Stated Social Behavior and Revealed Actions: Evidence from Six Latin American Countries Using Representative Samples

by

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Abstract*

This paper explores the link between what people say they prefer to do and what they actually do. Using data from an experimental project explored trust and pro-sociality for representative samples of individuals in six Latin American capital cities, the paper links the results of these experiments with the responses obtained from representative surveys to the same participating individuals. Individuals with higher agreement with a set of pro-social statements are those more willing to contribute and collaborate to the social welfare in the community, and what people say is linked to what people do. This supports the idea that the inclusion of subjective controls in the left-hand-side in an empirical specification does carry useful information.

1. Introduction

While economic experiments have become widely accepted in the profession, it is unclear how closely their findings correspond with the responses that individuals provide in surveys, arguably, the most prominent tool for traditional empirical analysis.[1] In this paper we study the link between what individuals say and what individuals do by comparing their stated preferences regarding pro-sociality as well as their involvement in social organizations, and their corresponding actions when exposed to laboratory experiments on those same issues. The key question we want to address is whether such stated preferences and revealed actions may be viewed as complements rather than substitutes. Interestingly, as straightforward as this issue is, to our knowledge it has not yet been broached in the economics literature. Typically, the experimental literature has placed great emphasis on design, but less so on sampling issues. On the other hand, household surveys as well as individual surveys that measure attitudes and preferences have placed great emphasis on sample representation, but both measurements are regarded as somewhat flawed, particularly those of preferences, as the credibility of the average responses to the questions posed are frequently put in doubt.

In this paper, not only do we employ representative samples for six cities in Latin America, but also have the participating individuals respond a survey on attitudes directly related to the experiments undertaken that thus allow us to test how experiments and surveys fare together. Since the main objective is to assess how both techniques compare in representative samples, we focus on well-known, "tried and true" laboratory experiments where protocols and overall findings appear to be well established. In particular, we applied a simple trust game, a voluntary contribution game and a risk sharing game. Additionally, to explore attitudes towards uncertain outcomes of the participating individuals, we measured individual aversion to risk, ambiguity and losses.

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[1] In psychology, Todd et al. (2007) study mismatches between stated preferences and actual choices regarding mates. Neill et al. (1994) found, within an experimental setup, that open-ended hypothetical surveys fail to capture the elicitation of real economic commitments from individuals. To our knowledge, the only attempt to link results from economic experiments to responses to surveys is Burks, Carpenter and Verhoogen (2003) which explore the links between a measure of Machiavellian behavior and trust and trustworthiness of a sample of college students, playing both roles in the trust game.

The paper is organized as follows. The next section describes the sample and the experimental design. Section 3 describes the methodological approach to measure the link between what people say and what people do. Section 4 presents our main findings. Section 5 provides additional findings based on the robustness of our variable of interest. Finally, Section 6 concludes.

2. Sample and Experimental Design

The full sample consists of more than 3,000 individuals from all backgrounds, socio-economic levels, age cohorts, and both sexes, from the following six Latin American capital cities: Bogota, Buenos Aires, Caracas, Lima, Montevideo and San Jose. Not only do we believe that this is the most comprehensive experimental dataset to date in Latin America, but also a particularly unique one since the samples are representative at the city level. In particular, the data collected combine detailed socio-economic and demographic background with behavioral information.

To carry out the field work we conducted sessions of an average of 20 people recruited in the streets and brought to a university campus room. Each experimental session followed the exact same protocol, with the exact same sequence of activities as a team of researchers with experience in survey and field methods was selected to undertake the sample design and conduct the experiments and surveys in each city. In order to guarantee homogeneity in the application of experimental protocols they participated in a training workshop at the launching of this project in Bogotá during the first quarter in 2007. This workshop provided a uniform approach to implementation and related fieldwork details such as sampling procedures, writing style and jargon in the Spanish protocol, timing of actions (i.e., invitations, pre-survey, experiments, post-surveys), elements to be included in experimental sessions and the construction of questionnaires. Details are provided in a related technical paper (Candelo et al., 2007).

The samples were selected using a stratified random sampling applied at the city level. The strata were chosen on the basis of education, average family income of the districts or the territorial units that make up each city (in either quartiles or quintiles,

depending on data availability), gender and age.[2] The goal of the sampling procedure was to obtain empirical distributions of individuals within these combinations of characteristics resembling those of the populations in the cities. With the sampling quotas defined, the first step of the fieldwork consisted of inviting individuals to experimental sessions. The sessions were arranged so that at least three sessions per city included only individuals from high-income strata and at least three other sessions included only individuals from low-income strata; the rest combined individuals from all strata. Around 30 individuals were invited for each session, under the assumption that approximately one third would not show up to the session, but allowing each experimental session to go forward with roughly 20 to 25 participants, each lasting between two and three hours.[3]

As one of the main goals of the study is to observe the effect of social heterogeneity on individuals' decisions, information on the socio-economic composition of the groups in each particular session was made as salient and clear as possible. The participants met throughout the session in one room where they were able to see each other, although they were not allowed to communicate during the session. During the recruitment process we avoided having two people who knew each other within one session. As the sessions progressed, participants received information about their peers, depending on the particular activity (Candelo et al., 2007).[4] In each of the sessions participants made decisions during four activities regarding trust, public goods voluntary contributions, risk attitudes and risk sharing.

The first activity applied was a Trust Game, using the strategy method. As it is well known, in this game session participants are randomly assigned in pairs: half assume the

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[2] The age groups employed were the following: (i) 17-27; (ii) 28-38; (iii) 39-59 and (iv) 60-72.

[3] Potential participants were invited several days before the scheduled sessions and were promised, on top of the potential experimental gains, a show-up fee. The day before each experimental session they were reminded of the invitation with a phone call or home visit; transportation was arranged or paid for in advance, if necessary. The day of the sessions the participants were welcomed by teams in each city and at the accorded time sessions started. Following the batteries of experiments, participants completed the survey. To reduce idiosyncratic measurement error due to individuals' reading ability, the surveys were administered by the coordinators of the experiments and supported by a group of pollsters especially trained for these purposes. After participants completed the surveys, the payoffs from the experiments were computed and the participants received their payments (Candelo et al. (2007).

[4] The experiments are based on now widely tested designs by Berg, Dickhaut and McCabe (1995), Binswanger (1980), Holt and Laury (2002), Barr (2003), Marwell and Ames (1979), Isaac and Walker (1988), and adaptations to field experiments discussed or reported in Carpenter, Harrison and List (2005), Harrison and List (2004), Cárdenas (2003), and Cárdenas and Carpenter (2008).

role of player 1 and the other half, that of player 2. Both groups are simultaneously located in different rooms, and identities of the pairs are never revealed, although each player receives information on key demographic characteristics of their pairs (sex, age, schooling level and socio-economic stratum). Both players receive an equal endowment, and player 1 is then asked to decide how much of this endowment he or she wants to send to player 2, knowing that player 2 will then receive three times that amount on top of the initial endowment everyone initially receives. In another room, player 2 is asked to decide the amount to be returned to player 1 for each possible offer from player 1, from a discrete set of fractions of amounts sent (0%, 25%, 50%, 75% and 100%). Immediately before making their decisions, individuals are also asked to predict the decisions to be made by the other player. That is, the amount expected by player 2 from player 1, and player 1's expected returned amount from player 2. After both players make their decisions the matching of the choices is made. Replications of this game around the world have shown that people on average send half of the initial endowment to player 2, and that the returns from player 2 to player 1 generate a net positive return for player 1 of about ten to twenty percent from what was originally sent (Cárdenas and Carpenter, 2008; Ashraf, Camerer and Loewenstein, 2007).

The second activity pursued was a one-shot dichotomous Voluntary Contributions Game, adapted from the larger Voluntary Contributions Model designs in the literature (Ledyard, 1995), in which all participants in the session are gathered in a single room and each player is given one token that can be invested in an individual or a group account. The player that keeps the token in a private account earns an amount, for example 10 dollars, as well as one dollar for each participant that invests her token in the group account. On the other hand, if the player invests the token in the group project, her token as well as the rest of tokens in the group account yield a return of one dollar for every participant in the group. Given a group of 20 people, we would have a Marginal Per Capita Return Ratio (MPCR) of 0.10 and a classical case of a social or cooperation dilemma where the Nash strategy would be to keep the token but the social optimum would be achieved if everybody invested their tokens in the group account. Before they make their individual and private decisions to contribute or not to the group, the coordinator announces both verbally and on a board the

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composition of the group, namely, the number of participants, the number of men and women, the number of people in each educational level, and in each socio-economic strata. The coordinator also requests that every participant write her prediction of the number of cooperators, as none of them knows in advance whether each individual would contribute or not.

