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To what extent do Latin Americans trust and cooperate? Field experiments on social exclusion in six Latin American countries

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To What Extent do Latin Americans Trust and Cooperate? Field Experiments on Social Exclusion In Six Latin American Countries

by

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Abstract[1]

This paper explores the extent to which individuals trust, reciprocate, cooperate and pool risk by using a battery of field experiments containing the trust game, the voluntary contributions mechanism and the risk pooling game; applied in six capital cities in Latin America. The results suggest that: (i) on average, the propensity to trust and cooperate among Latin Americans is remarkably similar to that found in other regions of the world; (ii) expectations about the behavior of other players are the main driver of trust, reciprocity and cooperation; and (iii) behaviors involving socialization, trust and cooperation are closely interconnected.

[1] Cárdenas: Department of Economics, Universidad de los Andes, Bogota; Chong and Ñopo: Research Department, Inter-American Development Bank. Sebastian Calónico, Natalia Candelo and Sandra Polanía contributed to the project during important stages of it. A collaborative effort like this required the support of many colleagues, among them we would like to thank Martin Benavides, Juan Jose Díaz, Nestor Gandelman, Saul Keifman, Nathan Lederman, Giorgina Piani and Arodys Robles; and their fieldwork teams in the different cities of our project. Jeffrey Carpenter provided insightful comments to the experimental design. Lucas Higuera provided research assistance.

1. Introduction: The Problem of Collective Action

The puzzle of cooperation among humans remains a central and relevant question. In 2005 the magazine *Science* listed *"How Did Cooperative Behavior Evolve?"* as one of the Top 25 most relevant scientific puzzles to be solved during the next quarter century. Regardless of place, time or income group, cooperation and collective action have constituted a major part of humans' daily life. From the organization of hunters and gatherers to global warming and traffic, the tragedy of the commons and the dilemma of cooperation continue to affect societies' well-being. Humans have devised multiple forms of correcting losses from problems of collective action by harnessing the conflict between individual and social outcomes through incentives, in the form of norms and laws. A significant number of social interactions involve potential losses of efficiency due to externalities or public good provision problems. As a result, one inevitable outcome is that some individuals free ride on others. When there is lack of trust such free-riding is exacerbated, thus eliminating opportunities to produce socially efficient outcomes and accentuating inequalities in the distribution of outcomes.

Free-riding and lack of coordination are problems that communities face in their daily lives, and when the State fails, they attempt to solve these collective action problems in multiple ways. Households contribute labor to starting or maintaining local projects that benefit their neighborhood, and neighborhoods contribute to local funds to pay for security or playgrounds maintenance. Childcare, recreation parks, water provision, street cleaning, are all examples of projects where groups provide a public good through private provision. There are also activities where groups organize to face other kinds of problems different from collective action. That is the case of facing risk and the possibility of risk-pooling, joining efforts or pooling payoffs when under uncertainty. Risks involve credit, natural disasters, political violence, and crime, among others. In such cases the formation of groups to face risk involves a collective action problem in itself, and the outcome can spread the payoffs throughout the group.

The possibility of cooperation within a group is determined by multiple causes that the literature has identified in theoretical and empirical studies. One of the most debated and inconclusive factors is group heterogeneity, and there exist multiple explanations both for and against heterogeneity as a factor in explaining collective action. While some argue that heterogeneity brings the required additional incentives for a small subgroup to be interested in providing the public good (Olson, 1965; and Bergstrom, Blume and Varian, 1986), others claim

that heterogeneity makes it difficult for groups to agree on solutions to problems (Alesina and La Ferrara, 2000).

Cooperating or forming groups to produce a group beneficial outcome is usually costly. Sometimes it involves a coordination game where each individual would benefit more if everyone else behaves accordingly, and the payoffs drive individuals towards the best outcome without conflicts between individual and group interests. Other times it is a collective action game where the individual strategy would be not to cooperate although everyone in the group would benefit if everyone cooperated. In either case the group needs to find the conditions under which individuals can make these costly decisions in ways that yield benefits from group-oriented activity. These conditions include several behavioral aspects of the problem. For instance, individuals may make decisions based on their sense of group affiliation, social distance or sympathy towards others in the group. Their personal evaluation of the benefits and costs of forming a group or cooperating in a collective action dilemma may be mediated by their expectations of what they believe the others would do, and by their valuation of the distributional and efficiency consequences of their actions.

Solving the prisoner's dilemma, the tragedy of the commons, or any collective action dilemma requires individuals to trust their interacting partners. Trusting others under incomplete contracts, however, involves the possibility that the trusting action returns no benefits from the trustees creating net losses for the trusting person. If the trustees reciprocate, the group increases the social net welfare. If the game is repeated, players can engage in a virtuous cycle of trust and reciprocity, building a reputation for being trusting and trustworthy and collecting information about the trust and trustworthiness of the others in the group (Ostrom, 1998). If the game is played only once, players could still be willing to cooperate if the institutions and personal characteristics provide sufficient positive information for the person to engage in-group oriented behavior.

The uncertainty of the intentions and actions of the other players is a crucial part of the problem. Individuals may have information about past actions of specific individuals or more general patterns of past behavior by groups, as well as have information about social norms that usually guide the behavior of those interacting with them. Nevertheless, uncertainty remains. Therefore understanding the willingness to trust, cooperate or engage in costly group oriented

behavior involves understanding individuals' risk preferences (Bohnet and Zeckhauser, 2004; Ashraf, Bohnet and Piankov, 2006).

Free riding and coordination problems have been studied by sociologists, psychologists, and more recently by economists. Research in experimental economics involves the use of highly controlled experiments with relatively small groups of individuals whose members are typically given a particular sum of money and are allowed to invest in a group exchange or keep the money. If the money is invested, the returns will depend on what the group as a whole invests. The experiment is designed so that the private return from keeping the money exceeds the private return from the group exchange. However, the social return of the group exchange is higher than keeping the money. This game yields a dominant strategy of contributing zero to the group exchange and hoping that others invest in the group exchange even though that is not an optimal allocation (Andreoni, 1988, and Marwell and Ames, 1979). In other words, experiments try to resemble cooperation and related dilemmas faced by individuals as predicted by economic theory.

In general, the key results related to that type of experiments may be grouped in two. First, it appears that economic theory overestimates the prevalence of free riding. In fact, even though experiments find that outcomes are closer to the free riding result than the Pareto-efficient outcome, experiments show that individuals still contribute more than would be implied by pure self-interest (Rabin, 1993; Andreoni, 1995). This is particularly true in one-shot, non-repeated games, which lends relatively little support to a rather strong version of the free riding hypothesis (Dawes and Thaler, 1998). Similarly, a second result is that violations of dominant strategies diminish with repetition and with game experience (Andreoni, 1988; Isaac and Walker, 1988; Kim and Walker, 1984, others). The findings above have led researchers to search for a number of possible explanations, typically in the form of so-called kindness, reputation, and confusion by individuals (Palfrey and Prisbrey, 1997).

This paper attempts to study the micro foundations and mechanisms that may affect the possibility of collective action and group formation for different social groups, based on a field approach, using survey and experimental methods. This approach focuses on the behavioral aspects of the collective action problem, enriched by the social and economic contexts in which micro interactions take place. This involves the direct observation of individuals when facing problems of trust, collective action and uncertainty, under different levels of social heterogeneity

and exclusion. The experimental design of this project captures some of the key dimensions of the problem of collective action, making it possible to extract lessons about group-oriented behavior in Latin America. Next we turn to presenting the key elements of such experimental design.

2. Experimental Set-Up

We aim at studying the interaction between social exclusion and collective action in Latin America using a field experimental approach. To do this, we collected a representative sample of individuals from different cities in the region and asked them whether they would be willing to participate in a set of experiments that involved economic incentives. In all, our full sample covers individuals from all backgrounds, socio-economic levels, age cohorts, and genders from Bogota, Buenos Aires, Caracas, Lima, Montevideo and San Jose. For each city we selected a team of researchers with experience in survey and field methods. To guarantee homogeneity in the application of our experimental protocols, the researchers in charge of each city participated in a training workshop at the launching of this project.[2] In this workshop all the implementation and related fieldwork details, such as the sampling procedures, the timing of the actions (invitations, pre-survey, experiments, post-surveys), the elements within the experimental sessions and the construction of the questionnaires, were agreed upon and homogenized. Not only did each survey team agreed upon sampling more than 500 participants, but also to conduct around 25 experimental sessions with the participants.[3] With the sampling quotas defined, the first step in the fieldwork consisted of inviting individuals to the experimental sessions. The individuals were asked to the sessions such that at least three sessions per city were made only with individuals from high-income strata; at least other three sessions were conducted only with individuals from low-income strata; and the rest combined individuals from all strata. Around 30 individuals were invited for each session, under the assumption that around one-third of them would not show up to the session and hence each experimental session could run with around 20 participants

[2] The training workshop was held in Bogota at the beginning of 2007.

[3] The samples were selected in the cities based on a stratified random sample. The strata were chosen on the basis of education, average family income of the districts or the territorial units that conform each city (in either terciles, quartiles or quintiles, depending on data availability), gender and age (with four age groups: 17-27, 28-38, 39-59 and 60-72). The goal of the sampling procedure was to obtain empirical distributions of individuals within these combinations resembling those of the populations in the cities. After the fieldwork we computed expansion factors (weights) for all the observations to alleviate minor sampling problems.

The individuals participating in the experiments were invited some days before the experimental sessions, and at the time of the invitation the individuals were asked a set of basic demographic questions needed to fulfill the sampling quotas described above. The invited participants were additionally promised a show-up fee and received information about the expected gains from their participation in the experiments. The day before each experimental session the invited participants were reminded of the invitation with a phone call or home visit, and transportation was arranged or discussed. On the day of the sessions the participants were welcomed by the experimental teams in each city, and the sessions started at the time agreed upon. After the experiments were conducted, the participants were asked to fill out a survey collecting additional socio-demographic information and inquiring about their attitudes, beliefs and preferences regarding the issues of social exclusion, discrimination, minorities and pro-social norms. To reduce the possibilities of idiosyncratic measurement error due to individuals' reading abilities, the surveys were administered by the monitors of the experiments and supported by a group of pollsters specially trained for this purposes. After the surveys were filled out completely the payoffs from the experiments were computed and the participants received their payments

As one of the main goals of the study is to observe the effect of social heterogeneity on individuals' decisions; the information about 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. With the development of the sessions, the participants received information about their peers, depending on the particular activity.

