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AND TRUSTWORTHINESS

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ABSTRACT

Using a sample of Harvard undergraduates, we analyze trust and social capital in two experiments. Trusting behavior and trustworthiness rise with social connection; differences in race and nationality reduce the level of trustworthiness. Certain individuals appear to be persistently more trusting, but these people do not say they are more trusting in surveys. Survey questions about trust predict trustworthiness not trust. Only children are less trustworthy. People behave in a more trustworthy manner towards higher status individuals, and therefore status increases earnings in the experiment. As such, high status persons can be said to have more social capital.

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I. Introduction

Following Jacobs (1961), Loury (1977), Coleman (1990), and Putnam (1993), researchers have argued that "social capital" – which is often measured with questions about the level of trust— influences a wide range of significant economic and political phenomena. Arrow (1972) and Fukuyama (1995) suggest that the level of trust in a society strongly influences its economic success. Knack and Keefer (1997) show that a one-standard deviation increase in a measure of country-level trust increases economic growth by more than one-half of a standard deviation. Putnam (1993) uses Italian cross-regional data to show that local governments are more efficient where there is greater civic engagement. LaPorta, Lopez-de-Silanes, Shleifer and Vishny (1997) find that across countries, a one-standard deviation increase in the same measure of trust increases judicial efficiency by 0.7 of a standard deviation and reduces government corruption by 0.3 of a standard deviation.

Usually social capital is described as a community level attribute.[1] Jacobs (1961) defines social capital as "neighborhood networks." According to Putnam (1995), social capital represents "features of social life—networks, norms, and trust—that enable participants to act together more effectively to pursue shared objectives." The theory and empirical work on social capital generally focus on community-level aggregates and downplay individual heterogeneity. Social capital is seen as a feature of the group, not the person.

However, even group-level social capital must be a function of individual-level actions and attributes. Networks are not merely the result of historical accident, they come about as individuals spend time and energy to connect with others.[2] If economists are going to understand social capital, then we must start with an analysis of the decision-makers who actually invest in social connection. A micro-approach to social capital might sensibly

[1] Individual-oriented definitions of social capital do exist. Loury (1979) thought social capital captured "the consequences of social position in facilitating acquisition of the standard human capital characteristics." Shleifer and Summers (1988) emphasize individual heterogeneity in trustworthiness and argue that firms promote managers who are known to be innately trustworthy (i.e. there is an economic return to one particular form of social capital).

[2] DiPasquale and Glaeser (1999) focus on the factors that influence the incentives to invest in social capital.

begin with an individual-based definition of the concept: an individual's social capital is that individual's social characteristics—including charisma, status and access to networks—that enable that person to extract private returns from interactions with others.[3] The social capital of a set of individuals is the aggregate of those individuals' social capital that takes into account all externalities across the members of the set.[4]

This paper makes the case for an individual-oriented approach to social capital in three ways. First, we document the existence of stable, individual heterogeneity in social capital, trust (trust is defined as the commitment of resources to an activity where the outcome depends upon the cooperative behavior of others), and trustworthiness (trustworthiness is defined as behavior that increases the returns to people who trust you). Without significant individual heterogeneity, there would be little reason to eschew group level analysis for individual-based analysis. Second, we show that a simple microeconomic model provides comparative statics that are generally vindicated in a simple experiment involving trust. Third, we show that private returns to social capital variables appear (at least in our particular case) to be quite different than social returns to the same variables. Since investment in social capital is presumably driven by private, not public, returns, this finding means that understanding investment in social capital cannot be done with an approach that only thinks about public returns to social capital.

Much of the social capital research relies upon survey questions such as "Generally speaking would you say that most people can be trusted or that you can't be too careful?" While these survey questions are interesting, they are also vague, abstract and hard to interpret. Putnam (1995), for example, laments this problem: "Since trust is so central to the theory of social capital, it would be desirable to have strong behavioral indicators of trends in social trust or misanthropy. I have discovered no such behavioral measures." In this paper, we observe trust and trustworthiness in experiments involving monetary rewards. To test whether social capital is a stable individual-level characteristic, we

[3] As such, individual social capital is determined both by individual level characteristics (e.g. personal skills) and group level characteristics (e.g. community cohesion).

examine whether survey questions and background characteristics predict trust, trustworthiness and the ability to extract resources from a trust game (this ability is social capital in this setting).

We first survey 258 Harvard undergraduates and then a subpopulation of 196 undergraduates plays two trust games. The limited size and unusual nature of our subject population naturally means that there may be limits to the general applicability of our results. First, individuals are paired and meet their partner. Then they are separated and one member of the pair (the sender) has the opportunity to send between 0 and 15 dollars to his or her partner (the recipient).[5] The experimenter matches each dollar that is sent. After the second player receives the transfer and the matching amount, he or she may send money back to the first player.[6] This stylized game (based on Berg, Dickhaut and McCabe, 1995) is similar to many economically relevant settings such as investment with imperfect contracts or producing a public good. In our second game, subjects report their willingness to pay for an envelope containing 10 dollars that is addressed to them and dropped in several different public places (e.g. Harvard Square) under various conditions (e.g. sealed and stamped).

Overview of Results: The degree of social connection between the sender and recipient—the number of friends they have in common, being members of the same race or nationality and the duration of their acquaintanceship—generally predict the level of trust and trustworthiness in the two-person trust game. These results might mean that higher probabilities of repeated play in dense social network facilitate trust (as in Abreu, 1988, Greif, 1993) or that inter-personal altruism supports trust.[7] These results vindicate the importance of joint group membership for creating social capital.

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[4] This aggregation is complex and characteristics that increase an individual's social capital may actually reduce the social capital of the group. For example, a particularly slick car salesman may have plenty of individual social capital but he is likely to reduce the social capital of any group that he joins.

[5] One-half of the sample of trustees (essentially chosen randomly) were given the opportunity to promise to return at least as much money as they were sent by the trustor.

[6] All of the rules of the game are common knowledge.

[7] Fershtman and Gneezy (1998) also use a variant of this game to examine trust is Israel and find a similar result. They document the importance of group membership by showing that males (not females) are less trusting of Sephardic males. In their version of the game, players do not meet one another and they are left to deduce ethnic background from their opponents' last name.

We also find that individual characteristics predict trust, trustworthiness and social capital. While most survey questions about trust do not predict trust in either game, two relatively precise questions about trusting strangers do predict trust in the envelope drop game and in the two-person trust game when the subjects are indeed strangers. Measures of trusting behavior are better predictors of the individual's level of trust than abstract survey questions; an index of past trusting behavior has a 22.4 percent correlation coefficient with the amount sent in the trust game (significant at the 5 percent level). The connection between trust in the envelope drop experiment and trust in the two-person trust game is almost significant at the 10 percent level. There appear to be stable individual specific characteristics that influence trust.

There are also stable, individual measures that predict trustworthiness. The basic survey questions about how much you trust others, surprisingly, predict the extent to which you yourself should be trusted. An index of an individual's response to General Social Survey (GSS) attitudinal questions about others being trustworthy, fair and helpful has a 34 percent correlation with the amount of money that the individual himself gives back (significant at the 0.1 percent level).[8] While trust survey questions are bad at predicting any individual's level of trust, they may be good at predicting the overall level of trustworthiness in society.

Subjects who are only children are less trustworthy in our experiment than subjects with siblings. The average respondent with siblings returns 98 percent of the amount sent over (49 percent of the doubled amount). The average only child returns 46 percent of the amount sent over.

[8] The lack of correlation between trusting behaviors and self-reported measures of trust is consistent with a wide range of failures of attitudes to predict behavior in the social psychological literature (for a review, see Ajzen and Fishbein, 1977). LaPierre (1934) finds that the self-reports willingness of restaurant or motel owners to cross racial barriers and serve minority clientele is not correlated with later behaviors to actual minorities. McClelland, Koestner and Weinberger (1989) find no correlation between self-reported motivation to achieve and achievement-enhancing behavior. They explain this phenomenon by arguing that self-reported motivation reflects expectations about society as a whole, not any individual attribute. Banaji and Greenwald (1994) have begun a growing trend toward use of implicit cognitive measures to determine unconscious values that do predict behavior rather than stated beliefs, which often do not.

Background characteristics capturing the level of status and organization membership—variables meant to proxy for an individual's own social capital-- only weakly predict the level of trust, but strongly predict the amount of money that senders receive back from recipients. As a result, these measures of social status positively predict financial returns for subjects in the game who start in the sender position. People with better educated parents, students who work fewer hours for pay, individuals with more friends, and members of volunteer organizations all earn more money in the experiment.

We interpret these facts as meaning that, at least in this particular social setting, individual variables meant to capture social capital really do produce individual financial returns, just as one would expect of any form of "capital". However, these social capital variables do not enhance everyone's welfare (at least not in this game). People who are playing against these high status subjects end up with less earnings from the game. This suggests that aggregation of social capital variables may be much more difficult than aggregation of physical or human capital—some types of individual social capital produce negative externalities.

II. Discussion and Analysis of the Game

This section discusses the connections between trust, trustworthiness and social capital, and we start with the determinants of trust.[9] People differ in their willingness trust others because of three factors: (1) different beliefs about the trustworthiness of others, controlling for situational variation, (2) different preferences about giving to others and (3) different abilities to elicit trustworthy behavior from others.[10] Beliefs, altruistic preferences and the ability to elicit trustworthiness may all depend on both individual and group characteristics. To test for the presence of stable, individual heterogeneity, we examine different measures of trust: (1) the GSS survey question, (2) past trusting

[9] Social capital may exist in situations without trust. For example, Ball, Eckel, Grossman and Zame (1998) document that arbitrarily assigned status increases the economic returns to subjects in a classic market setting with no scope for trust or trustworthiness.