The third activity was based on the Risk Game first used in India by Binswanger (1980) and later used by Barr (2003), in which each player makes individual decisions over three games that measure individual attitudes over risk, ambiguity, and losses. The first stage within this activity offers the participants a set of outcomes for six 50/50 lotteries that go from a sure low payoff to an all-or-nothing higher expected payoff. The lotteries in between gradually increase both in expected value and in the spread between the low and high payoff. The second stage offers the same payoffs for the six lotteries just mentioned. However, unlike in the first stage, individuals do not know the exact probabilities, but are informed that at least 30 percent of the chances correspond to the low payoff and at least 30 percent of the changes correspond to the high payoff. The third stage also uses six lotteries with 50/50 probabilities but includes the possibility of negative payoffs in some cases.[5]

Each of the three stages has a distinct purpose. Whereas the first stage measures risk aversion, as choosing lotteries with lower payoffs can be interpreted as greater risk aversion, the second stage measures risk aversion in the presence of ambiguity, while the third measures loss aversion. The purpose of this activity is to generate measures of risk behavior in order to control for it when analyzing trust, cooperative and risk-sharing behavior.

The last activity performed in each session was a Risk Pooling Game, based on Barr (2003), in which each player chooses whether to form a group to share equally the gains from another risk aversion game (as in the first stage of the third activity), or to play the same risk aversion game again individually. Once players decide to form the group or not, the total number of people forming the group is announced, and then they decide individually their lottery choice. This game measures individuals' willingness to join a group and to accept an even distribution of payoffs after again choosing a lottery like those available in the first stage of the individual risk games. Again, players are not allowed to

communicate and are given only basic information about the composition of the group. The most profitable group outcome occurs when all players join the group and choose higher-risk lotteries (at a 50 percent chance of the high payment, the expected value should yield greater payoffs to everyone in the group, and as the group is larger, the lower the chances of getting low payoffs to pool with the group).

At the end, the coordinator randomly selects one of the four activities to be paid, and while one coordinator calculates individual earnings and privately calls upon each participant, the remaining coordinators interview each participant, filling out an individual survey in order to collect detailed information about socio-economic characteristics and attitudes towards group behavior and other sociality preferences.

The activities of these experimental sessions allow us to obtain proxy measures of trust and cooperative attitudes (both towards other individuals and groups);[6] and risk attitudes of participating individuals. These measures, paired with their stated pro-social attitudes obtained from the survey allow us to explore the linkages between statements and actions.

3. Methodology

As mentioned above, the survey and experiments we use in this paper were taken during the first semester of 2007, and the sample consists of more than 3,000 individuals from Bogota, Buenos Aires, Caracas, San Jose, Lima and Montevideo. Provided that the aim of this paper is to test the link between revealed social actions and stated social behavior, we use our individual experimental outcomes as dependent variables and a subjective pro-social index of attitudes, described below, as our key variable of interest.[7] Thus, our reduced form follows this specification:

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[5] To avoid negative payments players were endowed with a fixed amount regardless gains or losses. At the end the expected value of the six lotteries is equivalent to the first stage.

[6] The psychological literature has emphasized the differences between inter-individuals and inter-group trust. There is some evidence highlighting behavioral differences between both (discontinuity effects). For that reason we explore both independently in this paper. See Insko et al. (1987).

[7] Bertrand and Mullainathan (2001) argue that subjective data, such as the pro-social index used here, would be less troublesome if used as an independent rather than a dependent variable in a regression setup. If one uses subjective data in the left-hand-side, the measurement error tends to become highly correlated with a large set of characteristics and behaviors.

$$Experiment_{ic} = \alpha + \beta_1 X_{ic} + \beta_2 Z_{ic} + \beta_3 MS_{ic} + \beta_4 Y_{ic} + \varepsilon_{ic} \quad (1)$$

where $Experiment_{ic}$ represents the individual outcome of the experiment c for the particular individual i. The outcomes used are from three of the experiments: the trust game, the voluntary contributions game, and the risk pooling game.[8] In the first game we use two outcome variables: the percentage of the initial endowment that player 1 offered to player 2 and the money that player 2 returned to player 1 at the time of his move (measured as a percentage of the money he had at that time: the initial endowment plus the amount received from player 1). The choice set of player 2 is, in fact, contingent to the offers made by player 1, so we estimate equation (1) for each possible move of player 1. In the case of the second and third experiments, we use dummy variables taking the value of 1 if the participant made a voluntary contribution to his group and if he shares risk with his group, respectively, and zero otherwise.

Additionally, X_{ic} is a vector of individual characteristics that includes age, schooling, gender, and socio-economic level. Vector Z_{ic} reflects experimental controls, such as a measure of risk aversion, calculated from the experiments, and expectations about the behavior of the matched player or the group that is playing with the participant. The vector MS_{ic} contains variables related to the matched player's or the session characteristics. In the trust game, we control by whether the matched player is male and by differences in schooling, age, and socio-economic level. For the voluntary contributions model and the risk pooling game, we control for session characteristics such as the percentage of women, the percentage of participants with less than secondary, the percentage in the lower socio-economic level, and the number of players. Our variable of interest among the explanatory variables is Y_{ic} which is an index measuring stated pro-sociality. The index is constructed as the percentage of agreement that each individual had with nine pro-social affirmations posed to the participants. A high value in the pro-social indicator denotes high pro-sociality. Finally, ε_{ic} is a random error term.

The exact definitions of all variables used in the regressions and the summary statistics are presented in Tables 1 and 2, respectively. Table 3 presents the statements used

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[8] The outcomes of the individual risk aversion activity are employed as additional controls.

in the construction of our pro-social index.[9] Other characteristics of the sample are that the average age is 38, there is a reasonable gender balance in the sample (54 percent are women), 50 percent reside in a low socio-economic level neighborhood and 33 percent in a medium-level neighborhood, and almost 50 percent of the participants have achieved secondary incomplete or less (Cárdenas, Chong and Ñopo, 2008).[10] Tables 4-8 present the regression results. All of them include city dummies and have robust standard errors that are computed clustered at the session level.

4. Findings

Table 4 shows the results obtained for the first player's offer in the trust games, for which we use Ordinary Least Squares regressions.[11] The amounts offered by player 1 in this experiment may be interpreted as a measure of trust from the individuals towards their matched pairs. When using the amounts offered in the trust game as our dependent variable, we find a statistically significant link with our pro-social attitude index when not controlling for the matched player's characteristics, as shown in columns 1 and 2. However, when including the latter as controls, as shown in column 3, the statistical significance of our variable of interest drops below accepted conventional levels. In relation to the survey controls, notice the coefficients of the participant's schooling, a result that is positive and statistically significant at the one percent level in all specifications. Similarly, the expectation of generosity of the matched individual (player 2) appears to matter, as it is positive statistically significant in all the cases it is included, as found by Rabin (1993). Also, whether the first player is a woman has a statistically significant and negative effect on the amount offered to player 2. When we include dummies that reflect the possible combinations of gender with the matched player it appears that the latter effect becomes stronger if player 2 is a man—compared to the case in which player 1 is a man and player 2 a woman. Participant's age is statistically significant when we do not include the matched player's characteristics.

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[9] The pro-social attitudes questions were chosen from Fong (2007) and based on indicators of humanitarian-egalitarian indices and Katz and Hass (1989).

[10] Appendix 1 presents the correlation coefficients as well as their corresponding statistical significance.

[11] Results do not change when using ordered probit instead.

When we use the share of reciprocity of player 2 as the dependent variable for each possible response, we find some connection between what people say and what people actually do, as in some cases the coefficient of the pro-social index is positive and statistically significant for Player 2. This is shown in Table 5. But again, the findings are mixed. On one hand, it appears that when the choice set is sufficiently large for Player 2 (column 5), our pro-social index is linked with more reciprocity. Additionally, age, schooling, and socio-economic level matter depending on the size of the offer made by Player 1. Furthermore, the percentage expected to be received from Player 1 is also statistically significant in all the specifications, so people like to help those who they think will help them, and to upset those who they think are hurting them (Rabin, 1993).