More than 3,100 people participated in 148 sessions in six cities, providing a unique data set that combines detailed socioeconomic and demographic data with behavioral data from their decisions during the experiments discussed below. Each city team conducted more than 17 sessions of various group sizes, from 10 to 39 people, and each of these sessions followed the same protocol, with the same sequence of activities. This is as of today the most comprehensive experimental dataset gathered for Latin America given the number of countries included and the replicability of the designs in each city. Table 1 provides basic demographics statistics of the sample by city.

The interactions among the recruited individuals took place within a controlled setting where it was possible to observe how incentives, institutions and norms may affect behavior. The experiments were conducted in a manner in which it became possible to measure how the degree of group heterogeneity affects individual decisions and group outcomes. The experiments of this project are adaptations of previous work developed in the experimental literature.[4]

The experiments applied provide key information on individual behavior and group outcomes regarding the possibilities and limitations for collective action in groups, and they further provide clues on the motivations and cognitive limitations of decision-making that may help to solve the collective action problem. The experiments ultimately point towards the goal of understanding the way in which social heterogeneity and social exclusion affect the possibilities for actions that create greater benefits to groups.

The experimental design was based on four activities (A.1 to A.4) in which participants made individual decisions that had economic outcomes for themselves and for the others in the group; see Candelo et al. (2007) for details of the protocols used in the four activities. These activities were organized within a session where a group of 10-39 participants gathered in a room for two to three. In brief, the sequence of activities was as follows:

- **Experiment 1 (TRUST GAME):** All participants in each session were randomly assigned to pairs, half of the participants assuming the role of player 1 and the other half player 2. The two types of players were located in different rooms. Identities were never revealed, but each player was given information about the demographic characteristics of each other: age, gender, education and an indication of socio-economic level of the neighborhood from which the player came from (high, medium or low).[5] Both players received an endowment, and then player 1 was asked to decide how much of this endowment to sent to player 2. The amount sent was triple on its way from player 1 to player 2. In the other room, player 2 was asked to decide the amounts to be returned to player 1 for each possible offer from player 1. Right before making their decisions, individuals were asked to predict the decisions made by the other player.

[4] Berg, Dickhaut and McCabe (1995), Binswanger (1980), Holt and Laury (2002), Barr (2003), Marwell and Ames (1979), Isaac and Walker (1988), Carpenter et al. (2005), Harrison and List (2004), and Cárdenas (2003).

[5] Such characterization of socio-economic levels of the neighborhoods (districts or territorial units in which the cities were divided) was made on the basis of the average family income information that was gathered in the pre-sampling stage.

This experimental game allows us to measure the extent to which an individual trusts another person of similar or different socio-economic characteristics, and whether the actions and characteristics of such individual affect the response of the partner in the game; that is, it measures trust and reciprocity. Higher offers by the first individual are interpreted as signals of trust, while higher returns from the second palyer are signals of reciprocity. The game theoretical prediction of this game is that players 1 send zero offers, as they cannot assure that player 2 will return any amount. Replications of this game around the world have shown that people on average send half of the initial endowment to players 2, and that the returns from player 2 to player 1 generate a net positive return for player 1 of about 10-20 percent of what was originally sent.

- **Experiment 2 (VCM):** All participants then gathered in a single room and participated in a Voluntary Contributions Mechanism or Public Goods game. Each player was given a token that could be kept or invested in a group project. If a player kept the token she earned a designated amount, say $10. If the player invested the token in the group project, her token and those of others in the group account would yield a return of $1 for every participant in the group. A player who kept the token also received $1*the number of tokens in the group account. Before participants made make their individual and private decision on whether to contribute to the group, the monitor announced verbally and on the board the composition of the group: gender, age, education and socio-economic composition of the group (i.e., the number of individuals from high, medium and low socio-economic neighborhoods). Also, the monitor requested every participant to write her/his prediction of the proportion of cooperators.

The public goods or VCM experiment captures a dimension of trust similar to that in the Trust Game, but in this case towards a group instead of an individual. It measures the willingness to contribute a token to a public good and provide benefits to all group members. The decision to contribute to the group increases the benefits for all, but not contributing will always yield greater individual payoffs and thus the incentives to free ride. Full cooperation yields greater payoffs to everyone than free-riding, and the gains from cooperation increases with the number

of players. In the design one player will be indifferent between keeping the token or investing it in the group if nine other players had contributed. A key element in the game is that no player will know in advance how many would contribute. The players only know general socio-economic characteristics about the other players right before making the decision. The players were also requested to predict how many people would contribute to the group account in order to capture players' expectations.

- **Experiment 3 (3 RISK GAMES):** Each player individually made decisions over 3 games measuring individual attitudes toward risk, ambiguity and losses.
    - The first stage, measuring risk aversion, offered to the participants known probabilities and known outcomes for six 50/50 lotteries that went from a sure low payoff to an all-or-nothing higher payoff (the lotteries in between gradually increased in expected value and in the spread of the low and high payoff).
    - The second stage, measuring ambiguity aversion, offered the same payoffs for the six lotteries mentioned, but individuals did not know the exact probabilities, as they did in the first stage. They only knew that at least 30 percent of the chances were for the low payoff and that at least 30 percent were for the high payoff (but did not know the exact probabilities)
    - The third stage, measuring loss aversion, used the same six lotteries with 50/50 probabilities, but including the possibility of negative payoffs in some cases.[6]

The individual risk games were based on three components of risk behavior. These three games allow distinguishing risk attitudes in terms of risk aversion, ambiguity aversion and loss aversion. The first stage measures risk aversion, based on known probabilities and known outcomes for six 50/50 lotteries. Choosing lotteries with lower payoffs can be interpreted as greater risk aversion. The second stage measures risk ambiguity. The third stage is aimed to measure loss aversion. The purpose of this activity is to generate measures of risk behavior in order to link them with trust and cooperative behavior.

[6] To avoid negative payments for subjects the players were endowed with a fixed amount in this game regardless of the gains or losses.

- **Experiment 4 (RISK POOLING):** Each player chooses whether to form a group to share equally the gains from another risk aversion game, or to play the risk aversion game individually. Once they decide whether to form a group, the total number of people forming the group is announced and they then decide on the risk choice.

The fourth and last activity (risk-pooling game) measures individuals' willingness to join a group and accept an equal distribution of payoffs after again choosing a lottery like those available in the first stage of the individual risk games. As in the VCM game, the purpose of this game is to explore whether an individual will base her decision to join the group on the socio-economic composition of the group in the session. Again, players were not allowed to communicate and were given only basic information about the composition of the group (age, education, gender and socio-economic composition). Notice that in this game the most profitable group outcome would be for all players to 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).

By the end of the last activity, as previously announced, the monitor randomly selected one of the activities to be paid. While one monitor calculated individual earnings and privately called each of the participants, the rest of monitors interviewed each participant, filling out an individual survey with detailed information on socio-economic characteristics and attitudes, belief and preferences towards various dimensions of social exclusion.

3. Socio-Demographics, Beliefs and Preferences of Individuals

Before turning to the experimental results it is worthwhile to survey the responses of the individuals surveyed to a battery of questions on attitudes, beliefs and preferences involving trust, collective action and exclusion. Less than half of the individuals in the six cities in the project declared participation in organized interest groups. The organizations with the highest participation were cultural or athletic groups, in which 1 out of 6 participated, and religious groups, in which 1 out of 7 participated. Lima is the city with the lowest participation in these organizations, while Bogota and Buenos Aires are the cities with the highest participation. Interestingly state-sponsored and ethnic organizations display the lowest participation rates.

Individuals were asked to agree or disagree with a battery of statements on the scope and scale of the welfare state. Table 3a and 3b show the results, separating the positive statements from the negative ones. In general, the positive statements that reached the highest agreement had to do with equality of opportunities, lack of discrimination and collective welfare; the positive statements that encountered the least agreement involved a tax increase to fund assistance to a specific vulnerable group. The least accepted negative statements are related to the exclusion of women, Afro-descendants and the indigenous population. In contrast with the participation rates in organized interest groups, Lima has the highest average of agreement on positive statements, and the lowest on negative statements.

Approximately one of every three individuals wanted to buy a house but could not do so—the leading area of frustration. The next important activities of this type were obtaining a bank loan, studying and working. One of every four individuals fell within those categories. The most restrained individuals live in Bogota and Lima where, besides the activities mentioned before, retiring, having a savings account and being covered by the social security system are also restricted activities. Political activities, such as voting, running for office or belonging to a political organization, are the least restricted activities for the six cities in the experiments.

When asked whether there were circumstances under which individuals felt their rights were not respected, the top three rights mentioned from a list of 20 were the opportunity to have a decent job, freedom of opinion, and justice and equal treatment under the law. The rights that the surveyed individuals felt were less violated had to do with voting (either the right to vote or the right to run for office), torture and freedom of association. Montevideo and Lima are the cities where the smallest share of respondents believed that at least one of their political rights had been violated. As a matter of fact, almost three out of four individuals reported having voted in the last presidential elections, and two out of five reported having voted in the last local elections. Having a decent job is the most violated social right in the six cities of the project, closely followed by not having a sound environment and no having some sort of health insurance. In Caracas these last social rights are not the least respected; individuals there report that the most violated social right is to social security. When individuals were why they believed their rights had not been violated at least once during the last five years, they mentioned lack of connections, lack of money and age as the top three reasons. These results are consistent with those found in other opinion surveys of the region (e.g., Latinobarometro) and are not different

among the cities in the sample. In Caracas, political ideas are an important perceived cause of having one's rights violated.

The social group that the individuals perceived as being the most vulnerable was, by far, the elderly, who were mentioned by almost two-thirds of the individuals surveyed. Around one third of the respondents listed children as the most vulnerable group.

Exploring the notion of social distances, the survey asked individuals to identify causes of social conflict. The leading answer was political differences, cited by almost 40 percent, followed by income and education differences, cited by around one-third of respondents. In line with previous results in this paper, political differences are extremely relevant in Caracas, where political differences are seen as more than twice as important as the next most relevant reason for conflict.

4. What Do the Experiments Teach Us?

The results that follow describe the most relevant and robust findings that emerged from the group-level and individual data in the six cities of the experiment.

Finding 1: Latin Americans are willing to trust and cooperate.

Consistent with previous observed experimental behavior, the game theoretical prediction that people in the Trust Game (TG) should not send any amount as either player 1 or player 2 is rejected. Only 1 out of every 6 of the observed decisions made by the individuals who participated as player 1 decided to send 0. The average offer was 43 percent of the initial endowment, and the median offer was 50 percent of the initial endowment (in 32 percent of the decisions). Recall that social efficiency is maximized when player 1 sends the entire endowment, letting player 2 decide over the allocation of the tripled amount. This happened in only 9.6 percent of the cases, while an additional 13.6 percent sent 75 percent of the initial endowment. With respect to players 2, the results also reject the prediction of selfish behavior. Furthermore, the results confirm that reciprocity is a major driver of their behavior. Only one out of every five players 2 decided to keep the entire amount in their hands after player 1's decision, and half of those who offered a zero return had initially been offered also a zero amount.