[10] We will not consider the extent to which trust in this game is driven by risk tolerance (which is possible).

behavior, (3) the level of trust in the two-person trust game and (4) the level of trust in the envelope drop. All four measures are different and not every factor will influence every measure. For example, trust in the envelope drop game will be a function of beliefs and preferences towards giving but will not depend on the ability to elicit trustworthiness.

One test of individual heterogeneity is to examine the correlation between these different measures of trust. A second test is to see whether individual variation in beliefs, altruistic preferences and the ability to punish can explain differences across individuals in the levels of trust. We will spend little time examining differences in beliefs, as most standard economic models have difficulty explaining why these differences in beliefs could persist across people. We will examine the connection between trust and measures of altruism. Most importantly, in the two-person trust game, we will examine whether trust is related to different abilities to elicit trustworthy behavior from others.

To understand the determinants of trustworthy behavior and its connection with trust, we now formally analyze the game that will be used in our experiments. In the first round of the game, the sender gives an amount S (the level of trust) between 0 and $\overline{S}$ (in our experiment $\overline{S}$ equals \$15). The experiment matches this amount so that the recipient receives a total of ϕS, where $\phi > 1$ (in our experiment $\phi = 2$). In the second period, the recipient may return some money to the sender and we denote this sum as R, where $0 \leq R \leq \phi S$. This structure is representative of a large range of trust situations, where one person puts resources into the care of another person who might decide to keep everything for himself.

In general, trustworthiness is the product of a calculation where the benefits of short-run financial gain are outweighed by psychic costs from cheating and long run penalties imposed on cheaters. To capture the possible role of long-run penalties and rewards due to repeated play, we assume that after the game (when we no longer observe the subjects), the subjects meet again with probability δ. This continuation payoff to one player, say "player i," depends on the extent to which the other player, "j," wants to punish or reward i, which is determined by player j's altruism toward player i:

$Altruism_{j,i}$. We assume that player j's altruism toward player i depends upon the net transfers made from player i to player j: $Altruism_{j,i}(Net\ Transfer_{i,j})$. The continuation payoff also depends on the power of player j, $\theta_j \geq 0$, which determines player j's capacity to reward and punish player i.

The total utility that player i receives when playing against player j is:

(1) $Cash_i + \delta * Altruism_{j,i}(Net\ Transfer_{i,j}) * \theta_j + Altruism_{i,j}(Net\ Transfer_{j,i}) * Cash_j$.

We have already discussed the first two terms in this expression. Both of those terms reflect external returns to the player: cash and continuation payoffs after the experiment. The possibility of a continuation payoff gives player i an incentive to transfer more to player j (i.e. to be both more trusting and trustworthy) because player j will reward i for his good behavior afterwards.

The third term in the utility function reflects the internal costs and benefits of trust and trustworthiness. Following Rabin (1993), we describe these psychic influences as reciprocal altruism. For example, altruism— whether reciprocal or not— is a reasonable description of Chicago's South Shore Bank lending to low income communities. More generally, altruism may be a good description of the primary psychic forces that increase the returns to trust.[11]

Trustworthiness is also affected by reciprocal altruism. For example, individuals who have been shown little trust may respond spitefully by betraying that trust. However, there are many other internal costs and benefits related to cheating others. Individuals may be endowed with psychic mechanisms that generate costs when they cheat others (e.g. guilt). Alternatively, people might dislike inequality and want to see the returns from the game shared equally across participants. These forces are not altruism as it is usually perceived, but they will still increase the marginal utility to the recipient of

[11] There might be other psychic gains from trusting, such as satisfying a norm requiring trusting others.

returning money to the sender. Furthermore, it is likely that this desire to transfer will be higher if the sender behaved generously initially. As such, our algebra, as long as it is interpreted broadly enough, captures a wide range of psychic mechanisms.

Formally, altruism will be $Altruism_{i,j}(Net\ Transfer_{j,i}) = \alpha_i + \kappa_j + a(Net\ Transfer_{j,i})$, where $a(.)$ is increasing and concave, and the altruism of the sender lies between 0 and 1.[12] The altruism from person i to person j contains two constant terms: α_i, which reflects the generosity of person i, and κ_j that reflects the charisma and attractiveness of person j (perhaps one measure of person j's social capital). When person i is the recipient/trustee, then α_i might also reflect any internal distaste for cheating.

The amount of trustworthiness (i.e. the amount that the recipient returns) is found so that the marginal cost of returning a dollar is equal to the marginal benefits from altruism (or fairness) $\left(\alpha_{recipient} + \kappa_{sender} + a(S)\right)$ plus the marginal benefits from avoiding punishment after the experiment, $\delta a'(R-S)\theta_{sender}$. Holding the amount sent constant, the amount returned will be rising with the (1) charisma of the sender, (2) the power of the sender to punish and reward, (3) the altruism of the recipient (which can also be interpreted as the psychic costs of cheating), and (4) the probability of the two individuals meeting again.

Empirically, we will have difficulty distinguishing between effects (1) and (2). We will test them together by using measures of the social status and general sociability or the sender. We will also have difficulty differentiating between effects (3) and (4). The length of the friendship, the number of friends the sender and recipient have in common, and differences in race or nationality might be proxies for either effect. As long as the amount returned is strictly positive, the amount returned increases more than one-for-one with amount sent, i.e. $dR/dS>1$, which is also an implication that we will examine.[13]

[12] There are certainly some circumstances where altruism is greater than one, but we believe that it would be unusual for two undergraduates to prefer dollar-for-dollar transfers to other undergraduates. There are also circumstances where altruism is negative (i.e. spite exists). Ruling out negative altruism is sufficient, but not necessary for most of our results.

[13] This result stems from our assumption that net transfers drive reciprocal altruism, and is not general. The other comparative statics are much more robust across permutations of the model.

In the first period, the sender chooses the amount to send (i.e. the level of trust) forming an expectation of the amount that will be returned. The financial returns from trusting may be either positive or negative. The other returns from trusting including the benefit of pleasing the other person, which produces both psychic rewards from altruism and a payoff from the other player after the experiment is over. These returns are always positive. Since $dR/dS>1$, as long as $S>0$ and $R>0$, then marginal increases S will always increase financial returns and increasing S always makes sense. Thus the sender either gives nothing, or gives something and expects nothing back or gives everything (i.e. $S=\overline{S}$). Using this logic, in the appendix we prove:

Proposition 1: Both S and R rise weakly with δ, θ_{Sender}, $\theta_{Recipient}$, α_{Sender}, $\alpha_{Recipient}$, κ_{Sender}, and $\kappa_{Recipient}$.

Thus trust is predicted to increase with the probability of repeated contact, the power of the sender to enforce trustworthy behavior, the extent to which the sender inspires more altruism from the recipient, and the generosity of the recipient. These effects will increase the direct financial returns from trust, because they increase the trustworthiness of the recipient. We will test these hypotheses empirically by looking for effects of the status of the sender and social connection between the sender and the recipient. We will also look at measures of general altruism to test the implication regarding α_{Sender}.

Trust is also predicted to increase with the attractiveness and power of the recipient. These effects raise the non-financial rewards from trusting behavior, and when these forces are strong, senders will be willing to trust even when trusting is an activity with a negative expected dollar payoff. If the ability to punish the recipient actually declined with $\theta_{Recipient}$, which it might, then these comparative statics could be reversed. As such, we will put less stock in these implications.

Comparative statics on the total returns from the experiment are also straightforward when returns are defined in, unfortunately unobservable, utility terms. Senders with higher values of κ_{Sender} and θ_{Sender}—our key private, social capital variables-- will receive higher levels of utility from the experiment. For many regions of parameter values, these variables will also increase financial payoffs, but that will not always be true. In some instances, individuals with more social capital will use that social capital to satisfy their altruism and to generate goodwill, which will generate returns in the continuation game. As such, higher social capital may be associated with lower financial returns from the game but greater overall returns. We will empirically test whether financial returns in the game are higher for senders who come from a more successful family background or who appear to be more charismatic or who are more socially connected.[14]

III. Basic Facts from the Trust Surveys

In this section, we revisit some of the basic findings that are by now well known in the literature on trust and social capital. As described earlier the basic dependent variable is the answer given by respondents to the question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" While the abstraction of this question makes interpretation difficult, we interpret this question to ask about individual's expectations of trustworthiness averaged over a range of situations. As discussed above, variation in answers to this question might occur because of differences in beliefs about the trustworthiness of a common set of people or because some people are better at eliciting trustworthy behavior from others.[15]

Table 1 gives mean answers to this question in the National Opinion Research Center's General Social Survey (the GSS). This survey is the primary source for U.S. evidence on trust. Since its inception in 1972, the survey has been administered 20 times to a sample

[14] We focus on financial returns for senders rather than recipients because for senders, payoffs in the experiment (which are primarily determined by inducing trustworthiness) are likely to be positively correlated with payoffs after the experiment. However, as recipients who do well are those who cheat the senders, the model predicts them to do poorly after the experiment.

of between one and two thousand respondents. The sample of questions asked changes from survey to survey, but the trust question has been asked almost continuously. Definitions of variables appear in Appendix II. The last two rows compare the sample that we will use for our trust experiment with the GSS sample. The responses of our Harvard subjects closely resemble the responses of GSS subjects, particularly when we focus on the GSS subjects who are young and college educated.