Whereas pro-social attitudes appear not to have robust impact on trust and reciprocity at the individual level, such attitudes may instead be reflecting group trust (Insko et al., 1987; Song, 2006). In the voluntary contributions game we applied measures such as willingness to contribute to a public good. As is well known, in this game the decision to contribute to the group increases the benefits for all, but not contributing will always yield greater individual payoffs and thus provide an incentive to free ride. Full cooperation yields greater payoffs to everyone than if full free-riding occurs, and the gains from cooperation increases with the number of players as in the design one player will be indifferent between keeping the token and investing it in the group if nine other players had contributed. In fact, we find that the coefficient of our pro-sociality index is positive and statistically significant at least at the five percent level in all the specifications tested. This is shown in Table 6.[12] Other controls that are statistically significant at conventional levels are age and risk aversion. The older or less risk-prone the participant is, the higher the probability that this person is going to make a contribution to the group account.

Table 7 employs probits in order to show the extent to which our pro-social variable explains the individual outcomes of the Risk Pooling game. The purpose of this game is to understand the characteristics of the group used by individuals in order to make a decision to share risk and join the group. We find that individuals that stated pro-social preferences

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[12] Appendix 2 shows the marginal effects of our most complete specification (column 3). A one percent increment in the pro-social index is linked with an increase in the probability of making a voluntary contribution to the group account by about 0.1 percent.

are also those that are more interested in risk pooling, as the coefficient of our variable of interest is positive and statistically significant at five percent in all cases.[13] As in the voluntary contribution experiment, we also find that the age of the participant is positive and statistically significant. We also find that the degree of risk aversion is statistically significant at conventional levels. The less risk averse the participant, the higher the probability that he decides to participate in the risk pooling game. Additionally, it appears that gender is important. Without controlling by session characteristics, if the participant is a woman has a statistically significant and positive effect. When the session variables are added, the latter lose significance and the percentage of women in each session increases the probability that the participant shares risk with the rest of the group. Similarly, the higher the percentage of people with less than complete secondary education, the lower the probability that the player will participate in the risk pooling game.

5. Robustness

In order to check the robustness of the results above we use alternative measures of our pro-social attitude measure. We do this by varying the percentage of pro-social affirmations accepted by each participant. In this case, we construct measures based on the agreement of the participant with at least 40 percent, 50 percent, and 60 percent of pro-social affirmations, out of the nine available for the index.[14] We use the last specification of Tables 4, 5, 6, and 7, respectively and present our findings with these alternative pro-social measures in Table 8.[15] Interestingly, the findings here confirm our previous results. Pro-social attitudes appear to have a limited relationship with trust and reciprocity at the individual level. On the other hand, pro-social attitudes appear to have a positive and statistically significant link with the decision to contribute to a group account or to share the risk with it. Furthermore, when we use a higher benchmark of pro-social affirmations, the probability of participating in the group account or sharing risk with the rest of the group increases. This is shown in both Appendix 2 and Appendix 3. If we use a benchmark of pro-

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[13] Appendix 3 shows marginal effects. An increment of 1 percent in the pro-social index of the participant is linked to an increase of about 0.1 percent in risk sharing.

[14] We also tested a principal components method and our results do not change. These results are available upon request.

[15] Results do not change when using alternative specifications.

social affirmations higher than 40 percent, it seems to have no significant effect. When the benchmark is 50 percent, the probability of participating in such a group increases by about 4.01 percent. Finally, when the benchmark is higher than sixty percent, the corresponding probability increase reaches 4.62 percent. Similarly, the corresponding participation in a risk pooling game increases monotonically by 5.29 percent, and 6.04 percent, when the pro-social affirmation benchmark is increased from 50 to 60 percent.

6. Conclusions

In this paper we report the results of four experiments conducted with representative samples of six Latin American cities with the aim of testing the extent to which what individuals reveal is consistent with how they act. To do this, we employ simple, well-known experimental activities and ask individuals to respond questions on pro-social preferences and attitudes. Interestingly, we find that what people say is closer to what they do than what is usually expected. This appears to be particularly true in games in which the actions of individuals have a bearing on the outcomes of the group, which is the case of the public goods and risk pooling games and less so in the case of the trust game.

The voluntary contributions game and the risk pooling game involve situations in which one's decisions affects several people, around 20 in our case. Therefore, one's decision to cooperate or to join the group for risk-sharing brings a subjective valuation to the decision-maker that is mediated by the number of people affected. The greater the pro-sociality index of the person, the more important it should be to act in a group-oriented manner. Players with lower pro-sociality indices should show a lower subjective valuation from contributing their token to the group account or from joining the group. This result would be consistent with the "warm glow" explanation of charitable behavior by individuals (Andreoni, 1990). However, notice that for the case of the risk-pooling game joining the group does not necessarily implies increasing the group's outcome unless more players choose riskier lotteries. It could be the case also that joining the group is also associated with group membership or ingroup/outgroup phenomena (Tajfel and Turner, 1979) where solidarity values reflected in the pro-sociality attitudes produce greater utility for those joining the group in the game.

The divergence found between the trust game and both the voluntary contribution and risk sharing games may also be due to the fact that the tools employed are context-dependent, which may have a different influence on the type of game played as it is not simple to abstract the responses and experimental outcomes from their frames (Levitt and List, 2007). Admittedly, our findings may be simply reflecting the fact that the questions used to construct our pro-social index appear to be better suited to capture the corresponding aims of both the public good and the risk sharing game, rather than the trust game. But the fact that our findings are consistent with changes in our pro-social variable provides an intriguing element in considering the potential usefulness of subjective information from representative surveys in econometric work.

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Table 1. Variables Definitions

Variable	Definition
Experimental outcomes	
Initial offer by Player 1	Percentage of money offered by player 1 to player 2 in the Trust Game. From the amount received by player 1, he/she had five options: to give 0%, 25%, 50%, 75%, or 100% of his/her money to player 2. The variable scale was changed to 0-1.
Return offer by Player 2	Is a continuous variable that takes values form 0 to 1 and measure the percentage of money that player 2 received, and was returned to player 1. It has on the numerator: the "part" of the money that was given by player 1, and that was returned by player 2 in the Trust Game. As player 2 receives the triple of the amount player 1 decided to give him/her, besides the initial quantity (that is the same player 1 received); the return offer could take values from 0% to 400%, that is four times the money that player 1 received. On the denominator is a measure of the percentage of the amount that was given to player 2 by player 1. Also, as player 2 received the triple of the offer plus the same initial quantity player 1 received, this variable could take values from 0 to 4 (0% to 400%).
Second player's return offer if Player 1's offer is 0%, 25%, 50%, 75% or 100%	These are continuous variables that takes values form 0 to 1 and measure the percentage of money that player 2 would returned to player 1, depending on the amount he/she received from player 1. During the experiment, each player 2 was asked the amount of money he/she would return to player 1 in case he/she gave him 0%, 25%, 50%, 75% or 100% of the amount he/she received. Depending on each questions there were a set of answers restricted to the amount that could be offered by player 1. So, these variables have in the numerator the money that could be returned by player 2 in the Trust Game, and in the denominator the largest amount that he could received form Player 1, depending on the assumption of initial offer made (0%, 25%, …etc.). The last variable described above this one, considers the amount returned by player 2, depending on the effective amount offered by player 1.
Voluntary Contributions Model (VCM)	Dummy variable that takes the value of 1 when the player decides to contribute to the group in the Voluntary Contributions Game, and 0 otherwise.
Risk pooling	Dummy variable that takes the value of 1 when the player decides to share the risk with the group in the Risk pooling Game, and zero otherwise
Socio-demographic characteristics	
Age	Age of the participant.
Gender	Dummy variable that takes the value of 1 when the participant is a female, and zero otherwise
Schooling	Number of years of education of the participant.
Socio-economic level	Categorical variable that indicates the socio-economic level of the participant: low, medium or high. Each category was converted to a dummy variable. In all regressions, the first category (low socio-economic level) was the omitted dummy.
City	Categorical variable that indicates the city where was surveyed each participant: Bogota, Buenos Aires, Caracas, Lima, San Jose y Montevideo. Each category was converted into a dummy. In all regressions, "City: Bogota" was the omitted dummy.
Respect to matched players' characteristics	
Gender compared to the matched player	Categorical variable that takes four values according to the gender of each player. The first category correspond to the case in which both players were women; the other, in which both were men; the third, in which player 1 was a woman and player 2 a man; and the last one, in which player 1 was a man and player 2 a woman. Each category was converted into a dummy variable, and the omitted category in all the regressions was the dummy where player 1 was a man and player 2 a woman.
Age difference	Difference in age of the matched player with the participant.