These results differ interestingly across cities, Bogota being the least "trusting" city of the set. Not only is player 1's average offer in Bogota the lowest among the 6 cities, but Bogota is

also the only city in which the median offer does not reach 50 percent of the initial endowment (in fact, it is only 25 percent). In addition, almost one third of players 1 in Bogota decided to send nothing to their counterparts. At the other extreme, Lima shows the highest average offer from players 1. Regarding players 2, the lowest reciprocity is also found in Bogota as the average and median amounts sent back to players 1 are the lowest and the fraction of players 2 who decided to keep all and send nothing to their pairs are the highest among the six cities.

Approximately one out of every five participants in the VCM game opted to contribute to the public good; Caracas displayed the highest participation rate (47.3 percent) and Bogota the lowest (12.3 percent). The other four cities showed similar patterns of contribution (approximately 1 out of every 4 participants contributed to the public good in these cities). This rejects the zero-contribution hypothesis in this game as well. As has been found in the literature elsewhere, individuals do, in fact, cooperate.

The patterns of contribution in the risk pooling game were somewhat higher than those found in the VCM game. In this case, there are clearly two types of cities in terms of risk-sharing. On the one hand, Bogota and Lima show the lowest willingness to do pool risk, with only 38 percent of players doing so. On the other hand, the remaining cities display similar patterns of pooling, with more than half of participants opting to pool risk).

Regarding risk attitudes, individuals in Caracas show the lowest risk aversion, while residents of Montevideo are on the other extreme, showing the highest risk aversion (although Buenos Aires and San Jose are not far from Montevideo in this regard). The presence of ambiguity clearly increases risk aversion with respect to the original setup, especially in Bogota and Buenos Aires. Caracas also seems to be the city with the lowest loss aversion, while Buenos Aires displays the greatest loss aversion.

Although Latin Americans indeed trusted and cooperated in the games, they did not do so to the maximum possible extent. Had the participants of the games performed at the optimal social levels, the total gains of the players would have been 28 percent higher than what was actually observed in the Trust game, 42 percent higher in the Voluntary Contribution game and 26 percent higher (in expected value) in the Risk Pooling game. These percentages provide an idea of the magnitude of the social welfare that our societies fail to generate due to limitations on trust and willingness to cooperate.

Finding 2: "Tit-for-Tat" and expectations are important drivers of willingness to trust and cooperate among Latin Americans.

Players 1 expecting to be reciprocated made greater offers to players 2, and those players 2 who expected greater offers were also willing to return greater amounts to players 1. In fact, players 2 were willing to return 2.5 times to players 1 who had offered 100 percent of the initial endowment, a rate of return that decreased with the amount sent by players 1. Also, only 12.16 percent of participants in the role of player 2 predicted that players 1 were going to send 0 percent of the initial endowment. Slightly more than one third of the players predicted being sent 50 percent, and 14.06 percent of players 2 predicted that player 1 would send them 100 percent of the initial endowment. Bogota and Caracas had the highest shares of players 2 that expected a 0 percent offer from players 1. Player 2's forecasts were remarkably accurate.

In considering the behavior of the individuals in the Trust Game in terms of their socio-economic characteristics, those of their pairs, their risk attitudes and their expectations about the behavior of their pairs, the latter shows most consistently explains the behavior of the individuals. Expectations are not only statistically significant but also behaviorally relevant explanatory variables for the amount sent by Player 1 in all cities but San Jose, and for the amount sent by Player 2 in all cities.[7]

In the VCM game, the participants predicted that on average 44.46 percent of players in each session would contribute to the group account and only 6.77 percent predicted that nobody would cooperate in this game. Participants were able to provide a rather accurate prediction of the actual rate of cooperation in the VCM game and acted based on a reciprocal strategy. When players expected more people to cooperate in the game, they were more likely to cooperate. Overall, the predicted fraction of cooperators could map the actual fraction of people contributing to the public good, as shown in Figure 1, independently of the participation or expectation level of the city (Figure 1a).

The regressions explaining the behavior of the individuals also show in the VCM case that expectations of the contributions of other members are the main driving force of behavior in all cities. Interestingly as well, individuals' attitudes towards risk play no major role in predicting their behavior.

[7] The tables with the results from the regressions explaining the behavior of the individuals in all games are available in the Appendix.

Finding 3: Socialization, trust and cooperation are remarkably linked for Latin Americans.

During the last activity, the risk-pooling game, on average 45.4 percent of players decided to join the risk-pooling group for all sessions, ranging from 11.1 percent to 100 percent of players per session. Even though the percentage of individuals who decided to pool risk was high in all citie], Bogota and Lima report less than 40 percent average participation in risk pooling per session. More interestingly, the fraction of those willing to join a group was highly correlated with the fraction of contributors to the group account in the VCM game (Activity 2), as shown in Figure 2. Although these games measure different dimensions of group-oriented behavior, both might be driven by similar motivations such as in-group or sense of belonging effects. On average, groups who showed greater levels of contributions also showed greater levels of group formation. In all cities, the regressions exploring the characteristics that explaining the behavior of players consistently show strong linkages between the decisions made in the VCM game and the Risk Pooling game.

When looking at trusting behavior by players 1 in the Trust Game it is also observed that those who contributed in the public goods game (A.2) sent on average 52.8 percent of their endowment, while those who did not contribute sent 39.4 percent. This difference is smaller in Lima (2 percent), Montevideo (9 percent) and San Jose (8 percent). Likewise, the offers sent by those who had joined the group in the last activity of risk-pooling (activity 4) were about 10 percentage points higher than the offers by those not joining the group. A similar pattern is confirmed for players 2 in the trust game. Those contributing in the public good returned about 9 percentage points more to their (player 1) counterparts in the trust game, and those who joined the group (A.4) returned about 4 percentage points more to their counterparts.

Finding 4: The other individual and group characteristics that explain trust and willingness to cooperate differ greatly across cities.

When trying to explain the amounts sent by Players 1 and the reciprocal responses of Players 2 it is found that differences as well as similarities arise across cities. For instance, more educated players 1 sent a higher amount to players 2 in Bogota, female players 1 sent less to players 2 in Caracas and Lima, and older players 2 returned more to players 1 in Buenos Aires and Montevideo.

When explaining the decision to contribute the token to the group account as a function of game conditions as well as individual and group characteristics, we find results in the same vein. Socioeconomic characteristics of the individuals and of the sessions do not seem to play important roles in the prediction of cooperation. Older people were more likely to cooperate in three of the six cities. In Caracas women were more likely to cooperate in the VCM game, but more educated people were less likely to do it. Those who belong to a high socioeconomic level were less likely to cooperate in Lima and Montevideo (but the opposite happens in Buenos Aires). Larger sessions motivated people to cooperate in this game in Buenos Aires.

The determinants of the decision of pooling risk are very similar to those of the public good game: older people are more likely to pool in three of the six cities as well. Sessions with a larger share of women showed more risk pooling in Bogota and Montevideo, although individual women were no more likely to pool than men.

5. Conclusions

This paper presents the results of a project that experimentally measured trust, reciprocity, cooperation and collective action in Latin America. To our knowledge, the resulting data set from this project is the most comprehensive to date, not only because of the sampling design employed in each city, but also because of the plausibility of the comparison of six different cities. In that sense, this is a pioneering effort for the experimental literature in the Latin American region.

The results from the series of experiments reported here provide new evidence on how group-oriented behavior can emerge and what factors may help or constrain choices that benefit individuals and their groups. As in the previous literature, trust, cooperation and group formation are highly correlated. In those groups where the conditions were conducive to trusting others, they were also conducive to contributing to a public good or to forming a group to share the income from an uncertain lottery. Expectations about behavior of others in each of the games were powerful predictors of actual behavior.

This is of crucial importance for various reasons. If people can predict with some accuracy the behavior of those in the same room, based only on a short observation around the room and listening to very basic data about the demographics of the group, it means individuals do pay attention and condition their group oriented behavior to the immediate context and not

only to their individual traits. Secondly, expectations are key informants of economic decisions, and as such they can also misguide people towards behavior that is not group-beneficial, bringing groups into traps or undesired equilibria.

References

Alesina, A., and E. La Ferrara. 2000. "Participation in Heterogenous Communities." *Quarterly Journal of Economics* 115(3): 847-904.

Andreoni, J. 1988. "Why Free Ride? Strategies and Learning in Public Goods Experiments." *Journal of Public Economics* 37(3): 291-304.

----. 1995. "Cooperation in Public Goods Experiments: Kindness or Confusion?" *American Economic Review* 85(4): 891-904.

Ashraf, N., I. Bohnet and N. Piankov. 2006. "Decomposing Trust and Trustworthiness." *Experimental Economics* 9: 193-208.

Baland, J-M., P. Bardhan and S. Bowles, editors. *Inequality, Cooperation and Environmental Sustainability*. Princeton, United States: Princeton University Press.

Baland, J-M., and J-P. Platteau. 1996. *Halting Degradation of Natural Resources: Is There a Role for Rural Communities?* New York, United States: Oxford University Press.

Barr, A. 2003. "Risk Pooling, Commitment, and Information: An Experimental Test of Two Fundamental Assumptions." Centre for the Study of African Economies Working Paper 187. Oxford, United Kingdom: Oxford University. http://www.bepress.com/csae/paper187

Berg, J., J. Dickhaut and K. McCabe. 1995. "Trust, Reciprocity and Social History." *Games and Economic Behavior* 10: 122-142.

Bergstrom, T., Blume, L. and H. Varian. 1986. "On the Private Provision of Public Goods." *Journal of Public Economics* 29: 25-49.

Binswanger, H.P. 1980. "Attitudes toward Risk: Experimental Measurement in Rural India." *American Journal of Agricultural Economics* 62(3): 395-407.

Bohnet, I., and R. Zeckhauser. 2004. "Trust, Risk and Betrayal." *Journal of Economic Behavior & Organization* 55: 467-484.

Candelo, N. et al. 2007. "Methodological Steps of an Experimental Design for Measuring Social Capital and Collective Action in Six Latin American Cities." Washington, DC, United States: Inter-American Developoment Bank, Research Department. Manuscript.

Cárdenas, J.C. 2003. "Real Wealth and Experimental Cooperation: Evidence from Field Experiments." *Journal of Development Economics* 70: 263-289.

Carpenter, J., G.W. Harrison and J.A. List, editors. 2005. *Field Experiments in Economics*. Research in Experimental Economics, Volume 10. Greenwich, United States: JAI Press.