The first regression of Table 2 presents our benchmark results, where we run probit regressions to estimate how different characteristics explain trust and report the marginal effects of the variables. Trust is much lower for later cohorts. The gap in the level of trust between individuals who were born before 1914 and those who are born after 1959 is 30.4 percent.[16] Supporting the prediction of the model that higher status persons are better at eliciting trustworthiness, trust is much higher among richer and well-educated individuals. College graduates are more than 35 percent more likely to answer yes to the trust question than high school dropouts. Blacks are 27 percent less likely to say that they are trusting than whites.[17] Men are slightly more trusting. Married persons are also more trusting. City size has a slightly negative effect on the amount of trust.

Most of these results have multiple interpretations that emphasize both group-level social capital and individual-level social capital. For example, the positive effect of education on trust might be the result of groups of more educated people being more trustworthy. Alternatively, education might create individual social capital by raising social skills or because high status increases the ability to reward and punish others.

Regression (2) repeats regression (1) using membership in non-professional organizations—a measure of observable, social behavior-- as the dependent variable. The correlation of this variable with the trust measure is high, and many of the same

[15] Variation in the answer to this question might also occur because there is heterogeneity in the definition of "most people." It seems unlikely that differences in altruism, as discussed above, will drive answers to this question (although certainly altruistic attitudes might correlate with this answers to this question).
[16] We cannot separately identify age, cohort and time effects, due to multicollinearity. We identify age and cohort effects by assuming away time effects.
[17] The gap between the race diminishes in states where blacks are less of a minority.

patterns hold for this variable. For example, the basic cohort, education and income effects remain. There are only two real differences with the trust question. The sign on race flips, and membership in non-professional organizations peaks among individuals between 35 and 44.[18]

Regression (3) returns to the trust survey question and examines the role of television. Putnam (1995) argues that television may have played a major role in eliminating trust and social capital. Individuals who watch dramatically large amounts of television trust less. However including the number of hours spent watching television does not explain, or even affect, the measured cohort effects. To evaluate the possible role of television in explaining the decline of trust, consider the experiment of moving everyone from watching zero television to watching 3 hours per day (the average in the GSS). This would cause a 5.75 percentage point decline in trust, which is less than one-quarter of the decline in trust between the pre-1940 and post-1959 cohorts.[19]

Regression (4) examines the role of religion and finds that individuals who attend church more are indeed more trusting, perhaps because they associate more with other churchgoers (a group effect) or perhaps because they have individual characteristics which both propel them to church and make them trusting. Denominations clearly matter, but it is hard to find a clear pattern. Across denominations, Lutherans, Episcopalians and Presbyterians are the more trusting groups. Baptists and Jews are the least trusting and Catholics are in the middle (the omitted category is "Protestant—No Specific Denomination"). [20] Goldin and Katz (1999) find that the proportion of residents in an area who are Lutheran in the early part of this century strongly predicts current measures of social capital. We confirm this result and find that the proportion of Lutherans in one's state is a strong predictor of trust.[21]

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[18] This finding is robust to controlling for the number of children in the household.

[19] This calculation might be wrong if there are spillovers from television, so that the macro-elasticity of watching television is much higher than our estimated micro-elasticity.

[20] LaPorta et al. (1997) argue that hierarchical religions reduce social capital at the country level because the operation of these religions entails less cooperative interaction between lay people. Iannacone (1991) argues that religion serves a large social purpose and we might expect to find significantly more trust among members of particular religious groups (see also Glaeser and Glendon, 1997).

[21] Indeed, percent Lutheran can explain 30 percent of the variation in the mean level of trust across states.

This importance of Lutheranism at the state-level relative to the individual being Lutheran himself suggests the importance of the group, rather than the individual, in generating trust. However this impression is somewhat misleading. State-level variables often have big coefficients, but they have little explanatory power. The additional R-Squared created by including a complete set of state dummies in the regression (relative to a regression with no state controls at all) is less than 1.5 percent. This suggests either that states are too large to serve as meaningful proxies for social networks or that group-level characteristics are not that important in explaining the variance in levels of trust across people.

In regression (5), we find that indeed trust is higher in states where there are fewer high school dropouts. However, trust is lower in states with more college graduates. If education increased trust because more educated groups were better networked, then the connection between college education and trust should occur at both the micro and the macro level. However, if education increases trust by increasing the ability to punish others then low human capital people might well be less trusting when they are surrounded by high human capital people who can't be held accountable. As such, this regression pushes us towards the view of social capital as an individual attribute.

Table 3 presents results from results from regressions across countries. These results are from the World Values Survey taken in various years. The World Values Survey is meant to be a random sample of between 500 and 3000 persons in each country. The first column presents the mean answer to the GSS trust question in the country. Patterns across countries do not always line up with our expectations (e.g. China).[22] The table's next column gives results on membership in organizations.

[22] Fukuyama discusses China as a particularly low trust country, but we find high levels of trust there. One explanation for this discrepancy is that in answering the trust question Chinese respondents may be heavily weighting their trustfulness with respect to family members (which is said to be high), and placing relatively little weight on their trustfulness to society at large (which is said to be low). This may be another example of the difficulties with imprecise self-reported measures of trust.

In the next set of columns, we report results from ordinary least squares regressions including year of birth (entered linearly) and two education dummies.[23] Trust declines significantly with birth year in several countries (13 out of 40), but in most countries the relationship between birth year and trust is either insignificant or positive. The effect of schooling is more pervasive. In 19 cases, continuing school until age 21 had a positive, significant correlation with trust. In only three cases, none of which were significant, this schooling variable had a negative effect on trust. In 20 out of 40 cases, finishing school before age 18 had a negative and significant effect on trust. In only threes cases (one is significant) did this lack of schooling variable increase trust.

The survey results present four stylized facts. Measured trust is declining significantly for later cohorts in the U.S. (and 13 out of 39 other countries), but the relationship between cohort and trust is insignificant in most nations. Trust is lower among racial minorities, perhaps because they generally deal with people who are socially distant from them, or they deal with people from different races that face weak psychic costs of cheating them, or because they are less able to punish people who cheat them. Education increases measured trust and organization membership. Religion also appears to impact trust. As all of these results could represent either individual social capital or group effects, we believe that our experiments are necessary to test whether social capital can be a meaningful individual level variable.

IV. Survey and Experimental Design

We recruited the subjects for our two experiments during the first week of class from Harvard's introductory economics course (Ec10).[24] Approximately 2/3 of Harvard undergraduates take Ec10, suggesting that the population from which we recruited is representative of Harvard undergraduates. During two short recruitment speeches, subjects were asked to stay after class to sign-up for the experiment. Out of approximately 1000 Ec10 students, 274 agreed to participate, of which 189 completed all parts of the study. Our recruitment handout and all of our other subject materials (e.g.,

[23] In general, the surveys occur in a single year so we cannot distinguish birth year and age effects.
[24] Hence, subjects had received no economics training before their participation in the study.

consent forms, instructions, and debriefing forms) are available upon request. Our experimental procedure has three components. First, subjects are asked to fill out a survey. Three to four weeks later, subjects participate in two experiments, the "Trust Game" and the "Envelope Drop."

Part 1, Survey: Subjects are asked to fill out an anonymous 137-question survey. Subjects took between 20 and 30 minutes to complete the survey. The first half of the survey contains demographic and behavioral questions (e.g., gender, parental education, race, college activities etc...). The second half of the survey contains attitudinal measures of subjects' self-perceived trustfulness and trustworthiness.

The trust questions are chosen from a wide range of sources, with particular emphasis on the General Social Survey, and we invented several trust questions of our own. As none of these standard GSS questions elicit information about past trusting behaviors, we ask the following questions: "How often do you lend money to your friends?"; "How often do you lend personal possessions to your friends (e.g., CD's, clothes, bicycle, etc...)?" and "How often do you intentionally leave your rooming group's hallway door unlocked (when nobody is home)?" A complete copy of our survey is available upon request.

Part 2, The Trust Game: Three to four weeks after subjects fill out the survey, they participate in the experimental component of our protocol. Each subject participates in two experiments: the "Trust Game" and the "Envelope Drop." These titles are not used in the actual experiment. When communicating with the subjects, we refer respectively to the "Transfer Game" and the "Bonus Winnings Procedure." For clarity, we use the more descriptive titles here.

In our "Trust Game" subjects arrive at the experiment site, sign in, fill out a consent form, and are then paired with another subject. Those who arrive together and wish to play together are allowed to do so, raising the likelihood that subjects who know each other will be paired.[25] Others are paired in order of arrival. After being paired, the

[25] This procedure increases the variation in social connection across pairs of subjects.

subjects jointly fill out a social connection survey, which asks nine questions about how well the two subjects are socially linked. For example, we ask the subjects to produce a list of all personal acquaintances that they have in common. This measure of the number of mutual acquaintances is an important variable for our analysis. Note that subjects report to us the number of names on their joint list, but keep the actual list of names to assure anonymity of the subjects (and their friends).

After filling out the social connection survey, the subjects are separated and told that they will not see each other again during the course of the experiment. The rest of the game (steps 1-5 below) is then explained to the separated subjects. Then the game is played.