Variable	Definition
Schooling difference	Difference in number of years of education of the matched player with the participant.
Socio-economic level compared to the matched player	Categorical variable that takes three values depending on the difference between the participant and the matched player's socio-economic levels: if the participant's level was higher, the same or lower than the matched player's one. We convert each category in 3 dummies. In all regressions, the omitted dummy was the category in which there was no difference between the matched players.
Experimental variables	
Risk aversion	Categorical variable that indicates the risk aversion level of the participant: low, medium or high. Each category was converted to a dummy variable. In all regressions, the first category (low risk aversion) was the omitted dummy.
Percentage expected from matched player (For player 2 in Trust Games regressions)	Variable that can take five values: 0%, 25%, 50%, 75%, and 100%. These values reflect the player's 2 expectation about the percentage -of the initial endowment received- that player 1 is going to offer him.
Percentage expected to be returned by matched player (For player 1 in Trust Games regressions)	This variable can take values from 0% to 100%. It reflects player's 1 expectation of the percentage to be returned by player 2, considering the different set of options he has (that set of options depends on the percentage of money gave by player 1).
Percentage of expected contributors to VCM (VCM regressions)	This variable result from the division of the number of participants the player expects to participate in the group account by the total number of participants in each session. It ranges from 0% to 100%.
Session characteristics	
Percentage of women	Percentage of women in each session. It ranges from 0% to 100%.
Percentage with less than complete secondary education	Percentage of participants in each session that have less than complete secondary education. It ranges from 0% to 100%.
Percentage in the lower (or medium) socio-economic level	Percentage of participants in each session that reside in the lower (or medium) socio-economic level. It ranges from 0% to 100%.
Number of players per session	Number of participants in each session.
Pro-social Attitude	
Pro-social index	Index that takes values in the range 0% to 100%, and measure the percentage of pro-social affirmations accepted by the participant. For this index were considered 9 pro-social affirmations: Agreement with (1) People should worry about other people's well-being, (2) In a good society, people feel responsible for others, (3) Rich countries have moral obligation to share wealth with poor countries, (4) Public social protection programs help prevent hunger and malnutrition, (5) People have the moral obligation to share part of their resources with poor people, (6) Taxes must be increased in order to give subsidies to the poor, and (7) Taxes must be increased to finance labor insertion programs of youth delinquents; and disagreement with: (8) The State's social protection system makes people work less than otherwise, and (9) Poor people don't make an effort to get out of poverty.
At least, 40%, 50% or 60% of pro-social affirmations accepted	Dummy variables that take the value of 1 when a participant is in agreement with, at least, 40%, 50% or 60% of the 9 pro-social affirmations, and zero otherwise.

Table 2.
Basic Data of Experiments

Variables	Experiment sample (weighted)					Household surveys [1]
	Obs	Std. Dev.	Min	Max	Mean	
Socio-demographic characteristics						
Average age	3092	15.05	17	80	38	40
Percentage of female population	3096	0.50	0	1	0.54	0.54
Percentage with public education	3096	0.41	0	1	0.79	0.52
Percentage working in the public Sector	1798	0.33	0	1	0.13	0.11
Parental relationship (percentage)						
Household head	3096	0.49	0	1	0.41	0.38
Wife/Husband	3096	0.43	0	1	0.24	0.24
Son/Daughter	3096	0.45	0	1	0.27	0.27
Other	3096	0.26	0	1	0.08	0.11
Marital status (percentage)						
Single	3096	0.48	0	1	0.35	0.33
Formal or Informal Union	3096	0.50	0	1	0.50	0.55
Divorced, Widow.	3096	0.36	0	1	0.15	0.13
Educational level (percentage)						
Secondary Incomplete or Less	3096	0.50	0	1	0.45	0.48
Secondary Complete	3096	0.44	0	1	0.25	0.25
Tertiary Complete or Incomplete	3096	0.45	0	1	0.29	0.27
Socio-economic level of the neighborhood of residence (percentage)						
Low	3091	0.50	0	1	0.52	-
Middle	3091	0.46	0	1	0.30	-
High	3091	0.38	0	1	0.18	-
Related to matched players' characteristics						
For first players in Trust Games						
Percentage of matched players that are women	1510	0.5	0	1	0.5	
Average age difference between matched players	1507	20.5	-54	53	3.1	
Average schooling difference between matched players	1510	4.4	-15	14	-1.1	
For second players in Trust Games						
Percentage of matched players that are women	1551	0.5	0	1	0.6	
Average age difference between matched players	1544	19.7	-53	54	0.0	
Average schooling difference between matched players	1551	4.4	-14	15	-1.3	
Experiment variables						
Percentage expected to be returned from player 2 (Trust Game)	1486	23.2	0	100	36.2	
Percentage expected to be received from player 1 (Trust game)	1562	29.9	0	100	46.2	
Percentage of expected contributors to Voluntary Contribution Game	3080	26.6	0	185	44.5	
Risk aversion						
Low	3094	0.4	0	1	0.2	
Medium	3094	0.5	0	1	0.3	
High	3094	0.5	0	1	0.5	
Experiment outcomes						
First players' average initial offer (percentage)	1517	0.3	0	1	0.4	
Second player's return offer if (percentage):						
Effective P1's offer	1539	0.2	0	1	0.3	
P1's offer is 0%	1566	0.2	0	1	0.2	
P1's offer is 25%	1566	0.2	0	1	0.3	
P1's offer is 50%	1565	0.2	0	1	0.3	
P1's offer is 75%	1564	0.2	0	1	0.3	
P1's offer is 100%	1564	0.2	0	1	0.3	
Percentage of participants that contributed to group account	3094	0.4	0	1	0.2	
Percentage of participants that shared risk	3096	0.5	0	1	0.5	
Session characteristics (not weighted)						
Percentage of women	3108	12.4	22.7	90	55.5	
Percentage with less than complete secondary education	3109	28.2	0	93.1	31.1	
Percentage in the lower socio-economic level	3108	28.2	0	100	39.5	
Average size per session	3107	5.5	9	38	22.0	

1/ These data correspond to the last household survey available for each country.

Table 3.
Social Attitudes in Six Latin American Cities
(percent)

	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Agreement with:						
People should worry about other people's well-being	90.71	89.95	86.00	91.56	91.56	92.24
In a good society, people feel responsible for others	79.61	84.15	74.58	77.01	84.03	78.73
Rich countries have a moral obligation to share wealth with poor countries	72.31	67.21	69.42	77.24	58.33	69.72
Public social protection programs help prevent hunger and malnutrition	92.95	77.61	81.12	80.53	76.45	77.65
People have the moral obligation to share part of their resources with poor people	75.34	65.34	58.17	78.78	57.04	75.54
Taxes must be increased in order to give subsidies to the poor	52.14	38.23	64.87	62.22	36.51	60.91
Taxes must be increased to finance labor insertion programs of youth delinquents	47.60	41.53	73.20	69.28	44.88	62.83
Disagreement with:						
The State social protection system makes people work less than otherwise	64.98	36.18	57.75	55.67	40.43	52.61
Poor people don't make an effort to get out of poverty	61.86	66.67	64.03	72.25	58.87	54.80

Table 4. Amount Offered by Player 1 in the Trust Games and Pro-Social Attitude

	Dependent variable: First player's initial offer		
	(1)	(2)	(3)
Socio-demographic characteristics			
Gender: Female	-0.0355**	-0.0344**	
	(0.0153)	(0.0142)	
Age	0.0014***	0.0010**	0.0005
	(0.0005)	(0.0005)	(0.0007)
Years of education	0.0075***	0.0083***	0.0101***
	(0.0026)	(0.0025)	(0.0032)
Socio-economic level: medium	0.0204	0.0102	-0.0016
	(0.0185)	(0.0171)	(0.0204)
Socio-economic level: high	0.0156	0.0192	0.0026
	(0.0191)	(0.0186)	(0.0231)
Experimental variables			
Percentage expected to be returned by matched player		0.0032***	0.0032***
		(0.0004)	(0.0004)
Risk aversion: medium		0.0325	0.0329
		(0.0250)	(0.0256)
Risk aversion: high		-0.0100	-0.0101
		(0.0233)	(0.0239)
Respect to matched player's characteristics			
If both players are men			-0.0307
			(0.0214)
If both players are women			-0.0331*
			(0.0182)
If participant is a woman and the match is a man			-0.0643***
			(0.0194)
Age difference			0.0006
			(0.0005)
Schooling difference			-0.0018
			(0.0023)
If participant is at a lower socio-economic level			-0.0207
			(0.0186)
If participant is at a higher socio-economic level			0.0168
			(0.0206)
Pro-social attitude			
Pro-social index	0.0006*	0.0006*	0.0005
	(0.0003)	(0.0003)	(0.0003)
Constant	0.1923***	0.0916*	0.1140*
	(0.0519)	(0.0530)	(0.0602)
Observations	1516	1483	1466
R-squared	0.04	0.11	0.12
F [1]	4.581	9.886	7.787
Prob > F	0.0000	0.0000	0.0000
Number of clusters	150	150	149

1/For each regression: (1) $F_{(11,49)}$; (2) $F_{(14,149)}$; (3) $F_{(20,148)}$. 2/ Robust standard errors, clustered by session, in parentheses. All regressions are run using OLS and include dummies per city. Including dummies per session gives similar results. * Significant at ten percent; ** significant at five percent; *** significant at one percent.