Dawes, R., and R. Thaler. 1998. "Cooperation." *Journal of Economic Perspectives* 2(3): 187-197.

Hardin, G. 1968. "The Tragedy of the Commons." *Science* 162(December): 1243-48.

Harrison, G.W., and J.A. List. 2004. "Field Experiments." *Journal of Economic Literature* 42: 1009-1055.

Holt, C.A., and S.K. Laury. 2002. "Risk Aversion and Incentive Effects." *American Economic Review* 92(5): 1644-1655.

Issaac, R.M., and J.M. Walker. 1988. "Group Size Effects in Public Goods Provision: The Voluntary Contribution Mechanism." *Quarterly Journal of Economics* 53: 179-200.

Kim, O., and M. Walker. 1984. "The Free Rider Problem: Experimental Evidence." *Public Choice* 43: 3-24.

Marwell, G., and R.E. Ames. 1979. "Experiments on the Provision of Public Goods I: Resources, Interest, Group Size, and the Free-Rider Problem." *American Journal of Sociology* 84: 1335-1360.

Olson, M. 1965. The *Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, United States: Harvard University Press.

Ostrom, E. 1998. "A Behavioral Approach to the Rational Choice Theory of Collective Action." *American Political Science Review* 92(1): 1-22.

Palfrey, T., and J. Prisbrey. 1997. "Anomalous Behavior in Public Goods Experiments: How Much and Why?" *American Economic Review* 87(5): 829-46.

Rabin, M. 1993. "Incorporating Fairness into Game Theory and Economics." *American Economic Review* 83(5): 1281-1302.

Science. 2005. 78: 309 (July).

Varughese, G., and E. Ostrom. 2001. "The Contested Role of Heterogeneity in Collective Action: Some Evidence from Community Forestry in Nepal." *World Development* 29(5): 747-65.

Table 1. Demographic Characteristics of the Participants in the Experiments

Descriptive statistics	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Average age	37	40	35	37	41	37
Percentage of female population	55	53	51	52	55	54
Percentage with public education	72	82	73	83	90	89
Percentage working in the public Sector	10	14	25	11	17	21
Percentage with social security	89	66	40	26	78	59
Parental relationship (percentage)						
Household head	44	43	25	38	45	38
Wife/Husband	22	25	26	24	20	23
Son/Daughter	25	27	32	30	25	24
Other	9	4	17	8	10	14
Marital status (percentage)						
Single	34	34	44	36	30	40
Formal or Informal Union	48	52	50	51	47	45
Divorced, Widow.	18	14	7	13	23	14
Educational level (percentage)						
Secondary Incomplete or Less	43	52	55	31	60	59
Secondary Complete	27	20	24	36	15	16
Tertiary Complete or Incomplete	30	28	20	33	25	25
Socio-economic level (percentage)						
Low	47	52	34	59	22	27
Middle	38	27	52	25	55	50
High	15	20	14	17	23	23
Sessions						
Number of participants	567	498	488	541	580	415
Number of sessions	28	25	25	25	28	17
Size of the group for the smallest session	12	14	14	14	14	10
Size of the group for the largest session	29	30	28	32	30	39
Average size per session	21	20	20	23	22	27

Table 2. Participation in Groups and Organizations (percentage)

Group	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Religious	20.6	14.8	8.9	14.5	8.9	23.1
Sportive or cultural	13.6	16.6	20.3	9.4	14.9	9.0
Charity (Not as beneficiary)	3.4	11.4	8.3	2.0	4.2	3.6
Educational	8.2	4.6	2.5	6.2	3.3	3.3
Building association	5.0	7.8	2.7	1.1	8.1	0.7
Community organization	7.7	2.5	7.1	4.2	5.4	8.4
Political or Movement Party	0.8	3.5	1.6	1.3	4.9	2.8
Labor Union	1.8	2.2	2.0	1.1	5.6	2.4
Environmental management	3.6	1.2	1.7	0.5	1.0	3.3
Surveillance association	2.5	1.2	0.2	1.3	1.0	2.8
State sponsored activities	0.6	2.1	0.4	0.1	1.3	1.5
Other	0.7	0.2	0.4	0.5	0.7	1.8
Ethnic Organization	0.1	0.5	0.5	0.2	0.4	0.2

Note: The table reports the percentage of respondents who participate in certain groups or organizations. Respondents can report participation in more than one of the organizations listed.

Table 3a. Opinions about the Welfare State: Positive

Statement	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Everyone should have the same opportunities to think about any subject	95.8	86.3	93.8	96.5	91.3	92.7
To diminish discrimination is as important as to diminish poverty	86.7	93.8	87.8	91.6	92.1	84.3
People should worry about other people well being	90.7	90.0	86.0	91.6	91.6	92.2
Certain classes or social groups are responsible of the existence of poverty	86.6	88.1	60.9	84.8	78.1	72.9
The existence of a public social protection program helps to prevent hunger and malnutrition	92.9	77.6	81.1	80.5	76.5	77.7
In a good society, people feels responsible for the rest	79.6	84.1	74.6	77.0	84.0	78.7
Anyone who work hard can go as far as he/she wants	84.3	66.6	89.4	90.8	71.1	88.3
Rich countries have the moral obligation of sharing part of their wealth with poor countries	72.3	67.2	69.4	77.2	58.3	69.7
People have the moral obligation of sharing part of their resources with poor people	75.3	65.3	58.2	78.8	57.0	75.5
Taxes should be raised to support rehabilitation programs for alcoholics and drug addicts	49.5	52.1	72.8	68.2	50.5	60.7
Taxes should be raised to support programs for social insertion of young criminals	47.6	41.5	73.2	69.3	44.9	62.8
Taxes should be raised to give subsidies to the poor	52.1	38.2	64.9	62.2	36.5	60.9
Taxes should be raised to give subsidies to indigenous population	36.6	37.8	50.9	51.6	31.3	67.0
Taxes should be raised to give subsidies to Afro-descendants	34.2	27.1	35.9	36.5	21.5	34.7

Note: The table reports the percentage of respondents who agree with the statement listed.

Table 3b. Opinions about the Welfare State: Negative

Statement	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
The social protection system of the State makes people work less than otherwise	35.0	63.8	42.2	44.3	59.6	47.4
Certain opinions should be restricted	51.1	43.8	41.0	56.5	50.1	57.1
In general, poor people do not pay their debts	30.5	48.6	36.0	39.4	48.5	47.3
Poor people do not make efforts to get out of poverty	38.1	33.3	36.0	27.7	41.1	45.2
Indigenous who want to work should do so in tasks according to their race	20.0	13.9	39.1	14.7	13.4	22.3
Indigenous people are less capable than white people of having important positions at work	14.2	21.3	12.4	9.4	19.1	20.8
Afro-descendants who want to work should do so in tasks according to their race	16.7	14.6	26.1	9.6	10.3	17.5
Women who want to work should do so in tasks according to their gender	15.5	11.6	20.3	11.9	12.2	17.9
Afro-descendants are less capable than white people of having important positions at work	11.2	16.5	10.9	6.2	16.2	11.4
Women are less capable than men of having important positions at work	6.3	10.5	11.8	10.6	11.4	11.9
Spaces reserved to disables are a waste	7.4	3.4	7.8	8.1	5.6	8.3

Note: The table reports the percentage of respondents who agree with the statement listed.

Table 4. Exclusion from Social and Economic Activities

	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Having one's own house	43.4	30.0	30.5	45.0	24.1	36.6
Studying	38.9	14.0	17.9	47.0	13.2	26.1
Getting a bank loan	35.5	15.1	40.3	28.4	10.2	23.2
Working	25.5	14.5	16.2	41.3	16.2	21.3
Having a checking account	26.5	13.0	22.0	38.7	15.4	25.5
Having health insurance	12.2	11.4	24.4	34.7	10.6	17.2
Participating in a social security system	22.2	6.2	15.4	21.9	3.6	13.6
Having a savings or other type of account	10.1	4.7	13.4	17.8	7.0	15.3
Participating in a pension plan	19.2	3.5	8.8	7.3	4.1	14.0
Voting	8.0	2.3	3.0	0.8	1.4	8.7
Participating in a political campaign	5.3	1.3	2.4	5.5	2.2	5.8
Belonging to a political organization	4.9	1.7	4.3	4.6	1.1	3.6

Note: The table reports the percentage of respondents who wanted to participate in the activity listed in preceding five years but could not do so.

Table 5. Rights Reported as Not Respected

Rights	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Political and Civil Rights						
Freedom of opinion	31.7	29.5	38.2	28.2	26.5	35.2
Justice and equal treatment to the law	26.4	27.5	25.8	37.8	23.9	26.2
Freedom of transit	15.5	24.3	22.1	13.4	8.1	12.9
Freedom of religious beliefs	11.5	8.9	6.0	4.6	5.7	15.5
Physical freedom	8.2	9.4	8.4	1.6	3.0	7.8
Freedom to own land	8.6	6.1	10.4	4.6	4.7	14.0
Freedom of political beliefs	6.4	3.9	21.8	3.0	4.6	10.7
Voting	5.2	2.0	8.1	0.9	1.7	6.3
Freedom of association	3.3	1.1	6.2	1.7	2.8	10.6
Not being tortured	2.0	0.7	3.3	2.3	4.4	n.a.
Right to run for public office	0.8	0.2	3.0	2.2	0.6	3.7
Social Rights						
Having a decent and socially useful job	36.0	34.5	23.0	30.8	33.1	30.7
An appropriate environment	31.6	34.2	14.1	13.2	24.0	21.4
Health protection	26.8	30.7	16.6	14.5	26.5	21.2
Not being bothered in one's home	26.4	27.3	16.0	17.0	27.0	19.7
An appropriate education	27.3	18.4	16.2	22.8	12.5	20.2
Social security	17.7	22.7	32.4	18.7	20.2	21.7
Decent housing	21.1	21.0	16.7	18.3	19.3	31.1
Free exercise of a job or occupation	16.4	11.3	7.4	5.4	13.0	13.0
To decide how many children to have and when	3.1	2.8	3.7	2.5	6.1	9.6

Note: The table reports the percentage of respondents whose listed right was not respected in the last five years.