In the experimental instructions we refer to the subjects as either RED or GREEN players. Each pair of subjects contains one RED player and one GREEN player. In the current summary, we use more meaningful labels: "sender" and "recipient." The five steps of the game are as follows: (1) The *sender* is given $15; (2) The *recipient* sends the *sender* a message/promise about the *recipient's* intended future actions in the game; (3) The *sender* chooses to send all, some, or none of his/her $15 to the recipient; (4) The experimenters double whatever the *sender* chooses to send (for example, if the *sender* sends $4, the *recipient* receives $8, and the *sender* keeps $11 of the original $15); (5) The *recipient* chooses to send all, some, or none of the received money back to the *sender* (for example, if the *recipient* receives $8, and the *recipient* sends $1 back to the *sender*, then the *recipient* gets to keep $7, and the *sender* gets to keep $1+$11=$12). After this point, the subjects no longer interact in the formal game setting.

To implement this procedure, subjects write their decisions on a record sheet, which is placed in an envelope and collected by a subset of experimental assistants who never see the contents of the envelope. The other subset of experimental assistants who actually open the envelopes (in a different room) never see the subjects. Hence, subject anonymity (vis-à-vis the experimenters) is assured.

We implement step (2) which allows subjects to make a promise by allowing the *recipient* (GREEN) the opportunity to check one of two statements: (a) "I, person GREEN, promise to repay RED at least as much as RED sends me. For example, if RED sends me $4, which will be doubled by the experimenters to $8, then I will repay RED at least $4," or (b) "I, person GREEN, make no promise to RED."[26] Only half of our pairs of subjects are given the opportunity to send such a message. The other subjects receive no opportunity to send a message and no mention of a promise is made in their experimental instructions.

Our procedure differs from the Berg et al. (1995) experiment on which it is based in three ways. First, the Berg et al procedure guarantees that individual subject decisions are unobservable to all parties (i.e., both experimentalists *and* other subjects). Our game only guarantees anonymity vis-à-vis the experimenters; the subjects know the identity of the other subject in their pair. We want the paired subjects to know each other's identity so we can determine how variation in social connection influences trusting behavior. Second, unlike Berg et al., some of our games include a promise condition. Third, our experiment differs from Berg et al, because we only double --- rather than triple --- the money that the *sender* sends to the *recipient*. We made this change to ensure that there would be some senders who don't send over everything.

[26] As we intended, all but one of the 47 subjects who were given the chance to make the scripted promise did so. Our investigation differentiates between people randomly given the opportunity to promise, not between people who did promise vs. people could have promised and didn't.

Part 3. The Envelope Drop: After completing the trust game, subjects participate in a second experimental procedure that provides an additional behavioral measure of trust. In the envelope drop experiment, our subjects report their valuation of having an addressed envelope which contains $10 dropped in a public place (e.g., Harvard Square). The subjects self-address the envelope which is later intentionally "dropped" by the experimenters. We believe that the subject's valuation of such an envelope drop primarily measures confidence that a random pedestrian will return the envelope to the subject (say by putting it into a mailbox). The procedure may also measure the subject's trust of the experimenter.

To elicit truthful reporting we randomly generate valuations and pay the subject the random valuation if their reported willingness to pay is below the randomly generated valuation. We implement the envelope drop if the subject's reported valuation is above the randomly generated valuation. Finally, we vary properties of the envelope drop (e.g., location, time of day, stamp on envelope, envelope sealed). Each subject provides valuations for 15 different envelope drop conditions. These manipulations lead to sensible variations in the measured willingness-to-pay across various conditions (see Appendix Table 3). We average each subject's responses across the 15 different conditions, and use this *mean reservation value* as our second measure of trust.

V. **Results**

Appendix Tables 1 and 2 give the means and correlations from the survey and the two experiments. Figure 1 shows our basic results and documents the connection between the amount sent and the amount returned. Figure 2 shows the distribution of mean reservation values from the envelope drop. Obviously, there is substantial heterogeneity in trust and trustworthiness, but this heterogeneity does not mean that social capital is an individual characteristic. This heterogeneity could be the result of partnership specific attributes (in the trust game) or random situational factors.

To show that social capital is an individual characteristic, we must document that pre-experiment individual attributes are systematically related to trust and trustworthy behavior in the experiment. We estimate three basic types of regressions. First, we estimate the determinants of trust:

$$(2) \qquad Amount\ Sent = f(Sender,\ Recipient\ and\ Match\ Characteristics)$$

using ordinary least squares.[27] We next estimate the determinants of trustworthiness:

$$(3)\ \frac{\text{Amount Returned}}{\text{Amount Available to Return}} = g\left(\text{ Sender, Recipient and Match Characteristics}\right),$$

using ordinary least squares.[28] Finally, using results from the envelope drop experiment, we regress:

$$(4)\ \text{Mean Reservation Value} = h\left(\text{ Subject Characteristics}\right)$$

The mean reservation value is the average reservation value across all of the different envelope drop conditions.

Table 4— Social Connection

Before examining individual level attributes, in Table 4 we begin by estimating the importance of both subjects sharing membership in the same social groups. These variables are meant to test the implication of the model that people who will meet again are more likely to be both trusting and trustworthy. In all of our regressions, we include a dummy variable that takes on a value of one if the sender was given the opportunity to

[27] Since more than 50 percent of our sample is at the upper limit (see Figure 1), we have also estimated all of our results with a Tobit specification. Our results are robust to this alternative specification, and a reproduction of all tables using this specification is available upon request.

[28] Again, the results are robust to all of the alternative functional forms (e.g. Tobits) that we tried.

make a promise. We also include a dummy variable that takes on a value of one if the subjects are of different sexes. Neither of these variables is statistically significant.

In the first regression, we include the logarithm of one plus the number of months that the sender and the recipient have known one another. We also include a dummy variable that takes on a value of one if the two individuals had met before the experiment. The amount of trust rises significantly (at the 10 percent level) with the number of months that the two individuals have known one another. Controlling for the amount of time that the individuals have known one another, there is no positive impact of having met before the experiment.[29] In the second regression, we examine the logarithm of one plus the number of friends that they have in common. There is a positive, insignificant effect of this variable on the amount of trust. In the third and fourth regressions, we test whether individuals from different countries or different races trust each other less, controlling for the number of friends they have in common. People from different national and racial groups trust each other less, but these effects are not significant.[30]

Regressions (5)-(8) examine the impact of these same four social connection variables on the level of trustworthiness. In these regressions, we include the amount sent over in the first stage as an added control variable, and this variable positively predicts the fraction of money sent back. One natural interpretation is that recipients' who get sent little initially respond spitefully by returning a lower fraction of the income that they have available to send. The fact that the amount returned rises more than one-for-one with the amount sent is consistent with the presence of reciprocal altruism discussed in the model.[31]

[29] If we drop the time since met variable, this dummy variable becomes positive.

[30] These results support those of Fershtman and Gneezy (1998), but differ in important ways. First, they examine trust of all people towards a low status minority and find that there is less trust. Second, their subjects have no possibility of repeated interaction after the game. Third, they allow no personal contact between subjects who must infer ethnicity from the last name of their partners.

[31] The slope of amount returned on amount sent is 1.18 when amount sent is greater than zero. This strong positive correlation may also be the result omitted variables (perhaps relating to the ability to punish or non-reciprocal altruism) that induce a positive correlation between trust and trustworthiness.

The effects of the duration of friendship are sizable. People who have never met return 82 percent of the amount sent over. Pairs who met at least one year earlier return an average of 124 percent of the amount sent over. The racial effects are also big. Individuals of the same race return 106 percent of the amount sent over on average. Individuals of different races return 80 percent of the amount sent over on average. 90 percent of the cases where the recipient sent back nothing occurred when the individuals were of different races (only 50 percent of the pairings were of different races). The different country effects are even larger. These effects occur primarily because whites (or Americans) returning small amounts to Asians (or non-Americans).[32]

The negative effect of different races may occur because people from different races or countries have a lower probability of interacting in the future, but our results control for the number of friends that the two groups have in common. Alternately, lower levels of trustworthiness between the races may instead reflect lower levels of reciprocal altruism. Whatever the interpretation, these results suggest that heterogeneity may decrease trust in social groups.[33]

Tables 5 and 6— Is Trust an Individual Specific Attribute?

In Table 5, we examine whether survey questions and other individual background characteristics predict the level of trust in the two-person game. In all regressions, we include the two previous control variables (different genders and the promise condition) and four sender characteristics which will be included in all subsequent regressions: gender, race (white or non-white), year at Harvard (freshman or older) and family size (only child or not).[34] In most of our regressions, these control variables are insignificant and their inclusion or exclusion does not affect any of our other results.

[32] Fershtman and Gneezy (1998) find no ethnic effects on amounts returned, but they look only at the effect of the sender being Sephardic not at any effects of sender-recipient ethnic similarity on the amount returned.

[33] LaPorta et al. (1999) argue that ethnic heterogeneity may decrease the quality of government by limiting the formation of aggregate social capital.

In the first column, we show results for the basic trust question. Individuals who answer yes to this question send 22 cents more over than individuals who answer no to this question. This effect is not statistically distinguishable from zero. In the next regression, we replace the basic GSS trust question with an index based on three GSS questions (GSS Trust, GSS Fair and GSS Helpful—all defined in Appendix II) which is formed by adding the three variables after they are demeaned and normalized by their standard deviations. In this case, increases in this measure of trust reduce the actual level of trust insignificantly. As Appendix Table 2 shows, all but 2 survey questions about trust have no effect on the actual amount of trust.