Table 5. Amount Returned by Player 2 in Trust Game and Pro-Social Attitude

	(1)	(2)	(3)	(4)	(5)
	Dependent variables: Second player's return offer if…				
	P1's offer: 0%	P1's offer: 25%	P1's offer: 50%	P1's offer: 75%	P1's offer: 100%
Socio-demographic characteristics					
Age	0.0026***	0.0012**	0.0011**	0.0003	0.0001
	(0.0007)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Years of education	-0.0065**	-0.0003	0.0024	0.0041*	0.0051**
	(0.0029)	(0.0023)	(0.0022)	(0.0022)	(0.0024)
Socio-economic level: medium	0.0101	0.0193	0.0362***	0.0348***	0.0366***
	(0.0173)	(0.0133)	(0.0125)	(0.0110)	(0.0131)
Socio-economic level: high	0.0085	0.0164	0.0355**	0.0318**	0.0397**
	(0.0246)	(0.0190)	(0.0158)	(0.0147)	(0.0167)
Experimental variables					
Percentage expected to be received from matched player	0.0026***	0.0024***	0.0021***	0.0021***	0.0023***
	(0.0003)	(0.0002)	(0.0002)	(0.0002)	(0.0002)
In regard to matched player's characteristics					
If both players are men	-0.0081	-0.0039	-0.0011	-0.0157	-0.0139
	(0.0195)	(0.0165)	(0.0161)	(0.0155)	(0.0168)
If both players are women	-0.0087	-0.0105	-0.0300**	-0.0346**	-0.0349***
	(0.0167)	(0.0139)	(0.0135)	(0.0135)	(0.0132)
If participant is a woman and the match is a man	-0.0011	-0.0130	-0.0242*	-0.0418***	-0.0287*
	(0.0165)	(0.0130)	(0.0135)	(0.0135)	(0.0150)
Age difference	-0.0002	-0.0000	-0.0002	-0.0001	0.0000
	(0.0005)	(0.0004)	(0.0003)	(0.0003)	(0.0003)
Schooling difference	-0.0029	-0.0021	-0.0025	-0.0006	-0.0012
	(0.0020)	(0.0016)	(0.0015)	(0.0016)	(0.0018)
If participant is at a lower socio-economic level	0.0085	0.0106	0.0114	0.0159	0.0081
	(0.0182)	(0.0148)	(0.0136)	(0.0136)	(0.0146)
If participant is at a higher socio-economic level	-0.0074	-0.0067	-0.0101	0.0027	0.0061
	(0.0171)	(0.0133)	(0.0131)	(0.0124)	(0.0142)
Pro-social attitude					
Pro-social index	0.0004	0.0005*	0.0003	0.0004	0.0005*
	(0.0003)	(0.0003)	(0.0002)	(0.0002)	(0.0003)
Constant	-0.0125	0.0121	0.0129	0.0245	0.0054
	(0.0531)	(0.0406)	(0.0386)	(0.0381)	(0.0411)
Observations	1533	1534	1533	1533	1533
R-squared	0.19	0.18	0.17	0.17	0.17
F(18, 148)	15.51	13.71	14.61	14.63	14.95
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000
Number of clusters	149	149	149	149	149

Robust standard errors, clustered by session, in parentheses. All regressions are run using OLS and include dummies per city. Including dummies per session gives similar results. * Significant at ten percent; ** significant at five percent; *** significant at one percent.

Table 6. Voluntary Contributions and Pro-Social Attitude

	Dependent variable: Voluntary contribution to the group account		
	(1)	(2)	(3)
Socio-demographic characteristics			
Gender: Female	0.0172	0.0306	0.0195
	(0.0555)	(0.0577)	(0.0583)
Age	0.0122***	0.0077***	0.0077***
	(0.0017)	(0.0019)	(0.0019)
Years of education	-0.0013	0.0076	-0.0006
	(0.0092)	(0.0096)	(0.0104)
Socio-economic level: medium	0.0251	0.0797	0.0572
	(0.0668)	(0.0664)	(0.0726)
Socio-economic level: high	0.0792	0.1350	0.0321
	(0.0842)	(0.0893)	(0.0912)
Experimental variables			
Percentage of expected contributors to VCM		0.0223***	0.0224***
		(0.0014)	(0.0014)
Risk aversion: medium		0.1603	0.1693*
		(0.0996)	(0.0988)
Risk aversion: high		0.1876**	0.1936**
		(0.0863)	(0.0855)
Session characteristics			
Percentage of women			0.0023
			(0.0026)
Percentage with less than complete secondary education			-0.0023
			(0.0021)
Percentage in the lower socio-economic level			-0.0029
			(0.0018)
Percentage in the medium socio-economic level			-0.2444
			(0.1913)
Number of players			0.0043
			(0.0063)
Pro-social attitude			
Pro-social index	0.0037***	0.0032**	0.0033**
	(0.0013)	(0.0013)	(0.0013)
Constant	-1.9032***	-3.0920***	-2.9162***
	(0.1874)	(0.2321)	(0.3277)
Observations	3086	3070	3070
Pseudo R-squared	0.0538	0.180	0.183
Chi^{2} [1]	133.6	350.5	348.9
Prob > chi^2	0.0000	0.0000	0.0000
Number of clusters	150	150	150

[1] For each regression: (1) chi2 (11); (2) chi2 (14); (3) chi2 (19). [2] Robust standard errors, clustered by session, in parentheses. All regressions are run using probit and include dummies per city. Including dummies per session gives similar results. * Significant at ten percent; ** significant at five percent; *** significant at one percent.

Table 7. Risk Pooling and Pro-Social Attitude

	Dependent variable: Sharing risk with a group		
	(1)	(2)	(3)
Socio-demographic characteristics			
Gender: Female	0.0897*	0.0849*	0.0620
	(0.0486)	(0.0482)	(0.0481)
Age	0.0110***	0.0111***	0.0113***
	(0.0018)	(0.0018)	(0.0019)
Years of education	0.0149	0.0140	0.0042
	(0.0098)	(0.0098)	(0.0105)
Socio-economic level: medium	-0.0178	-0.0090	-0.0237
	(0.0703)	(0.0701)	(0.0728)
Socio-economic level: high	-0.0358	-0.0261	-0.0869
	(0.0830)	(0.0831)	(0.0919)
Experimental variables			
Risk aversion: medium		0.1756**	0.1805**
		(0.0726)	(0.0727)
Risk aversion: high		0.1189*	0.1266*
		(0.0696)	(0.0691)
Session characteristics			
Percentage of women			0.0042*
			(0.0025)
Percentage with less than complete secondary education			-0.0035*
			(0.0018)
Percentage in the lower socio-economic level			-0.0011
			(0.0017)
Percentage in the medium socio-economic level			-0.1607
			(0.1740)
Number of players			-0.0086
			(0.0057)
Pro-social attitude			
Pro-social index	0.0031**	0.0031**	0.0032**
	(0.0013)	(0.0013)	(0.0013)
Constant	-1.0965***	-1.2147***	-0.9318***
	(0.1872)	(0.2022)	(0.2921)
Observations	3088	3086	3086
Pseudo R-squared	0.0298	0.0312	0.0355
Chi$^{2\ 1/}$	109.2	117.7	130.3
Prob > chi^2	0.0000	0.0000	0.0000
Number of clusters	150	150	150

1/ For each regression: (1) chi2 (11); (2) chi2 (13); (3) chi2 (18). 2/ Robust standard errors, clustered by session, in parentheses. All regressions are run using probit and include dummies per city. Including dummies per session gives similar results. * Significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.