Table 6. Explanation of Why Rights Were Limited or Not Respected

Reason	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Not having money	35.2	15.5	16.8	22.1	17.3	18.9
Age	32.7	18.5	21.9	13.3	15.5	17.5
Not having contacts or connections	27.8	21.2	18.0	11.1	16.1	16.5
Education	29.7	5.6	13.3	18.2	6.9	18.5
Physical appearance	7.5	9.7	5.3	11.0	7.3	8.2
The way you speak	10.7	7.3	3.6	5.3	7.3	8.0
Political ideas	6.0	6.1	18.2	2.1	7.3	7.0
The way you dress	9.5	3.9	7.1	3.2	5.1	8.0
Gender	6.2	4.2	2.8	6.8	5.8	7.5
Religion	5.9	3.1	1.1	2.9	1.2	8.0
Skin color	0.9	2.7	2.0	4.1	2.2	2.9
Coming from a region/province of the country	2.1	0.8	0.0	2.5	1.5	1.8
Disability condition	1.8	2.1	1.1	0.2	1.7	0.9
Ethnic origin	0.7	0.0	0.4	1.5	0.5	0.4
Sexual preference	0.6	0.5	0.2	0.1	0.5	0.7
Being foreign	0.0	0.6	1.5	0.0	0.5	2.3

Note: The table reports the percentage of respondents who felt her/his rights have been limited or not respected for the reason listed.

Table 7. Perception of Most Unprotected Groups

Most Vulnerable Groups	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Elderly	54.0	76.1	64.8	71.2	70.6	70.7
Children	30.6	29.9	37.3	37.1	40.6	24.5
Disabled	19.4	37.7	29.2	29.6	34.8	24.4
Poor	28.4	28.2	35.6	26.3	24.9	26.7
Persons with HIV	21.8	17.1	22.0	22.6	24.2	19.7
Unemployed	28.6	15.4	21.7	17.0	17.9	16.2
Members of indigenous groups	16.5	20.3	20.9	15.2	4.1	41.5
Single mothers	23.6	5.7	9.4	25.7	14.2	12.0
Less educated people	12.4	17.7	13.1	9.2	21.5	9.4
Displaced by political violence	33.0	0.8	4.7	2.1	0.0	7.0
Women	6.5	7.1	13.9	11.9	8.2	16.7
Young	6.4	8.7	13.1	5.2	12.8	10.4
Homosexuals	7.3	2.3	5.7	10.4	8.1	9.6
Ex-combatants	2.7	9.3	0.1	0.6	0.0	0.0
People from other regions/provinces	3.2	2.0	1.4	8.4	6.9	2.5
Afro-descendants	3.4	1.4	1.3	3.9	4.4	2.7
Those without contacts/connections	1.8	2.0	0.9	2.8	5.0	1.4
Foreigners	0.3	3.7	4.6	0.8	1.1	4.4
Non-Catholics	0.1	1.1	0.4	0.0	0.6	0.4

Note: The table reports the percentage of respondents citing the listed group as most unprotected in their city. Respondents can choose three groups.

Table 8. Perceptions of Differences among People that Generate the Most Conflict

Differences	Bogota	Buenos Aires	Caracas	Lima	Montevideo	San Jose
Political difference	33.4	42.4	70.0	40.5	52.0	34.8
Income difference	37.9	37.2	22.9	30.5	33.9	26.0
Difference in the level of education	33.8	31.2	27.8	31.0	41.1	25.9
People employed and unemployed	32.9	32.3	28.0	22.9	33.2	19.6
Ethnic and racial difference	18.5	30.8	24.4	39.4	25.0	26.9
Religious difference	26.4	34.5	13.4	20.2	18.3	35.1
Age difference	22.1	17.9	27.3	26.5	27.9	27.4
Difference between countries	12.1	20.2	20.0	22.1	18.2	21.6
Homosexuals and heterosexuals	15.7	10.8	19.8	15.8	11.3	20.6
Difference in gender	13.3	9.2	15.4	19.2	10.5	30.8
People with and without disabilities	7.8	18.3	14.8	10.5	15.9	13.0
Difference between displaced and not displaced	32.0	0.0	6.2	5.6	0.0	0.0
People having contacts and others having not	8.9	8.9	7.5	9.2	8.7	9.9
Difference between people from other regions	5.2	6.4	2.5	6.7	4.2	8.4

Note: The table reports the percentage of respondents citing the listed differences as those that create the most conflict. Respondents can choose three differences.

Table 9. Trust Game, Basic Results

	Bogota	Buenos Aires	Caracas	Lima	Monte-video	San Jose
Player 1						
Players	276	244	236	268	284	209
Offered 0%	32.1	11.6	6.0	9.9	6.9	7.9
Offered 25%	25.2	31.4	37.4	24.5	36.8	34.4
Offered 50%	24.3	34.0	34.1	35.9	32.0	35.1
Offered 75%	12.8	11.3	16.5	17.0	18.9	9.8
Offered 100%	5.6	11.7	6.0	12.7	5.4	12.8
Total	100	100	100	100	100	100
Average Offer	33.6	45.0	44.8	49.5	44.8	46.2
Median Offer	25%	50%	50%	50%	50%	50%
Player 2						
Players	286	252	243	273	295	216
Observations	1,430	1,260	1,215	1,365	1,475	1,080
Average return if Player 1 offered:						
Offered 0%	15.7	16.9	32.2	29.0	23.7	27.5
Offered 25%	18.7	25.0	34.6	34.5	30.6	26.7
Offered 50%	19.8	28.3	36.1	33.9	29.7	26.3
Offered 75%	18.8	29.6	34.5	32.4	29.7	24.6
Offered 100%	19.3	32.2	37.8	34.0	29.4	25.4
Returned nothing (%)	33.68	14.86	7.89	9.25	13.27	16.58
Returned everything (%)	0.73	0.99	4.19	2.21	0.95	3.65
Average return	18.4	26.4	35.1	32.8	28.6	26.1
Median return	14%	25%	28%	28%	25%	20%

Note: For players 1, the table reports the number of players per city, the percentage of players who sent the listed offer and the average and median offer per city. For players 2, the table reports the average return depending on the five possible initial offers from player 1, the percentage of observations that returned nothing and that returned everything and the average and median return per city. The number of observations in players' 2 information corresponds to the five observations that report every player 2, each one corresponding with an intended return amount that depends on the five possible initial offers by player 1.

Table 10. VCM, Risk Pooling and Risk Preferences, Basic Results

	Bogotá	Buenos Aires	Caracas	Lima	Montevideo	San José
VCM						
% of players who contributed to group account	12.3	23.1	47.3	24.2	25.1	24.3
Average % of contributors per session	11.8	22.0	42.3	21.9	24.4	25.5
% of sessions with no contribution	21.4	4	4	0	0	0
Median % of contributors per session	9.3	21.7	44.4	20.0	24.1	23.8
Maximum % of contributors per session	45.0	61.9	73.7	38.9	42.9	80.0
Risk pooling						
% of players who pooled risk	38.4	53.7	53.0	38.7	52.1	50.2
Average % of risk-poolers per session	40.3	50.6	55.6	37.9	53.0	56.0
Minimum % of risk-poolers per session	13.6	21.4	25	13.3	11.8	11.1
Median % of risk-poolers per session	42.0	50.0	52.4	35.7	53.3	57.1
Maximum % of risk-poolers per session	60.0	70.0	94.7	55.6	78.6	100
Risk preferences (% of players)						
Low risk aversion	15.3	14.7	32.6	19.4	12.9	21.4
Mid risk aversion	35.7	31.2	24.6	31.2	30.2	24.9
High risk aversion	49.0	54.1	42.8	49.4	56.9	53.7
Total	100	100	100	100	100	100
Low risk aversion in presence of ambiguity	12.7	10.5	26.6	16.5	10.3	19.0
Mid risk aversion in presence of ambiguity	27.1	28.1	30.1	30.6	29.8	26.3
High risk aversion in presence of ambiguity	60.1	61.4	43.3	52.9	59.9	54.6
Total	100	100	100	100	100	100
Low loss aversion	28.9	20.1	40.3	35.6	30.3	30.1
Mid loss aversion	25.6	29.0	28.7	24.6	35.7	26.6
High loss aversion	45.5	50.9	31.0	39.9	34.0	43.4
Total	100	100	100	100	100	100

Note: The table reports the basic results for the VCM game, the risk pooling game and the risk preferences of participants. The six lotteries of Experiment 3 were grouped by pairs (low, mid and high); figures represent the percentage of players who chose the corresponding group of lotteries.