The two survey questions that do predict trust specifically ask about trust of strangers. In column (3), we find that subjects who disagree with the statement "you can't trust strangers anymore" are actually more trusting. Individuals who say no to this question send over an average of $2.20 more than comparable individuals who answer yes to this question. A similar question (the individual's response to the statement "when dealing with strangers, one is better off using caution before trusting them") is also negatively correlated with the amount of trust.

There are two plausible interpretations of this finding. First, among so many trust questions it is unsurprising to find one that is significant. Second, the questions regarding strangers are more precise and relevant and therefore we should have predicted that they have particularly high explanatory power. To further test whether the connection between this variable and the amount sent is the result of spurious correlation or a true relationship, we examine separately sender-recipient pairs that are strangers and those that are friends. We find that the question about strangers only predicts the amount of trust between strangers, which supports its validity as a real measure. If the connection between this survey question and trust is real then it is our first piece of evidence that suggests that trust is any sense a stable, individual characteristic.

[34] The dummy variables where chosen so that approximately 50 percent of the sample had a value of one for the variable.

In the fourth and fifth regressions, we examine the connection between trust outside of the experiment and trust in the experiment. The fourth regression shows the connection between an index of past trusting behavior and the mean reservation value. This index is an average of having lent possessions, having lent money and leaving your door unlocked.[35] A one standard deviation increase in this variable (2.22) increases the dollar amount sent over by 89 cents (one-fifth of a standard deviation). In the fifth regression, we show a positive, but insignificant, correlation between the mean reservation value and the amount sent over (without other controls, this relationship is significant at the 12.5 percent level). The results on the questions about trusting strangers, past trusting behavior and the reservation value together suggest that there is a stable individual-specific characteristic that predicts the levels of trusting behavior in different situations.

There are at least three classes of individual specific attributes that could generate this stable level of trust. First, some individuals might be more trusting because they have a greater ability to enforce trustworthy behavior (this would be the variable θ in the model). This factor, though, cannot explain anything about trust in the envelope drop game. Second, some individuals might have more altruism towards others (this would be the variable α in the model). Third, some individuals might be more trusting because they have different assessments of the trustworthiness of others, perhaps based on past experiences. The next two regressions tests two of these hypotheses.

In the sixth regression, we examine two proxies for altruism (1) the logarithm of one plus the number of hours spent in volunteer activities and (2) the individual's attitude to the statement "a person's income shouldn't be determined by work." Neither variable predicts the level of trust, perhaps because they are both bad proxies for altruism.

In the seventh regression, we examine the hypothesis of whether past positive experience influences trust by looking at the impact of subject's response to the question "have you ever spontaneously benefited from the generosity of someone you never knew before?" This question also had no predictive power. Other proxies for past experiences that

[35] The index is formed by demeaning these three variables and dividing by their standard deviations.

might have led to a cynical outlook (parental divorce, childhood violence, etc.) also had no effect on trust or on the coefficient on past trusting behavior. As such, we do not believe that trust should be seen as a cognitive bias induced by past experiences.

In Table 6, we examine the determinants of the level of trust in the envelope drop game. We include an extra control variable described as "Lost mail" refers to the recency with which the respondent lost an item in the mail. The answer takes on a value between one (never) and four (within the last six months). A one-standard deviation increase in this variable (.98) causes the willingness to pay for a dropped envelope to fall by -.22, or one-seventh of a standard deviation. The impact of this variable suggests the importance of past experiences working presumably through beliefs, but this variable is somewhat tainted because it was asked after the envelope drop experiment (as part of a debriefing) rather than before the experiment.

In the first regression of Table 6, we include the basic GSS trust question. Individuals who answer yes to this question are willing to pay 20 cents more for the ten dollar envelope drop. This effect goes in the right direction but it is not significant. In regression (2), we also include the three variable survey question index. A one standard deviation increase in this index (2.22) causes an insignificant ten cent increase in willingness to pay for the dropped envelope. Almost all of the other trust variables (and other trust survey questions and indices not reported in the table) are not significantly correlated with the mean reservation value.

Again the two survey questions that specifically ask about trusting strangers positively predict trust. As regression 3 illustrates, individuals who believe that you can trust strangers are willing to pay 68 cents more for the envelope. Again, this result may be spurious, but if it is real it suggests the presence of stable individuals attributes which create trust.

The fourth regression shows the connection between our index of past trusting behavior and the mean reservation value. This index also has a modest, significant effect on the

mean reservation value. A one standard deviation increase in this index raises the level of mean reservation value by 27 cents. In Appendix Table 2, we show that the strongest connection occurs between lending possessions and the mean reservation value. There is a borderline-significant connection between leaving your door unlocked and the mean reservation value.

In the fifth regression, we examine whether altruism might lie behind the correlation between past levels of trust and current trust in the envelope drop game. We find that attitudes towards redistribution are a strong predictor of trust in this game. In Appendix 2, we show that another measure of pro-redistribution opinions (labeled pro-charity) also predicts more trust. Behavioral measures of altruism (hours spent on volunteer work or dollars given to charity) are orthogonal to this trust measure.

To see if the correlation with the pro-transfer question is spurious, we examined the influence of being pro-transfers on trust in low income areas (e.g. Central Square) and an average income area (i.e the Post Office). The strongest connection between pro-transfer opinions and trust in this game occurred in lowest income areas and that there was no connection between pro-transfer opinions and trust for the envelopes dropped in the Post Office. This finding suggests that the connection between some altruistic attitudes and trust in this particular circumstance is real and that altruism might be one factor that induces some people to be trusting across a variety of settings.

Table 7—Is Trustworthiness an Individual Specific Attribute?

In Table 7, we examine the effect of individual, recipient characteristics on the fraction of total income available returned by the recipient. We add the amount of money sent over in the first round as a control variable and find that this variable has a positive effect on the ratio of money returned. As Figure 1 shows, people generally return exactly as much

as they are sent. This might reflect exactly the form of reciprocal altruism in the model, but it might also reflect prevailing norms about fair play.[36]

These norms do appear to be influenced by the promise condition, as shown in Figure 3. Individuals in the promise condition were significantly more likely to send back exactly the same amount that they were sent. However, the promise condition does not in any sense deter cheating (i.e. returning less than you were sent), and the promise condition actually has a negative effect on the total ratio returned. The main effect of the promise condition is that there are fewer individuals who send back more than they were sent and more who send back exactly what they were sent.

By examining the effect of individual characteristics on the level of trustworthiness, we are testing whether trustworthiness is also a stable characteristic. In the first regression, we find that our controls actually have some impact. Being non-white and being a freshman slightly depress trustworthiness.[37] More significantly, only children are much less likely to return money. Being an only child reduces the percent sent back by 22 percent.

We also find a significant correlation between the GSS trust question and the ratio of money returned. In regression (2), we find an even stronger relationship between the level of trustworthiness and the index of trust-related questions (GSS Helpful, Fair and Trust). The strongest subcomponent of that index is the question about whether you think other people are fair. Appendix Table 2 shows a relatively reliable correlation between many of the trust measures and the measure of trustworthiness.

This finding suggests that the standard trust questions may be picking up trustworthiness rather than trust. Tables 2 and 3 take on a substantially different meaning when viewed in that light. When aggregated up to the country or region level, presumably a measure

[36] This finding is harder to reconcile with inequality aversion which would generally imply that individuals who receive 5 dollars or less should not return anything.

of trustworthiness is as good (or better) a measure of social capital than a measure of trust. This finding (as well as the only child results) suggests that trustworthiness may be an individual level characteristic.

In regression (3), we show that there is a negative, insignificant connection between self-reported trustworthiness and actual trustworthiness. We are not surprised that those people who are willing to admit to being untrustworthy are not the least trustworthy of our subjects. The combination of this result with the previous section suggests that subjects may reveal more about themselves in their answers to questions about other people than in their answers to questions directly about themselves. The final regression in this table presents an index of past deception. This is a normalized average of subjects answers to four questions about the frequency of lying to parents, roommates, acquaintances and close friends. This behavioral measure of deception weakly predicts the level of untrustworthiness. The important components of the index relate to lying to acquaintances and lying to close friends. Again, it appears that asking about actions is more successful than asking about opinions.

Table 8— The Role of Status and Individual Social Capital

In Table 8, we test the hypotheses of the model that high status (or high social capital) people, who may be either more effective at punishing others or at eliciting altruism, trust more and elicit more trustworthy behavior. In our first regression, we examine two measures of family status: (1) hours spent working for pay and (2) whether one's father has a college degree. Hours spent working for pay is strongly correlated with low family income (44 percent) and we believe it is significantly better measure than the categorical family income variable that we have. In the first regression, we find that working for pay has a close to negative effect on the amount of trust that is significant at the 10 percent level. The effect of father's education is insignificant.

[37] This is the type of effect that shows how blurry the distinction between individual social capital and group social capital can be. If individuals acquire social capital over their time at Harvard by joining groups, is it individual social capital or group social capital?

In regressions (5)-(8), we ask how the trustor's attributes predict the trustworthiness of the trustee. These are qualitatively different regressions than those that have come before, because we are now regressing the return ratio on the attributes of the trustor. In regression (5), we find that working for pay negatively significantly predicts the amount that senders receive back from the trustee. Father's education positively predicts the amount received back. This latter effect becomes significant if the other family status control is dropped (see Appendix Table 2, for example). People who say that they are in the lowest income categories (average or below) receive about 18 percent less than people who are in the higher income categories (this effect is significant only at the 15 percent level).