Table 8. Robustness to Changes in Pro-Social Index

	First player's initial offer			Second player's return offer conditioned to effective P1's offer			Voluntary contribution to the group account			Sharing risk with a group		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Pro-social index is higher than 40%	-0.0183 (0.0204)			0.0141 (0.0179)			0.0813 (0.0893)			0.0791 (0.0793)		
Pro-social index is higher than 50%		-0.0024 (0.0167)			0.0197 (0.0129)			0.1518** (0.0639)			0.1332** (0.0561)	
Pro-social index is higher than 60%			0.0191 (0.0141)			0.0143 (0.0108)			0.1721*** (0.0561)			0.1520*** (0.0515)
Observations	1466	1466	1466	1523	1523	1523	3070	3070	3070	3086	3086	3086
R-squared / Pseudo R-squared [1]	0.11	0.11	0.12	0.17	0.17	0.17	0.181	0.183	0.184	0.0340	0.0351	0.0360
F / Chi2 [2]	8.242	7.763	7.886	15.18	15.28	15.33	350.8	357.9	350.5	122.6	125.0	134.4
F > 0, Chi2 > 0 [2]	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of clusters	149	149	149	149	149	149	150	150	150	150	150	150

1/ For (1) to (6), R- squared as they are OLS regressions; for (7) to (12), Pseudo R-squared, as they are probit regressions. 2/For columns (1) to (3): $F_{(20,148)}$; for (4) to (6): $F_{(18,148)}$; for (7) to (9): chi2(19); and for (10) to (12): chi2(18). 2/ Robust standard errors, clustered by session, in parentheses. All regressions include dummies per city. Regressions (1) to (3), (7) to (9), and (10) to (12) are run using specifications from the third column of Tables 3, 5, and 6, respectively. Specification use for regressions (4) to (6) correspond to the first column of Table 4. Including dummies per session gives similar results. * Significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.

Appendix 1. Correlation Matrices

Panel A. Amount Offered by Player 1 in Trust Game

	First player's initial offer	Pro-social index	Pro-social index is higher than 40%	Pro-social index is higher than 50%	Pro-social index is higher than 60%	Age	Gender: Female	Years of education	Socio-economic level: medium	Socio-economic level: high	Percentage expected to be returned by matched player	Risk aversion: medium	Risk aversion: high	If both players are men	If both players are women	If participant is a woman an the matched is a man	Age difference	Schooling difference
Pro-social index	0.0279																	
	0.278																	
Pro-social index is higher than 40%	-0.0156	0.6343																
	0.544	0.000																
Pro-social index is higher than 50%	-0.0013	0.7639	0.6305															
	0.959	0.000	0.000															
Pro-social index is higher than 60%	0.0217	0.8167	0.4560	0.7233														
	0.398	0.000	0.000	0.000														
Age	0.0627	0.0362	0.0493	0.0407	0.0122													
	0.015	0.158	0.054	0.112	0.635													
Gender: Female	-0.0642	-0.0184	-0.0165	-0.0155	0.0071	0.1393												
	0.012	0.471	0.519	0.545	0.782	0.000												
Years of education	0.1006	-0.1225	-0.0499	-0.0636	-0.0725	-0.1484	-0.0470											
	0.000	0.000	0.051	0.013	0.005	0.000	0.066											
Socio-economic level: medium	0.0356	-0.0377	0.0045	-0.0206	-0.0156	0.0242	0.0064	0.1023										
	0.165	0.141	0.860	0.422	0.542	0.345	0.801	0.000										
Socio-economic level: high	0.0464	-0.0516	-0.0431	-0.0621	-0.0386	-0.0018	-0.0248	0.3404	-0.4307									
	0.070	0.044	0.092	0.015	0.131	0.943	0.331	0.000	0.000									
Percentage expected to be returned by matched player	0.2574	0.0289	0.0164	0.0121	0.0117	0.0670	-0.0454	0.0167	0.0434	0.0097								
	0.000	0.266	0.528	0.642	0.651	0.010	0.080	0.519	0.094	0.709								
Risk aversion: medium	0.0621	0.0227	0.0412	0.0364	0.0182	0.0170	0.0224	0.0378	-0.0445	0.0005	0.0062							
	0.016	0.375	0.108	0.155	0.478	0.508	0.381	0.140	0.082	0.984	0.812							
Risk aversion: high	-0.0738	-0.0370	-0.0460	-0.0371	-0.0360	-0.0433	0.0332	-0.0137	0.0281	-0.0255	-0.0265	-0.7148						
	0.004	0.148	0.072	0.148	0.160	0.090	0.195	0.594	0.272	0.319	0.306	0.000						
If both players are men	0.0136	-0.0309	-0.0280	-0.0184	-0.0274	-0.0608	-0.5650	0.0655	-0.0482	0.0459	0.0380	-0.0198	-0.0069					
	0.599	0.229	0.277	0.476	0.288	0.018	0.000	0.011	0.061	0.074	0.144	0.441	0.788					
If both players are women	0.0003	-0.0055	0.0090	-0.0154	-0.0176	0.0495	0.5978	-0.0297	0.0333	-0.0233	-0.0025	-0.0027	0.0472	-0.3378				
	0.989	0.830	0.727	0.549	0.493	0.054	0.000	0.248	0.195	0.365	0.922	0.918	0.067	0.000				
If participant is a woman an the matched is a man	-0.0733	-0.0175	-0.0293	-0.0023	0.0241	0.1079	0.5081	-0.0275	-0.0311	-0.0036	-0.0461	0.0255	-0.0086	-0.2871	-0.3867			
	0.004	0.497	0.256	0.930	0.349	0.000	0.000	0.285	0.226	0.887	0.076	0.321	0.737	0.000	0.000			
Age difference	0.0597	0.0148	0.0455	0.0538	0.0178	0.6631	0.0599	-0.0922	-0.0172	-0.0229	0.0415	0.0365	-0.0518	0.0239	-0.0478	0.1203		
	0.021	0.566	0.078	0.037	0.489	0.000	0.020	0.000	0.505	0.373	0.111	0.157	0.044	0.354	0.063	0.000		
Schooling difference	0.0486	-0.0446	-0.0166	-0.0283	-0.0161	-0.1249	-0.0133	0.5859	0.1092	0.1314	-0.0404	0.0323	-0.0142	0.0142	0.0514	-0.0705	-0.1784	
	0.059	0.083	0.520	0.272	0.533	0.000	0.605	0.000	0.000	0.000	0.120	0.210	0.582	0.580	0.046	0.006	0.000	
If participant is at a lower socio-economic level	-0.0324	0.0234	0.0086	0.0290	0.0130	0.0187	0.0070	-0.0688	-0.0586	-0.3171	0.0264	-0.0241	0.0320	0.0066	-0.0084	0.0171	0.0100	-0.2206
	0.209	0.364	0.738	0.261	0.615	0.468	0.785	0.007	0.023	0.000	0.310	0.350	0.214	0.798	0.745	0.507	0.698	0.000
If participant is at a higher socio-economic level	0.0351	-0.0593	-0.0319	-0.0700	-0.0413	-0.0488	0.0362	0.2142	0.1557	0.3364	-0.0130	-0.0039	-0.0010	-0.0277	0.0557	-0.0182	-0.0389	0.2689
	0.173	0.021	0.216	0.007	0.109	0.058	0.160	0.000	0.000	0.000	0.619	0.879	0.969	0.282	0.030	0.480	0.131	0.000

P-values are reported below the correlation coefficients.

Panel B. Amount Returned by Player 2 in Trust Game

Each cell reports the correlation coefficient with the p-value below it.