Figure 1. Expectations and Actual Cooperation in VCM

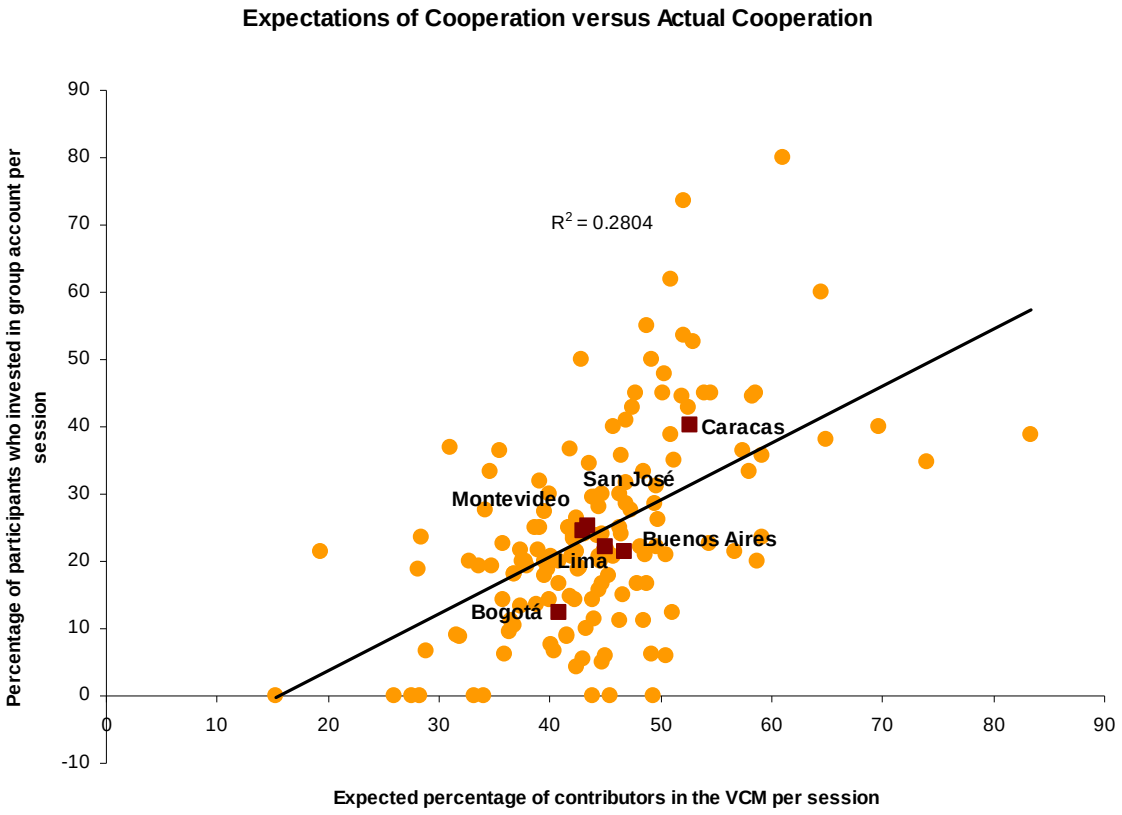


Figure 1a. Expectations and Actual Cooperation in VCM, by City

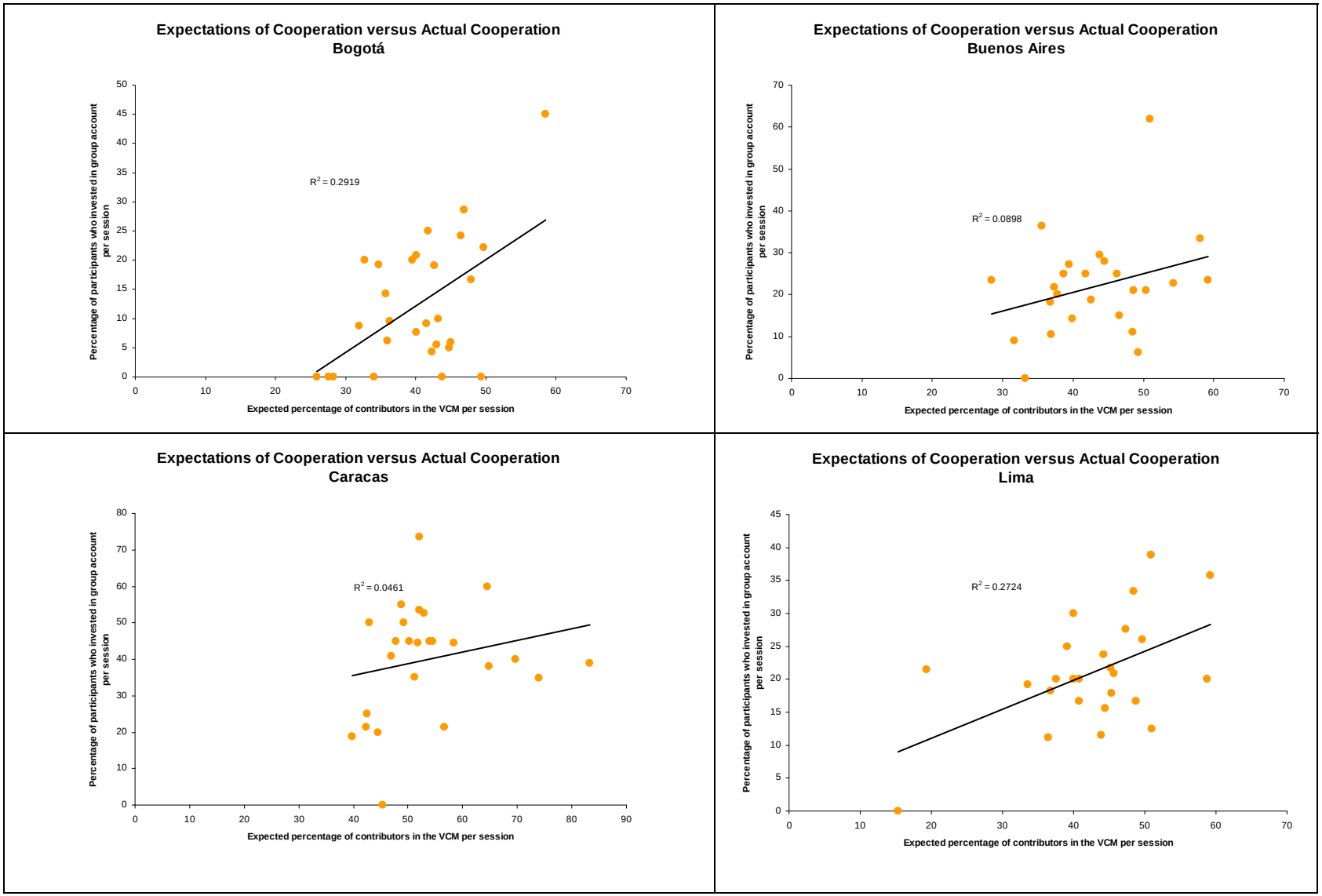


Figure 1a.,continued

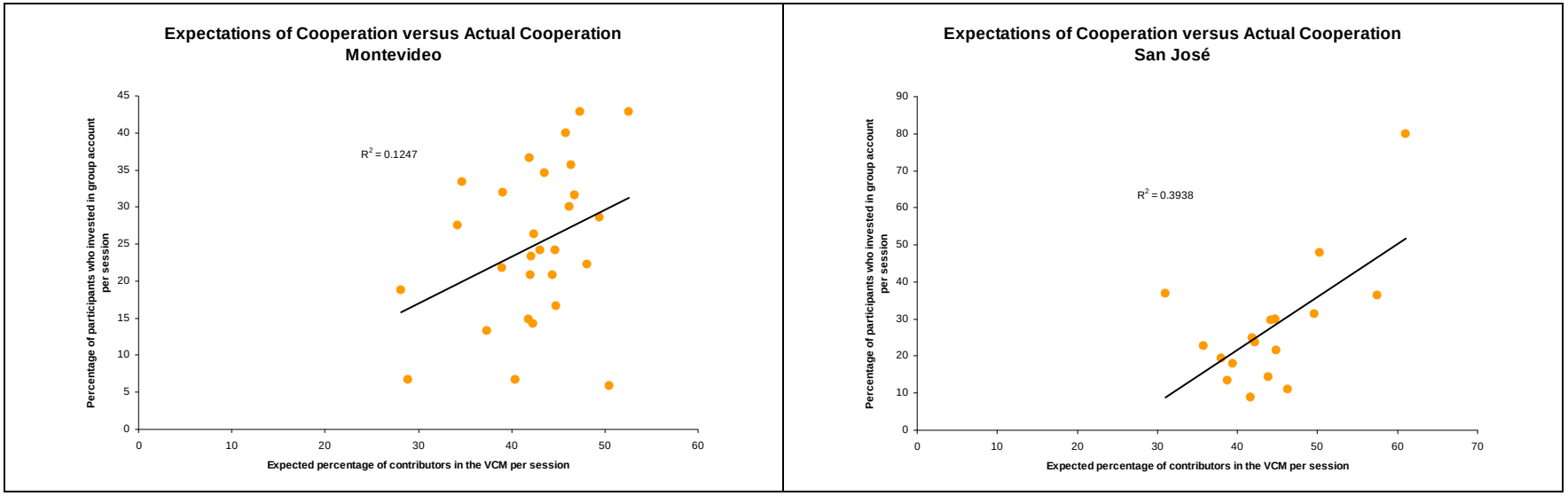


Figure 2. Correlation between VCM and Risk Pooling

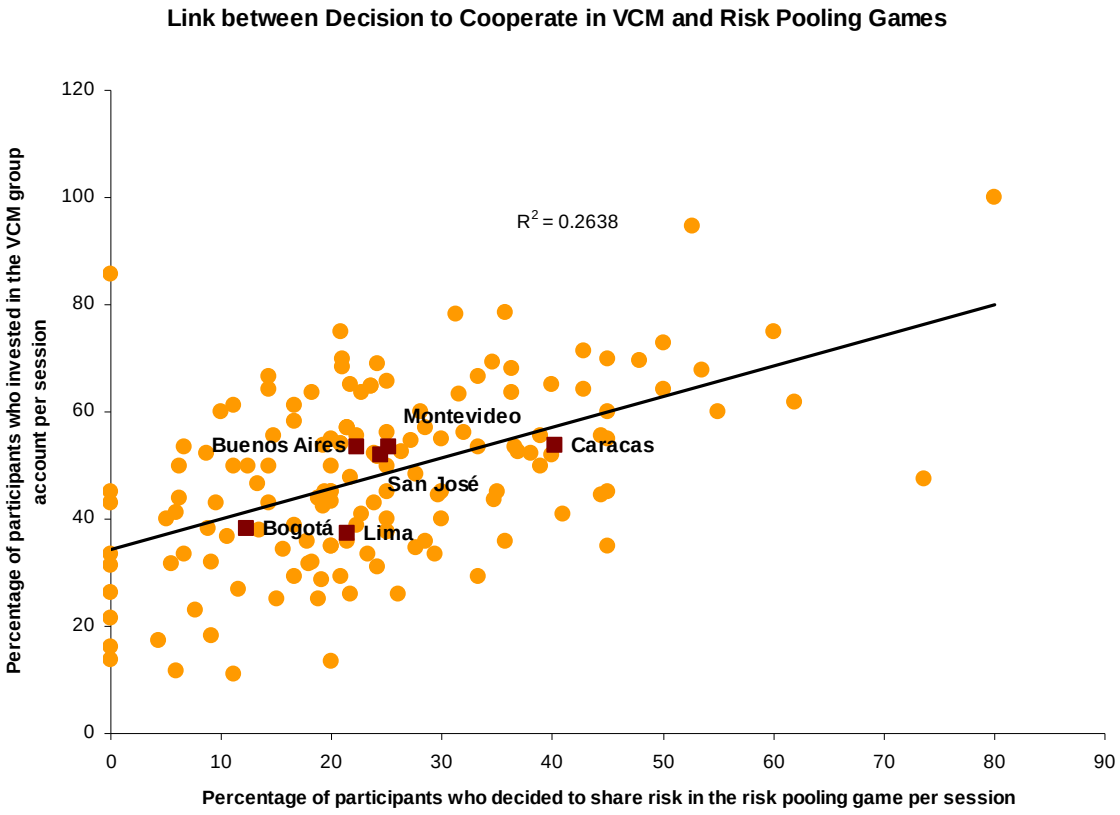


Figure 2a. Correlation between VCM and Risk Pooling, by City

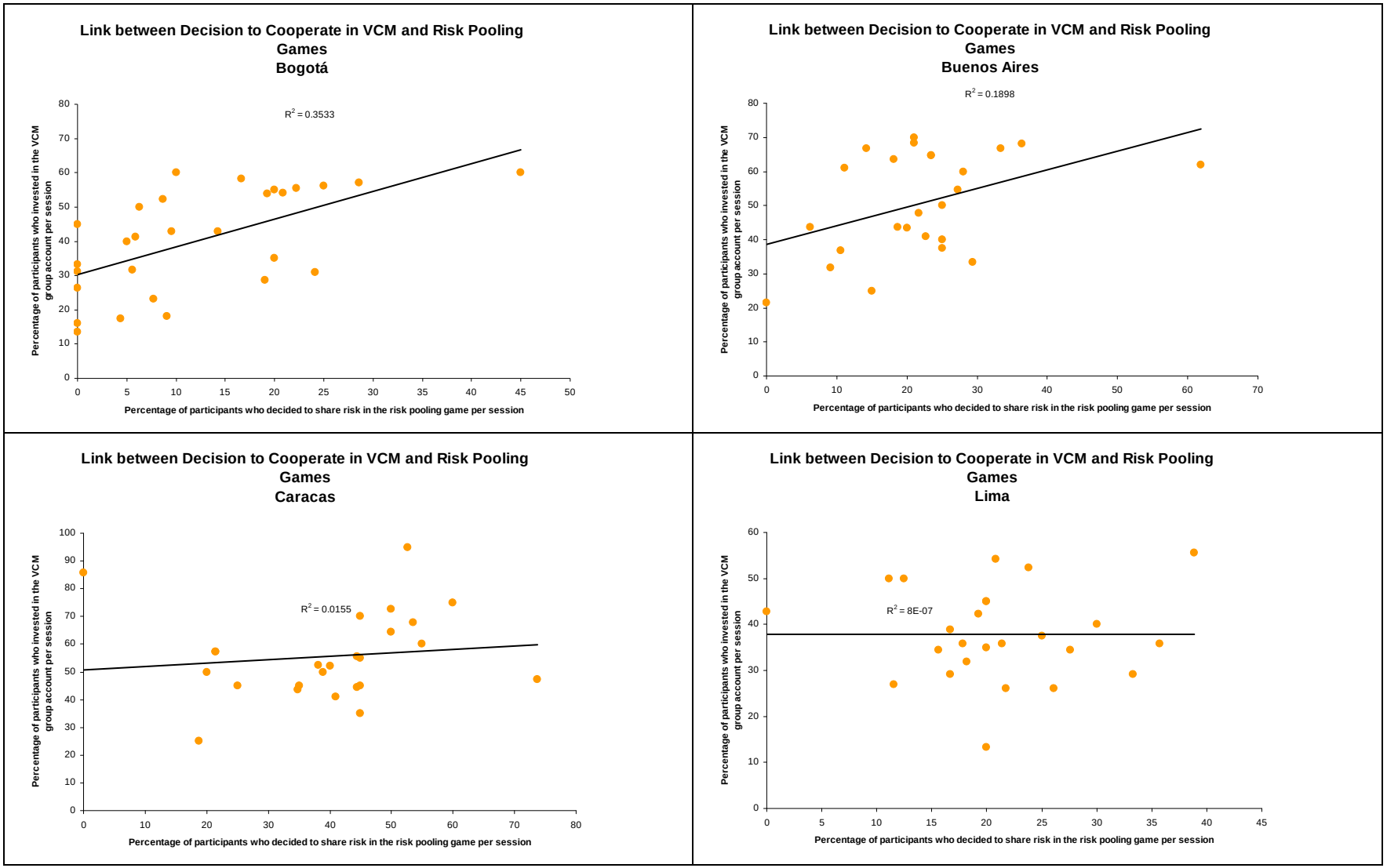
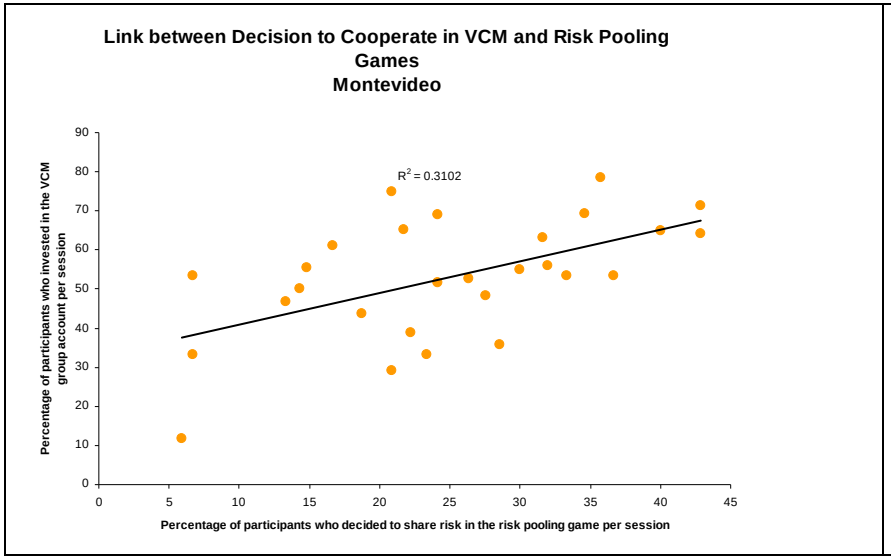
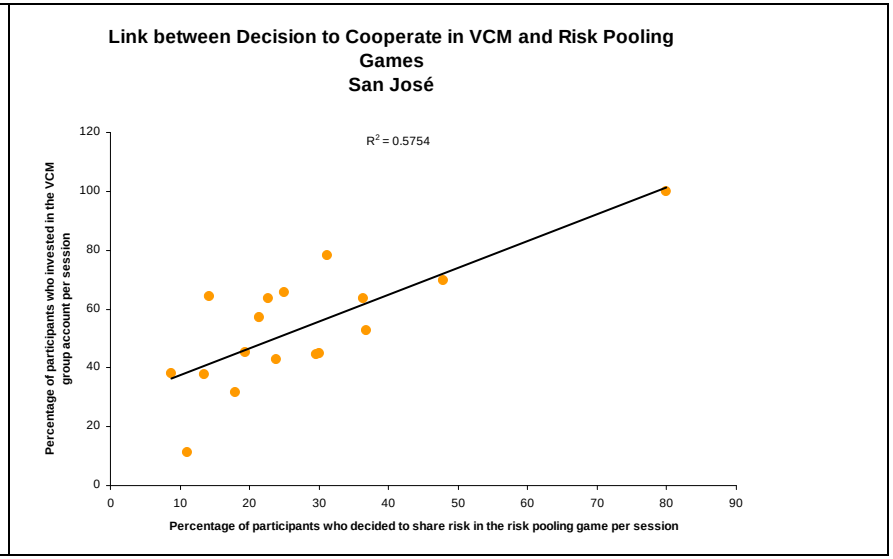


Figure 2a., continued





APPENDIX

Table 11. Results Trust Game, Player 1

	Dependent variable: initial offer from Player 1 (% of initial endowment)					
	Bogota	**Buenos Aires**	**Caracas**	**Lima**	**Montevideo**	**San Jose**
Participant's characteristics						
Player's age	0.00176	-0.0021	-0.0019	0.0009	0.00001	0.00419**
	(0.002)	(0.002)	(0.003)	(0.003)	(0.001)	(0.002)
1 if player is a woman	0.05671	-0.04017	-0.15381**	-0.12832**	0.0035	-0.08295
	(0.055)	(0.070)	(0.071)	(0.060)	(0.042)	(0.062)
1 if player has complete secondary education	0.15579***	0.045	(0.013)	(0.076)	0.050	0.082
	(0.055)	(0.067)	(0.063)	(0.069)	(0.054)	(0.073)
1 if player has more than complete secondary education	0.16729**	-0.0028	0.01497	-0.01539	0.0481	-0.01756
	(0.068)	(0.090)	(0.066)	(0.087)	(0.051)	(0.060)
1 if player belongs to middle socioeconomic level	-0.03384	-0.00024	0.16664**	-0.00365	0.06262	0.00914
	(0.053)	(0.048)	(0.080)	(0.066)	(0.042)	(0.049)
1 if player belongs to high socioeconomic level	0.0268	0.05933	0.09945	0.04292	0.04252	0.07679
	(0.067)	(0.060)	(0.080)	(0.077)	(0.042)	(0.068)
Matched Players' characteristics						
1 if matched player is a woman	0.08163	0.01507	-0.12903	0.0498	0.03872	0.00589
	(0.055)	(0.053)	(0.083)	(0.072)	(0.045)	(0.068)
1 if player and match are women	-0.0297	0.07545	0.20149*	-0.03866	-0.06227	0.04622