In regressions (2) and (6), we examine beer drinking (defined as the logarithm of the beer servings per week, which may be related to collegiate social status) and whether the individual has a sexual partner.[38] We use having a sexual partner as a proxy for attractiveness and find that it positively predicts trust and the amount of money received in the second stage. Beer drinking may be a correlate of "coolness" among some undergraduates. It weakly predicts the amount of trust and more strongly predicts the amount returned in the second period.

In the third and seventh regressions, we examine organization membership. We find little significant connection between membership and trust. However, members of organizations generally elicit more trustworthy behavior (with the exception of members of religious organizations). We are puzzled that trustors with attributes that increase the trustworthiness of trustees, do not exhibit high levels of trust. One explanation of this is that the novelty of the game may have made it difficult for the trustors to use backward induction to figure out the optimal level of trust.

Finally in the fourth and eighth regressions, we examine four other social connection variables. In these regressions, we also control for the amount of time that the trustor and

[38] This variable takes on a value of one if the individual has a current girlfriend or boyfriend and if the individual has had sex with at least one other person in the past 5 years.

the trustee have known one another—the other results are not sensitive to this variable. We examine the logarithm of one plus the value of four variables: (1) hours per week spent watching television, (2) the number of the individual's close friends, (3) the number of hours per week spent alone studying and (4) the hours per week that the individual spends performing volunteer work. The only variable that predicts trust is the number of hours per week spent alone studying. This variable, which has a negative effect on trust, may be best interpreted as a proxy for individual-level trust.

Individuals who spend more time volunteering and have more close friends are much better at eliciting trustworthy behavior in the second period. A one standard deviation increase in the close friends variable (.597) increases the percent received back by 8 percent. Again, it is surprising that these variables which increase the individual's ability to elicit trustworthy behavior don't increase trust.

In this table, we have received our sharpest evidence so far that individual characteristics predict their level of trust and in particular their ability to elicit trustworthiness from others. Natural social status variables, some of which are predetermined by others (i.e. parent's education) and some of which are choice variables (time spent volunteering) predict both trust and the ability to induce others to behave in a trustworthy manner. These variables can naturally be described as individual social capital and they appear to have important effects on social interactions. In the next section, we will actually quantify the financial returns to different forms of social capital.

Table 9— The Returns to Social Capital

Ideally, we might be interested in the extent to which social capital measures predict outcomes in more important settings (school, work, etc.), but the game does offer a relatively controlled atmosphere with real money and we can investigate what personal characteristics lead to greater financial returns in the experiment. The experiment is one particular social setting and we can directly examine what acts as social capital in this setting by examining the following regression:

(5) *Financial Returns = R(Personal Characteristics)*

We perform this regression separately for individuals in the sender and the recipient position in Table 9. All returns are measured in dollars.

In the first regression, we show the effect of parental college status, which is significant and positive for individuals who are in the trustor position. The average return for individuals in the trustor position whose fathers have graduated from college is 14.75 dollars. The average return for these individuals whose fathers did not graduate is 9.29 dollars. Individuals coming from lower human capital families would have been better off financially if they hadn't trusted at all. Comparing persons from low and high-income families also demonstrates these effects. The average returns for people from low income families was more than 2 dollars less than the average returns for people from high income families. These higher returns come from the ability to elicit trustworthy behavior, so it seems that high family status appears to provide social capital.

In the second regression, we examine whether more trusting people generate higher rents in the experiment and we find that they do not. This is true with the GSS trust index, the GSS trust question (not in the table), the stranger question (not in the table) and the behavioral trust index. This suggests that a tendency to trust may reflect social capital at the region or country level, but not at an individual level.

The third regression includes social status variables from Table 8. Individuals who work for pay receive less from the social interaction. Individuals with sexual partners take home more over 4 dollars more than their celibate classmates. Individuals who drink beer earn more in this setting. A one standard deviation increase in the volunteering variable raise financial returns from the game by over a dollar. Surprisingly, hours spent studying alone also increases the returns from the game. However, this result is very fragile and does not appear in most specifications (including univariate ordinary least

squares).[39] The R-squared from the appropriate standard ordinary least squares regression is over 30 percent (the adjusted R-squared is 27.5 percent), so these variables are in fact explaining a significant amount of the variation in private returns.

However, the step from individual social capital to group level social capital requires us to understand if our measures of individual social capital have positive or negative externalities. In this particular game, we will measure this by asking whether our measure of the sender's social capital raise the returns for the recipient. A particularly group-oriented view of social capital might emphasize that social capital improves everyone's lot (except the experimenter). Alternatively, the returns to social capital might just lead to redistribution from one player to another. In regressions (4)-(6), we find that all of the social capital variables that increase the financial returns for the sender decrease the returns to the recipient. As such, these social capital variables appear to generate private, not group, returns, and emphasize the importance of distinguishing between individual and group-level social capital.

We would stress that these results may not generalize. The only way in which social capital could increase everyone's returns in this game was to increase the level of trust in the first period, but a large share of our sample trusted as much as it could already. As such, there may not have been enough of a chance for the positive effects of social capital on social returns to operate. Naturally, the earlier warnings about the possibility that a study on a modest sample of Harvard undergraduates in a very particular pair of games also apply here as well.

VI. Conclusion

Using two experiments, we investigated whether trust, trustworthiness and social capital are characteristics of individuals, as well as groups. Past trusting behavior correlates with trusting behavior in our experiments; the levels of trust in the two experiments are

[39] Every single other variable that is significant in this specification is also significant when there are no other controls in the regression.

correlated with each other. We also found that two of our survey questions about trusting strangers both predict trust. Trustworthiness also seems to be stable and is strongly predicted by survey questions about trust (not trustworthiness) and by having siblings.

A simple economic model did well at predicting behavior in the games. Individuals with greater social connection trusted each other more. People from different races or nationalities behaved in a less trustworthy manner towards one another. Individuals from more successful families, individuals with more friends, individuals who volunteer and individuals with sexual partners all elicit more trustworthy behavior. For other predictions of the model, results went generally in the right direction but were statistically insignificant. We hope that future research will be able to test these findings with larger samples and more diverse subject populations.

There are three major implications of this paper for future research. First, social capital is a meaningful, individual-level variable that can be studied with the tools of price theory, once it is understood that aggregation will be much more difficult than for other forms of capital. Our evidence supports the idea that human capital includes cognitive and physical abilities and also social capital, e.g. interpersonal skills, status and access to networks (as in Bowles and Gintis, 1976).

Second, standard survey questions about trust do not appear to measure trust. However, they do measure trustworthiness, which is one ingredient of social capital. This means that most work using these survey questions needs to be somewhat reinterpreted. If future surveys mean to measure trust, then other instruments, including questions about past trusting behavior, should be developed and used when they predict trust in experiments or in the field.[40]

Finally, we believe that this paper shows the value of using experiments and surveys together. Experiments can measure personal attributes much more convincingly than

[40] Indirect psychological measures of attitudes have been shown to be more effective that direct measures (McClelland, Koestner, and Weinberger, 1989).

surveys. By connecting the two forms of evidence, we can determine the socioeconomic correlates of hard-to-measure personal attributes, and test the validity of survey measures of these attributes.

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Table 1: Average Levels of Trust

Q. "Generally Speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?"

	"Most people can be trusted"
US (1972-96):	42.5%
US (White):	46.3%
US (Black):	17.6%
US (other races):	30.0%
US (1911-1915 birthyear):	45.1%
US (1961-1965 birthyear):	31.4%
US (no high school diploma):	28.5%
US (high school diploma):	43.0%
US (college diploma):	61.8%
US (college diploma, 1996):	53.1%
US (college diploma and birthyear after 1965):	45.5%
Harvard Undergraduates (1997):	44.4%

Sources: GSS for US data and authors' survey for Harvard Data.

Table 2: General Social Survey Results

Dependent Variable:	GSS Trust (1)	Organization Membership (2)	GSS Trust (3)	GSS Trust (4)	GSS Trust (5)
Age between 18 and 24	-0.0029	0.0701	-0.0142	-0.0076	-0.0060
	(0.0184)	(0.0724)	(0.0261)	(0.0206)	(0.0201)
Age between 25 and 34	-0.0193	0.0435	-0.0242	-0.0298	-0.0261
	(0.0150)	(0.0604)	(0.0216)	(0.0200)	(0.0186)
Age between 35 and 44	0.0081	0.1933	-0.0221	-0.0022	-0.0031
	(0.0135)	(0.0519)	(0.0188)	(0.0172)	(0.0168)
Age Between 55 and 64	-0.0495	-0.0638	-0.0651	-0.0431	-0.0433
	(0.0141)	(0.0524)	(0.0202)	(0.0140)	(0.0141)
Age Between 65 and 99	-0.0640	0.0029	-0.0680	-0.0486	-0.0490
	(0.0173)	(0.0659)	(0.0256)	(0.0131)	(0.0144)
Born before 1914	0.3038	0.4534	0.2796	0.2630	0.2805
	(0.0247)	(0.0983)	(0.0367)	(0.0275)	(0.0251)
Born before 1929	0.2369	0.5018	0.2137	0.2045	0.2174
	(0.0207)	(0.0826)	(0.0299)	(0.0252)	(0.0233)
Born before 44	0.1670	0.2874	0.1495	0.1563	0.1642
	(0.0162)	(0.0647)	(0.0235)	(0.0216)	(0.0210)
Born before 59	0.0884	-0.0538	0.0884	0.0873	0.0910
	(0.0126)	(0.0479)	(0.0172)	(0.0140)	(0.0135)
Dropout	-0.1753	-0.6371	-0.1753	-0.1616	-0.1632
	(0.0092)	(0.0317)	(0.0132)	(0.0111)	(0.0102)
College education	0.1755	0.7154	0.1639	0.1706	0.1781
	(0.0098)	(0.0354)	(0.0135)	(0.0102)	(0.0106)
Log (Real income)	0.0017	0.0079	0.0015	0.0017	0.0017
	(0.0002)	(0.0006)	(0.0002)	(0.0002)	(0.0002)
Black	-0.2679	0.1815	-0.2367	-0.2492	-0.2524
	(0.0129)	(0.0424)	(0.0186)	(0.0172)	(0.0168)
Male	0.0308	0.1514	0.0437	0.0322	0.0286
	(0.0072)	(0.0257)	(0.0100)	(0.0098)	(0.0093)
Married	0.0067	0.0606	0.0131	0.0015	0.0042
	(0.0080)	(0.0284)	(0.0112)	(0.0068)	(0.0070)
Town[1]	-0.0123	-0.0197	0.0091	0.0081	-0.0207
	(0.0114)	(0.0398)	(0.0160)	(0.0119)	(0.0137)
Small City[2]	-0.0073	-0.0743	-0.0026	0.0155	-0.0202
	(0.0142)	(0.0500)	(0.0198)	(0.0180)	(0.0178)
Big City[3]	-0.0181	-0.2157	-0.0113	-0.0055	-0.0500
	(0.0150)	(0.0533)	(0.0217)	(0.0193)	(0.0186)
City size data is missing	0.0294	0.2610	0.0493	0.0229	0.0308
	(0.0224)	(0.0858)	(0.0314)	(0.0243)	(0.0239)