Second player's return offer if:	Effective P1's offer	P1's offer: 0%	P1's offer: 25%	P1's offer: 50%	P1's offer: 75%	P1's offer: 100%	Pro-social index	Pro-social index is higher than 40%	Pro-social index is higher than 50%	Pro-social index is higher than 60%	Age	Gender: Female	Years of education	Socio-economic level: medium	Socio-economic level: high	Percentage expected to be returned by matched player	If both players are men	If both players are women	If participant is a woman and the matched is a man
P1's offer: 0%	0.5744 / 0.000																		
P1's offer: 25%	0.7940 / 0.000	0.6122 / 0.000																	
P1's offer: 50%	0.7996 / 0.000	0.5020 / 0.000	0.7657 / 0.000																
P1's offer: 75%	0.7401 / 0.000	0.4254 / 0.000	0.7053 / 0.000	0.8162 / 0.000															
P1's offer: 100%	0.7275 / 0.000	0.3878 / 0.000	0.6567 / 0.000	0.7953 / 0.000	0.8268 / 0.000														
Pro-social index	0.0321 / 0.208	0.0568 / 0.025	0.0464 / 0.066	0.0273 / 0.281	0.0166 / 0.513	0.0205 / 0.417													
Pro-social index is higher than 40%	0.0188 / 0.462	0.0375 / 0.138	0.0252 / 0.319	0.0322 / 0.203	0.0219 / 0.386	0.0153 / 0.546	0.6333 / 0.000												
Pro-social index is higher than 50%	0.0323 / 0.205	0.0511 / 0.043	0.0452 / 0.074	0.0329 / 0.194	0.0185 / 0.464	0.0170 / 0.502	0.7599 / 0.000	0.6316 / 0.000											
Pro-social index is higher than 60%	0.0302 / 0.236	0.0471 / 0.062	0.0510 / 0.044	0.0333 / 0.188	0.0187 / 0.461	0.0158 / 0.534	0.8203 / 0.000	0.4439 / 0.000	0.7028 / 0.000										
Age	0.0912 / 0.000	0.1652 / 0.000	0.1172 / 0.000	0.0945 / 0.000	0.0343 / 0.175	0.0382 / 0.131	0.0951 / 0.000	0.0312 / 0.218	0.0702 / 0.006	0.0887 / 0.000									
Gender: Female	-0.0048 / 0.850	0.0294 / 0.244	-0.0110 / 0.665	-0.0561 / 0.026	-0.0795 / 0.002	-0.0653 / 0.010	-0.0415 / 0.101	-0.0412 / 0.103	-0.0121 / 0.633	-0.0125 / 0.621	0.1148 / 0.000								
Years of education	0.0223 / 0.382	-0.1422 / 0.000	-0.0254 / 0.315	0.0562 / 0.026	0.1193 / 0.000	0.1331 / 0.000	-0.0705 / 0.005	-0.0227 / 0.370	-0.0789 / 0.002	-0.0851 / 0.001	-0.1402 / 0.000	-0.0821 / 0.001							
Socio-economic level: medium	0.0211 / 0.407	-0.0103 / 0.685	0.0006 / 0.981	0.0272 / 0.281	0.0321 / 0.205	0.0285 / 0.261	-0.0707 / 0.005	-0.0751 / 0.003	-0.0405 / 0.109	-0.0268 / 0.289	0.0073 / 0.773	0.0110 / 0.664	0.0712 / 0.005						
Socio-economic level: high	0.0369 / 0.147	-0.0336 / 0.184	0.0063 / 0.804	0.0546 / 0.031	0.0631 / 0.013	0.0868 / 0.001	0.0023 / 0.929	0.0243 / 0.337	-0.0058 / 0.820	-0.0159 / 0.529	0.0387 / 0.126	-0.0375 / 0.138	0.3386 / 0.000	-0.4285 / 0.000					
Percentage expected to be returned by matched player	0.3481 / 0.000	0.3227 / 0.000	0.3504 / 0.000	0.3322 / 0.000	0.3195 / 0.000	0.3148 / 0.000	0.0243 / 0.337	0.0294 / 0.245	0.0328 / 0.195	0.0273 / 0.280	0.1209 / 0.000	0.0001 / 0.998	-0.0363 / 0.151	-0.0553 / 0.029	0.0307 / 0.226				
If both players are men	-0.0030 / 0.908	-0.0272 / 0.284	0.0047 / 0.853	0.0366 / 0.150	0.0319 / 0.209	0.0301 / 0.236	0.0390 / 0.124	0.0209 / 0.412	0.0310 / 0.223	0.0231 / 0.364	-0.0899 / 0.000	-0.5508 / 0.000	0.0551 / 0.030	-0.0477 / 0.060	0.0587 / 0.021	-0.0094 / 0.712			
If both players are women	0.0037 / 0.883	0.0225 / 0.375	0.0028 / 0.912	-0.0389 / 0.125	-0.0363 / 0.153	-0.0517 / 0.042	-0.0460 / 0.070	-0.0414 / 0.103	-0.0333 / 0.191	-0.0303 / 0.233	0.1064 / 0.000	0.6024 / 0.000	-0.0813 / 0.000	-0.0130 / 0.609	-0.0397 / 0.118	0.0291 / 0.253	-0.3318 / 0.000		
If participant is a woman an the matched is a man	-0.0098 / 0.702	0.0063 / 0.804	-0.0211 / 0.406	-0.0272 / 0.284	-0.0592 / 0.020	-0.0268 / 0.291	-0.0011 / 0.966	-0.0054 / 0.832	0.0224 / 0.378	0.0191 / 0.451	0.0135 / 0.594	0.5109 / 0.000	-0.0103 / 0.684	0.0341 / 0.179	-0.0006 / 0.982	-0.0328 / 0.196	-0.2814 / 0.000	-0.3783 / 0.000	
Age difference	0.0540 / 0.034	0.1222 / 0.000	0.0846 / 0.001	0.0545 / 0.032	0.0059 / 0.816	0.0172 / 0.499	0.0864 / 0.001	0.0417 / 0.101	0.0643 / 0.012	0.0821 / 0.001	0.6612 / 0.000	0.1173 / 0.000	-0.1022 / 0.000	0.0068 / 0.788	-0.0119 / 0.640	0.0759 / 0.003	-0.0160 / 0.530	0.0482 / 0.058	0.0841 / 0.001
Schooling difference	-0.0285 / 0.264	-0.1190 / 0.000	-0.0623 / 0.014	-0.0336 / 0.185	0.0309 / 0.224	0.0305 / 0.230	0.0005 / 0.985	0.0204 / 0.421	-0.0149 / 0.558	-0.0196 / 0.440	-0.1030 / 0.000	-0.0467 / 0.065	0.5502 / 0.000	0.0033 / 0.898	0.1342 / 0.000	-0.0423 / 0.096	-0.0094 / 0.713	-0.0444 / 0.080	-0.0064 / 0.801
If participant is at a lower socio-economic level	0.0416 / 0.103	0.0594 / 0.019	0.0465 / 0.067	0.0304 / 0.231	0.0263 / 0.301	0.0068 / 0.790	-0.0122 / 0.632	-0.0162 / 0.524	0.0000 / 1.000	0.0085 / 0.737	0.0156 / 0.540	0.0418 / 0.100	-0.0911 / 0.000	-0.0210 / 0.408	-0.3282 / 0.000	0.0647 / 0.011	-0.0291 / 0.252	0.0621 / 0.015	-0.0184 / 0.469
If participant is at a higher socio-economic level	0.0185 / 0.470	-0.0441 / 0.082	-0.0149 / 0.558	0.0123 / 0.629	0.0484 / 0.057	0.0667 / 0.009	-0.0584 / 0.022	-0.0310 / 0.224	-0.0484 / 0.057	-0.0412 / 0.105	-0.0044 / 0.863	-0.0263 / 0.301	0.1974 / 0.000	0.1165 / 0.000	0.3645 / 0.000	-0.0180 / 0.479	0.0136 / 0.592	-0.0173 / 0.497	-0.0119 / 0.639

P-values are reported below the correlation coefficients.

