i.e. among all levels of effort in your group, the lowest one is 1. This means that at least one participant in your group chose an effort level of 1. Since the minimum level of effort in your group is 1, the group project benefit is $3,000 (=$3000*1) for each member. And as your own effort level is 3, the cost of your effort that is subtracted from your earnings is $ 2000 * 3 = $ 6,000. Therefore, your earnings will be $ 3,000 + $ 3,000 - $ 6,000 = $ 0, which is where the row of your effort level 3 intersects with the minimal effort column equal to 1.

• Suppose you choose an effort level of 3, and the minimum effort level in your group is 3. This means that all participants (including yourself) in your group, chose an effort level of 3. Then the group project benefit is $ 9000 (=$3.000 * 3) for each member. And as your own effort level is 3, the cost of your effort that is subtracted from your earnings is $ 2000 * 3 = $ 6,000. Therefore, your earnings will be $ 3,000 + $ 9,000 - $ 6,000 = $ 6,000, which is where the row of your effort level 3 intersects with the minimal effort column equal to 3.

• Suppose you choose an effort level 2 and the minimum effort level in your group is 2. This means that everyone in your group chose or 2 (like you) or 3. Since the minimum effort in your group is 2, the group project benefit is $ 6.000 (= $ 3.000 * 2) for each member. And as your own effort level is 2, the cost of your effort that is subtracted from your earnings is $2000*2 = $4,000. Therefore, your earnings will be $ 3,000 + $ 6,000 - $ 4,000 = $ 5,000, which is where the row of your effort level 2 intersects with the minimal effort column equal to 2.

• Suppose you chose an effort level 2 and the minimum effort level in your group is 1, i.e. among all levels of effort in your group, the lowest one is 1. This means that at least one participant in your group chose an effort level of 1. Since the minimum effort in your group is 1, the group project benefit is $ 3,000 (=$3000*1) for each member. And as your own effort level is 2, the cost of your effort that is subtracted from your earnings is $ 2000 * 2 = $ 4,000. Therefore, your earnings will be $ 3,000 + $ 3,000 - $ 4,000 = $ 2,000, which is where the row of your effort level 2 intersects with the minimal effort column equal to 1.

• Suppose you choose an effort level 3 and the minimum level of effort of the group is 2. This means that everyone in your group chose or 2 (like you) or 3. Since the minimum effort in your group is 2, the group project benefit is $ 6.000 (=$3,000*2) for each member. And as your own effort level is 3, the cost of your effort that is subtracted from your earnings is $ 2000 * 3 = $ 6,000. Therefore, your earnings will be $ 3,000 + $ 6,000 - $ 6,000 = $ 3,000, which is where the row of your effort level 3 intersects with the minimal effort column equal to 2.

Note that the more units of effort you choose is more costly for you but that the higher is the minimum effort, you and others in the group earn more.

Are there any questions?

After each group has completed the activity, it will be announced the minimum effort chosen in the group. Then we meet again in this room to finish today's activities. We will announce the number of cards MY TOKEN invested in the group account for the first and second round of the first activity. A coordinator will call you to answer a questionnaire. When you have completed the questionnaire, you will go with another coordinator to calculate the total earnings of the two activities and will receive your total earnings.

Are there any questions?

Are there any on this activity? Please do not talk to anyone about the exercise.

Now we will form three groups and announce which group each participant belongs to. From this moment onwards we ask you to remain silent.

Participants are allocated into groups according to the network score. The main coordinator will announce which group each participant is allocated to. There is a room assigned to each group with its assigned coordinator. Please ask participants to remain silent when they move to another room and during the experiment. The main coordinator keeps the group C.

Please remain silent when moving from one room to another and during activity.

Each coordinator in his/her group: Let's start the only round of this activity. A coordinator provides the YELLOW CARDS to each participant. Please make sure the player number matches with your player number. Please make your choice by marking an X on the level of effort you want to choose.

At this time, the coordinators give each participant the YELLOW DECISION SHEET according to their player number. Check whether the player number on the sheet is the same as the player number.
Once participants have made their decision, the coordinators will collect the YELLOW CARDS in an envelope and find out the minimum effort in the group. These coordinators must fill out the MONITORS CALCULATION SHEET.
Important. When the yellow decision CARDS are collected the coordinator should check whether every participant made a decision.

Today's second exercise is finished. Now we will move back to a classroom where we participated in the first exercise.

Each coordinator announces the results ONLY for his//her group and then, groups gather in the main room.

The lowest effort level chosen was, which means that if you decided one unit of effort, your earnings are ... if you decided 2 units of effort your earnings are ... and if you decided 3 units of effort, your earnings are ...

The main coordinator announces the results of the first activity. Participants are called to answer the survey and then receive their earnings.

We're going to calculate your earnings and we'll call you one by one. For the first exercise, we are going to announce the number of tokens that were invested in the group account in the two rounds.

Then the coordinator will announce the number of tokens that have been invested in the group account in the two rounds. Afterwards, two coordinators will go behind two desks to calculate each participant's earnings for each round and the final earnings of this exercise.

The number of tokens in the group account in the first round was … in the second round was… This means, in terms of earnings, that in the first round, the group account has earned… ($400x the number of tokens = total amount); in the second round…

Now each one of you should wait until one of the coordinators calls your name to calculate your earnings and hand you the payment of today's activities. In the meantime, one coordinator will be calling you to ask you to answer a short questionnaire.

We strongly recommend you not to discuss today's activity with someone in next groups because activities for next groups may be different and thus participants in next groups might get confused by receiving incorrect information.