	(0.075)	(0.091)	(0.102)	(0.083)	(0.059)	(0.087)
Difference of age between player and match	0.00002	0.00268	0.00023	0.00038	0.00001	0.00011
	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
1 if player's education level is higher than match	-0.10971**	-0.00464	-0.04645	-0.02437	0.01107	0.07917
	(0.054)	(0.050)	(0.050)	(0.055)	(0.050)	(0.068)
1 if player's education level is below than match	-0.06853	-0.03403	0.00591	-0.01426	0.04072	0.02742
	(0.057)	(0.085)	(0.059)	(0.081)	(0.036)	(0.055)
1 if player's socioeconomic level is above than match	0.10079*	0.08087*	-0.16131*	0.01848	-0.06088	-0.10559*
	(0.057)	(0.048)	(0.089)	(0.053)	(0.046)	(0.057)
1 if player's socioeconomic level is below than match	-0.00562	-0.02582	0.03598	0.05807	-0.02927	-0.07674
	(0.056)	(0.061)	(0.059)	(0.072)	(0.039)	(0.047)
Experimental variables						
% expected by player 1	0.17032**	0.64552***	0.23934**	0.10424	0.43908***	0.22693
	(0.083)	(0.111)	(0.110)	(0.102)	(0.098)	(0.138)
Player has mid risk aversion	0.15986***	0.1158	-0.0795	0.03375	0.03299	0.02463
	(0.060)	(0.071)	(0.083)	(0.058)	(0.055)	(0.066)
Player has high risk aversion	0.04835	0.06089	-0.02572	-0.00218	-0.06529	0.08869
	(0.054)	(0.060)	(0.087)	(0.061)	(0.051)	(0.059)
Constant	-0.00685	0.21392*	0.51450***	0.45475***	0.29387***	0.18545
	(0.118)	(0.127)	(0.106)	(0.145)	(0.074)	(0.118)
Observations	270	240	228	262	280	185
R-squared	0.143	0.235	0.179	0.117	0.212	0.173

* significant at 10%; ** significant at 5%; *** significant at 1%

Robust standard errors in parentheses after OLS estimation. Base categories are less than complete secondary education, low socioeconomic level, player and match have the same education level, player and match have the same socioeconomic level, and low risk aversion. There are three education levels: less than complete secondary education, complete secondary education and more than complete secondary education.