Note: Standard Errors in parentheses. Data is from the General Social Survey, 1972-1994. In regressions (1), (3), (4) and (5), we have run probits and reported derivatives at sample means. Regression (2) is ordinary least squares. 1. Population is between 2,000 and 100,000. 2. Population is between 100,000 and 500,000 3. Population is above 500,000

Table 2: General Social Survey Results (Continued)

Dependent Variable:	GSS Trust (1)	Organization Membership (2)	GSS Trust (3)	GSS Trust (4)	GSS Trust (5)
One hour of TV daily			-0.0423		
			(0.0248)		
Two hours of TV			-0.0448		
			(0.0241)		
Three hours of TV			-0.0580		
			(0.0249)		
Four hours of TV			-0.0834		
			(0.0261)		
Five hours of TV			-0.0699		
			(0.0295)		
Six hours of TV			-0.0979		
			(0.0281)		
Attendance				0.0439	
				(0.0115)	
Catholic				-0.0113	
				(0.0153)	
Jew				-0.0254	
				(0.0293)	
No religion				0.0284	
				(0.0120)	
Baptist				-0.0534	
				(0.0117)	
Methodist				0.0220	
				(0.0125)	
Lutheran				0.0282	
				(0.0229)	
Presbyterian				0.0570	
				(0.0207)	
Episcopalian				0.0785	
				(0.0244)	
Percent Lutheran in state				0.5775	
				(0.0681)	
Average dropout rate					-0.8422
in state.					(0.1561)
Average college					-0.4118
graduation rate in state					(0.2362)
Constant	-0.2024	1.1348	-0.1730	-0.2698	0.1166
	(0.0217)	(0.0849)	(0.0376)	(0.0353)	(0.0934)
R-Squared	0.0857	0.1068	0.0845	0.0958	0.0923
Observations	21077	17345	10621	19447	19624

Note: Standard Errors in parentheses. Data is from the General Social Survey, 1972-1994. In regressions (1), (3), (4) and (5), we have run probits and reported derivatives at sample means. Regression (2) is ordinary least squares. R-squared is adjusted r-squared for regression (2) and pseudo r-squared for regressions (1), (3), (4) and (5).

Table 3: World Values Survey Results on Trust

	Country Averages		Results from Country-Specific Trust Regressions				
Country	GSS Trust	Number of Memberships	Birth Year divided by 1000	Continued School Until Age 21	Finished School Before Age 18	R^2	Observations
Sweden	0.66	1.94	0.49	0.11	-0.02	0.02	859
	(0.02)	(0.05)	(1.12)	(0.04)	(0.05)		
Norway	0.65	1.79	1.95	0.10	-0.09	0.04	1111
	(0.01)	(0.04)	(0.92)	(0.04)	(0.04)		
Finland	0.63	1.64	-1.56	0.13	-0.04	0.03	555
	(0.02)	(0.07)	(1.54)	(0.06)	(0.06)		
China	0.60	0.73	-2.14	0.07	-0.06	0.01	886
	(0.02)	(0.03)	(1.26)	(0.04)	(0.04)		
Denmark	0.58	1.63	2.73	0.13	-0.05	0.04	972
	(0.02)	(0.04)	(0.92)	(0.04)	(0.04)		
Holland	0.53	2.56	3.61	0.09	-0.10	0.05	959
	(0.02)	(0.07)	(1.02)	(0.04)	(0.04)		
Canada	0.53	1.53	-3.76	0.13	-0.17	0.06	1628
	(0.01)	(0.04)	(0.77)	(0.03)	(0.03)		
United States	0.51	1.81	-3.43	0.12	-0.11	0.04	1569
	(0.01)	(0.05)	(0.73)	(0.03)	(0.03)		
Ireland	0.47	0.93	-2.54	0.13	-0.10	0.02	985
	(0.02)	(0.04)	(0.96)	(0.06)	(0.04)		
Britain	0.44	1.02	-2.39	0.11	-0.14	0.03	1418
	(0.01)	(0.04)	(0.72)	(0.06)	(0.05)		
Northern Ireland	0.44	1.10	-0.76	0.07	-0.09	0.01	297
	(0.03)	(0.08)	(1.66)	(0.12)	(0.08)		
Iceland	0.44	2.27	-2.89	0.08	-0.10	0.03	649
	(0.02)	(0.06)	(1.27)	(0.05)	(0.05)		
Switzerland	0.43	0.59	.	.	.	.	.
	(0.02)	(0.03)	.	.	.		
Japan	0.42	0.45	-0.38	0.11	-0.17	0.04	883
	(0.02)	(0.03)	(1.30)	(0.04)	(0.04)		
West Germany	0.38	1.28	0.20	0.01	-0.14	0.02	1699
	(0.01)	(0.03)	(0.67)	(0.05)	(0.03)		
Russia	0.37	0.98	-2.46	0.00	0.00	0.01	1677
	(0.01)	(0.02)	(0.78)	(0.03)	(0.03)		
India	0.35	.	-1.22	0.06	0.07	0.00	2136
	(0.01)	.	(0.81)	(0.03)	(0.03)		
Italy	0.35	0.57	1.26	0.04	-0.08	0.01	1908
	(0.01)	(0.02)	(0.69)	(0.08)	(0.04)		
Poland	0.35	.	-3.62	-0.07	-0.15	0.02	824
	(0.01)	.	(1.14)	(0.05)	(0.04)		
Spain	0.34	0.36	-1.04	0.08	-0.06	0.01	3478
	(0.01)	(0.01)	(0.52)	(0.03)	(0.02)		
South Korea	0.34	1.34	.	.	.	.	.
	(0.01)	(0.04)					

Note: Numbers in parentheses are standard errors. Columns four through six are results from probits. We have reported derivatives at sample means and the pseudo r-squared. Each regression was done seperately in each country. Data comes from the World Values Survey, various years 1980-1994.

Table 4: Social Connections

	Amount Sent				Return Ratio			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Promise	0.009	-0.035	-0.005	-0.282	-0.053	-0.043	-0.030	-0.058
	(0.965)	(0.947)	(0.960)	(1.003)	(0.054)	(0.053)	(0.052)	(0.056)
Different Sex	-0.768	-0.368	-0.335	-0.401	0.044	0.055	0.080	0.059
	(0.987)	(0.999)	(1.013)	(1.049)	(0.056)	(0.057)	(0.056)	(0.059)
Months Since First Meeting	1.150				0.058			
	(0.610)				(0.034)			
Pre-Experiment Acquaintanceship	-1.256				0.002			
	(1.344)				(0.077)			
Number of Common Friends		0.448	0.441	0.410		0.028	0.024	0.023
		(0.377)	(0.380)	(0.389)		(0.021)	(0.020)	(0.021)
Different Nationality			-0.281				-0.177	
			(1.175)				(0.064)	
Different Race				-0.387				-0.115
				(1.013)				(0.057)
Amount Sent					0.016	0.018	0.017	0.016
					(0.007)	(0.007)	(0.007)	(0.007)
Constant	12.549	11.659	11.707	11.934	0.235	0.181	0.215	0.275
	(0.868)	(1.163)	(1.186)	(1.377)	(0.106)	(0.111)	(0.107)	(0.122)
Adj./Pseudo R-Squared	0.003	-0.011	-0.022	-0.024	0.087	0.063	0.131	0.095
Observations	95	95	95	90	91	91	91	86

Note: Standard Errors in parentheses. All regressions are ordinary least squares.