Panel C. Voluntary Contributions and Risk Pooling

	Participant contributed to VCM	Participant pooled risk	Pro-social index	Pro-social index is higher than 40%	Pro-social index is higher than 50%	Pro-social index is higher than 60%	Age	Gender: Female	Years of education	Socio-economic level: medium	Socio-economic level: high	Percentage of expected contributors to VCM	Risk aversion: medium	Risk aversion: high	Percentage of women
Participant pooled risk	0.2825														
	0.000														
Pro-social index	0.0454	0.0313													
	0.012	0.082													
Pro-social index is higher than 40%	0.0152	0.0091	0.6336												
	0.397	0.613	0.000												
Pro-social index is higher than 50%	0.0377	0.0302	0.7617	0.6311											
	0.036	0.093	0.000	0.000											
Pro-social index is higher than 60%	0.0509	0.0395	0.8183	0.4499	0.7129										
	0.005	0.028	0.000	0.000	0.000										
Age	0.1160	0.1321	0.0653	0.0400	0.0552	0.0507									
	0.000	0.000	0.000	0.026	0.002	0.005									
Gender: Female	0.0173	0.0477	-0.0310	-0.0291	-0.0140	-0.0030	0.1276								
	0.335	0.008	0.085	0.105	0.437	0.866	0.000								
Years of education	0.0020	0.0105	-0.0966	-0.0364	-0.0714	-0.0790	-0.1437	-0.0641							
	0.913	0.560	0.000	0.043	0.000	0.000	0.000	0.000							
Socio-economic level: medium	-0.0099	0.0058	-0.0550	-0.0357	-0.0308	-0.0215	0.0161	0.0090	0.0870						
	0.583	0.746	0.002	0.047	0.087	0.233	0.370	0.615	0.000						
Socio-economic level: high	0.0199	0.0046	-0.0242	-0.0091	-0.0337	-0.0272	0.0188	-0.0310	0.3396	-0.4294					
	0.267	0.798	0.179	0.612	0.061	0.130	0.297	0.084	0.000	0.000					
Percentage of expected contributors to VCM	0.3831	0.1886	0.0519	0.0329	0.0445	0.0470	0.1598	0.0030	-0.0865	-0.0421	-0.0375				
	0.000	0.000	0.004	0.068	0.014	0.009	0.000	0.867	0.000	0.019	0.037				
Risk aversion: medium	0.0161	0.0314	0.0298	0.0398	0.0411	0.0330	0.0333	0.0012	-0.0120	-0.0521	-0.0111	0.0408			
	0.370	0.080	0.097	0.027	0.022	0.066	0.064	0.945	0.503	0.004	0.537	0.023			
Risk aversion: high	-0.0132	-0.0055	-0.0361	-0.0411	-0.0296	-0.0316	-0.0727	0.0359	0.0319	0.0368	-0.0110	-0.0857	-0.6965		
	0.463	0.760	0.045	0.022	0.100	0.079	0.000	0.046	0.076	0.041	0.540	0.000			
Percentage of women	0.0243	0.0485	0.0270	0.0253	0.0164	0.0175	0.0544	0.2501	-0.1598	0.0166	-0.1021	0.0474	0.0132	-0.0141	
	0.177	0.007	0.133	0.159	0.361	0.330	0.002	0.000	0.000	0.356	0.000	0.008	0.463	0.433	
Percentage with less than complete secondary education	-0.0495	-0.0163	0.0503	0.0242	0.0396	0.0289	0.1518	0.0500	-0.5607	-0.0267	-0.1903	0.0112	-0.0026	0.0131	0.2000
	0.006	0.363	0.005	0.178	0.027	0.107	0.000	0.005	0.000	0.138	0.000	0.534	0.887	0.467	0.000
Percentage in the lower socio-economic level	-0.0274	-0.0355	0.0378	0.0278	0.0240	0.0169	-0.0390	0.0324	-0.3397	-0.2338	-0.3920	0.0531	0.0432	-0.0103	0.1294
	0.127	0.048	0.036	0.122	0.183	0.347	0.030	0.071	0.000	0.000	0.000	0.003	0.016	0.565	0.000
Percentage in the medium socio-economic level	-0.0104	0.0075	-0.0220	-0.0137	0.0069	-0.0004	0.0226	0.0086	0.0425	0.4895	-0.2255	-0.0115	-0.0301	0.0079	0.0345
	0.563	0.676	0.220	0.445	0.703	0.984	0.207	0.630	0.018	0.000	0.000	0.525	0.094	0.658	0.054
Number of players	-0.0145	-0.0375	0.0322	0.0178	0.0134	0.0328	0.0148	0.0275	-0.1658	-0.0203	-0.0672	-0.0202	-0.0278	0.0429	0.1066
	0.419	0.037	0.073	0.323	0.455	0.068	0.409	0.126	0.000	0.258	0.000	0.262	0.122	0.017	0.000

P-values are reported below the correlation coefficients.

Appendix 2
Marginal Effects: Voluntary Contributions and Pro-Social Attitude

	Dependent variable: Voluntary contribution to the group account			
	(1)	(2)	(3)	(4)
Socio-demographic characteristics				
Age	0.0021***	0.0022***	0.0021***	0.0021***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Gender: Female	0.0053	0.0038	0.0042	0.0049
	(0.0160)	(0.0159)	(0.0159)	(0.0159)
Years of education	-0.0002	-0.0004	-0.0003	-0.0000
	(0.0029)	(0.0029)	(0.0029)	(0.0029)
Socio-economic level: medium	0.0158	0.0133	0.0150	0.0144
	(0.0203)	(0.0204)	(0.0202)	(0.0202)
Socio-economic level: high	0.0089	0.0071	0.0088	0.0089
	(0.0254)	(0.0255)	(0.0255)	(0.0255)
Experimental variables				
Percentage of expected contributors to VCM	0.0061***	0.0061***	0.0061***	0.0061***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Risk aversion: medium	0.0478*	0.0479*	0.0467	0.0466
	(0.0285)	(0.0285)	(0.0285)	(0.0285)
Risk aversion: high	0.0529**	0.0529**	0.0524**	0.0521**
	(0.0233)	(0.0233)	(0.0233)	(0.0233)
Session characteristics				
Percentage of women	0.0006	0.0006	0.0006	0.0006
	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Percentage with less than complete secondary education	-0.0006	-0.0006	-0.0006	-0.0006
	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Percentage in the lower socio-economic level	-0.0008	-0.0008	-0.0008	-0.0008
	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Percentage in the medium socio-economic level	-0.0671	-0.0707	-0.0705	-0.0661
	(0.0527)	(0.0530)	(0.0527)	(0.0524)
Number of players	0.0012	0.0012	0.0012	0.0011
	(0.0017)	(0.0017)	(0.0017)	(0.0017)
Pro-social attitude				
Pro-social index	0.0009**			
	(0.0004)			
Pro-social index is higher than 40%		0.0217		
		(0.0232)		
Pro-social index is higher than 50%			0.0401**	
			(0.0163)	
Pro-social index is higher than 60%				0.0462***
				(0.0148)
Observations	3070	3070	3070	3070
Pseudo R-squared	0.183	0.181	0.183	0.184
Number of clusters	150	150	150	150

This table presents the marginal effects of the third regression of Table 5, and regressions (7), (8), and (9) from Table 7. Robust standard errors, clustered by session, in parentheses. All regressions are run using probit and include dummies per city. Including dummies per session gives similar results. * Significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.

Appendix 3
Marginal Effects: Risk Pooling and Pro-Social Attitude

	Dependent variable: Sharing risk with a group			
	(1)	(2)	(3)	(4)
Socio-demographic characteristics				
Age	0.0045***	0.0046***	0.0046***	0.0045***
	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Gender: Female	0.0247	0.0229	0.0234	0.0232
	(0.0192)	(0.0192)	(0.0192)	(0.0192)
Years of education	0.0017	0.0013	0.0015	0.0017
	(0.0042)	(0.0042)	(0.0042)	(0.0042)
Socio-economic level: medium	-0.0095	-0.0124	-0.0105	-0.0112
	(0.0290)	(0.0291)	(0.0290)	(0.0290)
Socio-economic level: high	-0.0346	-0.0366	-0.0347	-0.0351
	(0.0365)	(0.0365)	(0.0366)	(0.0364)
Experimental variables				
Risk aversion: medium	0.0719**	0.0722**	0.0708**	0.0708**
	(0.0289)	(0.0290)	(0.0289)	(0.0289)
Risk aversion: high	0.0504*	0.0505*	0.0496*	0.0499*
	(0.0275)	(0.0276)	(0.0274)	(0.0275)
Session characteristics				
Percentage of women	0.0017*	0.0017*	0.0017*	0.0017*
	(0.0010)	(0.0010)	(0.0010)	(0.0010)
Percentage with less than complete secondary education	-0.0014*	-0.0014*	-0.0014*	-0.0014*
	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Percentage in the lower socio-economic level	-0.0004	-0.0005	-0.0005	-0.0004
	(0.0007)	(0.0007)	(0.0007)	(0.0007)
Percentage in the medium socio-economic level	-0.0640	-0.0673	-0.0675	-0.0647
	(0.0693)	(0.0694)	(0.0691)	(0.0691)
Number of players	-0.0034	-0.0035	-0.0034	-0.0034
	(0.0023)	(0.0023)	(0.0023)	(0.0023)
Pro-social attitude				
Pro-social index	0.0013**			
	(0.0005)			
Pro-social index is higher than 40%		0.0314		
		(0.0314)		
Pro-social index is higher than 50%			0.0529**	
			(0.0222)	
Pro-social index is higher than 60%				0.0604***
				(0.0204)
Observations	3086	3086	3086	3086
Pseudo R-squared	0.0355	0.0340	0.0351	0.0360
Number of clusters	150	150	150	150

This table presents the marginal effects of the third regression of Table 6, and regressions (10), (11), and (12) from Table 7. Robust standard errors, clustered by session, in parentheses. All regressions are run using probit and include dummies per city. Including dummies per session gives similar results. * Significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.