Table 12. Results Trust Game, Player 2

	Dependent variable: return amount from Player 2 (% of possible amount)					
	Bogota	**Buenos Aires**	**Caracas**	**Lima**	**Montevideo**	**San Jose**
Participant's characteristics						
Player's age	-0.0001	0.00280**	0.0030	0.0020	0.00227***	0.0003
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
1 if player is a woman	-0.0403	-0.0048	-0.0570	0.0036	-0.0164	0.0203
	(0.026)	(0.030)	(0.046)	(0.035)	(0.028)	(0.044)
1 if player has complete secondary education	0.015	(0.006)	(0.051)	0.045	(0.046)	0.010
	(0.026)	(0.029)	(0.049)	(0.040)	(0.028)	(0.077)
1 if player has more than complete secondary education	0.0114	-0.0467	-0.11014*	0.0301	0.0257	0.0491
	(0.031)	(0.044)	(0.066)	(0.049)	(0.028)	(0.064)
1 if player belongs to middle socioeconomic level	-0.0037	0.05945***	0.11339**	-0.0282	0.0024	0.12748***
	(0.025)	(0.020)	(0.052)	(0.029)	(0.026)	(0.048)
1 if player belongs to high socioeconomic level	0.0209	0.08190***	0.0322	-0.0069	-0.0045	0.0321
	(0.033)	(0.029)	(0.062)	(0.041)	(0.029)	(0.062)
Matched Player's characteristics						
1 if matched player is a woman	0.0095	0.05563*	0.0389	0.06748*	-0.06206**	0.0238
	(0.027)	(0.032)	(0.069)	(0.036)	(0.026)	(0.045)
1 if player and match are women	-0.0008	-0.0447	0.0413	-0.08683*	0.0019	-0.0390
	(0.037)	(0.043)	(0.084)	(0.049)	(0.037)	(0.062)
Difference of age between player and match	-0.0011	-0.0004	-0.0005	0.0006	-0.0008	0.0002
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
1 if player's education level is higher than match	0.0069	0.0053	0.11172***	0.0033	-0.0021	0.0210
	(0.030)	(0.024)	(0.043)	(0.026)	(0.025)	(0.065)
1 if player's education level is lower than match	0.0377	0.0118	-0.0090	0.0289	0.0071	-0.07229**
	(0.027)	(0.041)	(0.055)	(0.042)	(0.025)	(0.030)
1 if player's socioeconomic level is higher than match	0.0080	-0.0019	0.0424	-0.0224	-0.0004	0.0264
	(0.028)	(0.025)	(0.063)	(0.029)	(0.027)	(0.045)
1 if player's socioeconomic level is lower than match	-0.0316	-0.0221	0.12229**	-0.0252	0.0362	0.0564
	(0.024)	(0.023)	(0.053)	(0.036)	(0.026)	(0.048)
Experimental variables						
% expected by player 2	0.20232***	0.17847***	0.30491***	0.25203***	0.18722***	0.19856***
	(0.036)	(0.042)	(0.073)	(0.054)	(0.036)	(0.058)
% sent by player 1	0.06520**	0.0456	0.17648**	-0.0175	-0.0226	0.0022
	(0.031)	(0.032)	(0.070)	(0.040)	(0.041)	(0.050)
Constant	0.07901*	0.0181	-0.0284	0.1028	0.14388***	0.0654
	(0.046)	(0.060)	(0.079)	(0.077)	(0.044)	(0.060)
Observations	1,410	1,260	1,172	1,365	1,464	940
Number of players	282	252	234	273	293	188
R-squared	0.155	0.16	0.305	0.167	0.114	0.144

* significant at 10%; ** significant at 5%; *** significant at 1%

Robust standard errors, clustered by individual, in parentheses after OLS estimation. Base categories are less than complete secondary education, low socioeconomic level, player and match have the same education level, and player and match have the same socioeconomic level. There are three education levels: less than complete secondary education, complete secondary education and more than complete secondary education.

Table 13. Group Formation Results, VCM Game

	Dependent variable: 1 if player contributed to group account					
	Bogota	**Buenos Aires**	**Caracas**	**Lima**	**Montevideo**	**San Jose**
Participant's characteristics						
Player's age	-0.00042	0.00238	0.00511*	0.00265**	0.00339***	-0.00048
	(0.001)	(0.002)	(0.003)	(0.001)	(0.001)	(0.001)
1 if player is a woman	0.0227	0.02098	0.13851**	-0.02031	-0.02845	-0.01713
	(0.017)	(0.062)	(0.068)	(0.056)	(0.049)	(0.045)
1 if player has complete secondary education	-0.03307	-0.0559	-0.24915**	-0.09572	-0.06112	0.06774
	(0.023)	(0.044)	(0.120)	(0.075)	(0.076)	(0.089)
1 if player has more than complete secondary education	0.016	-0.09010**	-0.32890***	(0.032)	0.09350*	(0.007)
	(0.034)	(0.044)	(0.090)	(0.076)	(0.049)	(0.052)
1 if player belongs to middle socioeconomic level	0.0284	-0.00263	0.06033	-0.0621	0.01964	-0.03282
	(0.034)	(0.059)	(0.116)	(0.063)	(0.054)	(0.054)
1 if player belongs to high socioeconomic level	0.01506	0.13302*	0.06379	-0.11566*	-0.09613*	0.04354
	(0.059)	(0.079)	(0.119)	(0.059)	(0.058)	(0.069)
Session characteristics						
% of women in session	0.00144	-0.00021	0.00048	-0.00367**	-0.00152	0.00352*
	(0.001)	(0.003)	(0.003)	(0.002)	(0.001)	(0.002)
% with less than complete secondary in session	-0.00009	0.00196	-0.00954*	0.00232	-0.00048	-2.E-04
	(0.001)	(0.005)	(0.005)	(0.002)	(0.001)	(0.001)
% that belong to low socioeconomic level in session	0.00028	-0.00178	-0.00198	-0.00007	-0.00068	-0.00217**
	(0.001)	(0.002)	(0.003)	(0.001)	(0.001)	(0.001)
Number of players in session	0.00151	0.01348***	0.0066	-0.00289	0.00728	0.00302
	(0.003)	(0.005)	(0.013)	(0.005)	(0.005)	(0.002)
Std Dev of years of education within session	-0.00823	-0.07122	-0.00324	-0.04959*	-0.03428	0.01589
	(0.012)	(0.074)	(0.113)	(0.028)	(0.040)	(0.024)
Experimental variables						
1 if participant pooled risk	0.16104***	0.18294***	0.29602***	0.17482***	0.12278***	0.19011***
	(0.029)	(0.055)	(0.069)	(0.049)	(0.036)	(0.038)
% of expected contributors to VCM in session	0.00244***	0.00474***	0.01172***	0.00322**	0.00685***	0.00553***
	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.001)
Player has mid risk aversion	0.01734	0.13566*	0.04636	0.10663	0.05479	-0.07985*
	(0.039)	(0.080)	(0.108)	(0.124)	(0.069)	(0.046)
Player has high risk aversion	0.02547	0.10918	0.35121***	0.10253	0.04257	-0.02559
	(0.029)	(0.075)	(0.119)	(0.074)	(0.061)	(0.056)
Observations	565	490	482	541	574	417
Number of clusters	28	25	25	25	28	19
Pseudo R-squared	0.295	0.192	0.318	0.136	0.209	0.25

* significant at 10%; ** significant at 5%; *** significant at 1%

Marginal effects reported. Robust standard errors, clustered by session, in parentheses after probit estimation. Base categories are less than complete secondary education, low socioeconomic level, and low risk aversion. There are three education levels: less than complete secondary education, complete secondary education and more than complete secondary education.

Table 14. Group Formation Results, Risk Pooling Game

	Dependent variable: 1 if player pooled risk					
	Bogota	**Buenos Aires**	**Caracas**	**Lima**	**Montevideo**	**San Jose**
Participant's characteristics						
Player's age	0.00345	0.00343**	0.00048	0.00272	0.00411***	0.00601**
	(0.002)	(0.002)	(0.003)	(0.002)	(0.001)	(0.003)
1 if player is a woman	-0.00607	-0.09782	-0.02666	0.03709	0.05346	-0.00547
	(0.048)	(0.068)	(0.082)	(0.070)	(0.046)	(0.058)
1 if player has complete secondary education	(0.006)	0.039	0.098	(0.109)	0.034	-0.17204*
	(0.092)	(0.090)	(0.098)	(0.097)	(0.075)	(0.104)
1 if player has more than complete secondary education	0.01838	0.0487	0.0452	-0.18009	0.10708*	0.00198
	(0.084)	(0.097)	(0.106)	(0.112)	(0.056)	(0.099)
1 if player belongs to middle socioeconomic level	-0.04265	-0.06581	0.13114	0.14991	0.07752	0.04619
	(0.076)	(0.093)	(0.108)	(0.099)	(0.064)	(0.151)
1 if player belongs to high socioeconomic level	-0.06748	-0.0528	0.02325	0.01543	0.01483	0.10058
	(0.059)	(0.101)	(0.151)	(0.120)	(0.081)	(0.146)
Session characteristics						
% of women in session	0.00455*	-0.00511	-0.0028	0.00047	0.00443**	0.00073
	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.005)
% with less than complete secondary in session	-0.00333***	-0.00034	-0.00364	-0.00062	0.00101	-0.00096
	(0.001)	(0.007)	(0.007)	(0.003)	(0.002)	(0.002)
% that belong to low socioeconomic level in session	-0.00129	0.00157	-0.00121	-0.00044	0.00094	0.00033
	(0.001)	(0.002)	(0.005)	(0.001)	(0.002)	(0.002)
Number of players in session	-0.00903	0.00247	-0.00118	-0.01177**	-0.00344	-0.00204
	(0.006)	(0.012)	(0.015)	(0.006)	(0.006)	(0.007)
Std Dev of years of education within session	0.01331	0.13736	0.0744	-0.05509	0.0028	0.10328*
	(0.031)	(0.146)	(0.157)	(0.054)	(0.052)	(0.053)
Experimental variables						
1 if participant contributed to group account in VCM	0.49523***	0.28436***	0.28783***	0.26584***	0.20292***	0.34764***
	(0.048)	(0.073)	(0.085)	(0.062)	(0.046)	(0.056)
Player has mid risk aversion	0.11101	0.09057	0.2081	0.01265	-0.01276	0.14027*
	(0.082)	(0.111)	(0.141)	(0.132)	(0.087)	(0.075)
Player has high risk aversion	0.08684	0.12687	0.06191	0.03433	0.00638	0.01233
	(0.084)	(0.098)	(0.170)	(0.099)	(0.063)	(0.093)
Observations	567	494	484	541	580	417
Number of clusters	28	25	25	25	28	19
Pseudo R-squared	0.128	0.0897	0.0999	0.0735	0.0651	0.135

* significant at 10%; ** significant at 5%; *** significant at 1%
Marginal effects reported. Robust standard errors, clustered by session, in parentheses after probit estimation. Base categories are less than complete secondary education, low socioeconomic level, and low risk aversion. There are three education levels: less than complete secondary education, complete secondary education and more than complete secondary education.