Table 5: Amount Sent as a function of Sender Characteristics							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Different Sexes	-0.670 (1.130)	-0.128 (1.112)	-1.043 (1.120)	-0.358 (1.106)	-0.643 (1.082)	-0.455 (1.130)	0.145 (1.123)
Promise	0.043 (1.024)	-0.097 (1.015)	0.440 (1.040)	-0.038 (.992)	-0.153 (0.995)	-0.103 (1.005)	-0.052 (1.003)
Male	0.147 (1.197)	0.623 (1.174)	-0.028 (1.148)	0.457 (1.149)	-0.013 (1.138)	0.403 (1.170)	0.353 (1.150)
White	-0.330 (1.030)	-0.640 (1.025)	0.055 (1.031)	-0.227 (1.003)	-0.329 (1.006)	-0.087 (1.033)	-0.121 (1.040)
Freshman	-0.205 (1.136)	-0.434 (1.125)	-0.254 (1.092)	-0.970 (1.081)	-0.305 (1.086)	0.030 (1.108)	0.383 (1.076)
Only Child	-1.620 (1.53)	-1.724 (1.474)	-1.555 (1.496)	-1.775 (1.530)	-1.569 (1.492)	-1.741 (1.555)	-2.004 (1.522)
GSS Trust	0.220 (1.022)						
Trust Index		-0.094 (0.222)					
Trust Strangers			2.209 (1.060)				
Trusting Behavior Index				0.403 (0.214)		0.389 (0.219)	0.455 (0.224)
Mean Reservation Value					0.417 (0.312)		
Hours Spent Volunteering						0.264 (0.629)	
Pro-Transfer						0.367 (0.579)	
Past Windfall							-0.183 (1.014)
Constant	13.361 (2.448)	13.009 (1.735)	9.836 (2.272)	12.707 (1.648)	13.336 (1.639)	11.675 (2.172)	12.664 (2.068)
Adjusted R-Squared	-0.059	-0.050	-0.009	-0.007	-0.034	-0.025	-0.008
Observations	93	90	92	93	95	93	86

Note: Standard Errors are in parentheses. All regressions are ordinary least squares.

Table 6: Mean Reservation Value						
	(1)	(2)	(3)	(4)	(5)	(6)
Male	0.168	0.097	0.147	0.192	0.137	0.172
	(0.281)	(0.289)	(0.282)	(0.285)	(0.283)	(0.287)
White	0.160	0.159	0.203	0.154	0.217	0.187
	(0.274)	(0.281)	(0.276)	(0.278)	(0.276)	(0.286)
Freshman	-0.086	-0.092	-0.063	-0.006	0.062	0.179
	(0.288)	(0.299)	(0.288)	(0.291)	(0.286)	(0.293)
Lost Mail	-0.234	-0.249	-0.212	-0.249	-0.226	-0.256
	(0.137)	(0.139)	(0.137)	(0.138)	(0.135)	(0.138)
Only Child	0.024	0.020	-0.248	0.205	-0.147	-0.143
	(0.438)	(0.440)	(0.433)	(0.442)	(0.433)	(0.429)
GSS Trust	0.202					
	(0.262)					
Trust Index		0.040				
		(0.061)				
Trust Strangers			0.677			
			(0.274)			
Trusting Behavior Index				0.135	0.128	0.132
				(0.064)	(0.063)	(0.065)
Pro-Transfer					0.455	
					(0.145)	
Hours spent volunteering					0.050	
					(0.164)	
Past Windfall						-0.878
						(.272)
Constant	0.724	0.519	-0.544	0.449	-0.684	1.614
	(0.636)	(0.524)	(0.668)	(0.518)	(0.639)	(.629)
Adj. R-Squared	-0.004	-0.005	0.029	0.022	0.065	0.076
Observations	182	177	183	183	183	166

Note: Standard Errors in parentheses. All regressions are ordinary least squares.

Table 7: Return Ratio as a function of Recipient Characteristics				
	(1)	(2)	(3)	(4)
Amount Sent	0.018	0.018	0.019	0.014
	(0.007)	(0.006)	(0.007)	(0.008)
Different Sexes	0.003	-0.007	0.006	0.001
	(0.053)	(0.052)	(0.055)	(0.065)
Promise	-0.043	-0.007	-0.031	0.017
	(0.051)	(0.051)	(0.052)	(0.063)
Male	0.027	0.048	0.013	-0.015
	(0.059)	(0.058)	(0.061)	(0.073)
White	0.075	0.072	0.074	0.061
	(0.054)	(0.052)	(0.055)	(0.065)
Freshman	-0.072	-0.052	-0.083	-0.009
	(0.055)	(0.055)	(0.056)	(0.071)
Only Child	-0.217	-0.242	-0.218	-0.191
	(0.092)	(0.089)	(0.088)	(0.112)
GSS Trust	0.106			
	(0.051)			
Trust Index		0.043		
		(0.012)		
Self-Reported Trustworthiness			-0.026	
			(0.026)	
Honesty Index				0.010
				(0.008)
Constant	0.414	0.212	0.386	0.246
	(0.149)	(0.120)	(0.185)	(0.147)
Adj. R-Squared	0.161	0.232	0.138	0.036
Observations	90	88	91	64

Note: Standard Errors in parentheses. All regressions are ordinary least squares.

Table 8: Social Capital and Status

	Amount Sent as a function of Sender Characteristics				Return Ration as a function of Sender Characteristics			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Amount Sent					0.015	0.014	0.016	0.018
					(0.007)	(.007)	(.007)	(0.007)
White	-0.032	-0.318	0.159	0.038	0.035	0.016	0.081	0.014
	(1.023)	(1.050)	(1.064)	(1.021)	(0.055)	(0.057)	(0.057)	(0.056)
Male	-0.090	0.240	-0.030	0.209	0.057	0.071	0.067	0.100
	(1.141)	(1.150)	(1.218)	(1.158)	(0.062)	(0.063)	(0.064)	(0.063)
Promise	0.151	0.023	0.223	1.052	-0.008	-0.023	-0.016	-0.058
	(0.994)	(0.994)	(1.029)	(1.055)	(0.054)	(0.055)	(0.055)	(0.059)
Freshman	-0.497	0.761	-0.273	-0.400	-0.104	-0.030	-0.063	0.003
	(1.098)	(1.199)	(1.135)	(1.096)	(0.060)	(0.066)	(0.060)	(0.060)
Different Sex	-0.579	-1.033	-0.604	0.022	0.081	0.068	0.056	0.041
	(1.085)	(1.110)	(1.121)	(1.079)	(0.059)	(0.061)	(0.059)	(0.058)
Only Child	-1.989	-2.122	-1.711	-1.541	0.059	0.066	0.040	0.047
	(1.513)	(1.561)	(1.548)	(1.499)	(0.085)	(0.088)	(0.084)	(0.084)
Hours Worked For Pay	-0.726				-0.048			
	(0.437)				(.024)			
Father with a College Degree	-0.965				0.149			
	(2.050)				(.110)			
Beer Servings		0.166				0.065		
		(0.603)				(0.034)		
Sexual Partner		2.984				0.133		
		(1.485)				(0.082)		
Member of a Political Group			-0.821				0.095	
			(1.148)				(0.060)	
Member of a			1.143				0.000	
Journalism Group			(1.174)				(0.061)	
Member of a Sports Team			1.014				0.079	
			(1.043)				(0.056)	
Member of a Service Group			1.159				0.161	
			(1.097)				(0.058)	
Member of a Religious Group			-0.924				-0.054	
			(1.226)				(0.064)	
Time Since Met				0.656				0.036
				(0.486)				(0.026)
TV Hours Watched				-0.859				0.026
				(0.676)				(0.037)
Number of Close Friends				-0.705				0.132
				(0.817)				(0.045)
Hours Studying Alone				-3.444				0.057
				(0.979)				(0.058)
Hours Spent Volunteering				0.139				0.087
				(0.642)				(0.036)
Constant	14.872	11.929	12.252	22.993	0.157	0.157	0.089	-0.350
	(2.641)	(1.754)	(1.938)	(3.407)	(0.174)	(0.128)	(0.133)	(0.235)
Adjusted R-Squared	-0.0342	-0.0172	-0.0622	0.0923	0.1057	0.1028	0.1366	0.1813
Observations	95	93	95	91	91	89	91	87

Note: Standard Errors parenthesized. All regressions are ordinary least squares.,

Table 9: The Returns to Social Capital

	Financial Returns to Sender as a function of Sender Characteristics			Financial Returns to Recipient as a function of Sender Characteristics		
	(1)	(2)	(3)	(4)	(5)	(6)
White	0.764	0.929	0.620	-1.027	-1.541	-0.547
	(1.379)	(1.486)	(1.308)	(1.629)	(1.725)	(1.626)
Male	1.523	1.647	2.427	-1.160	-0.571	-2.153
	(1.389)	(1.509)	(1.323)	(1.641)	(1.752)	(1.645)
Freshman	-0.893	-0.752	1.304	0.642	0.446	-1.299
	(1.480)	(1.620)	(1.447)	(1.748)	(1.881)	(1.799)
Only Child	1.458	1.060	1.270	-3.164	-3.053	-3.399
	(2.064)	(2.212)	(1.920)	(2.439)	(2.568)	(2.387)
Father with College Degree	4.952	4.818	2.934	-5.312	-5.735	-3.432
	(2.578)	(2.740)	(2.466)	(3.045)	(3.181)	(3.065)
Trusting Behavior Index		0.113			0.373	
		(0.308)			(0.358)	
Trust Index		-0.339			0.206	
		(0.320)			(0.371)	
Hours Worked For Pay			-1.415			0.847
			(0.530)			(0.659)
Hours Studying Alone			2.124			-4.704
			(1.142)			(1.419)
Number of Close Friends			2.575			-3.048
			(1.037)			(1.289)
Hours spent volunteering			2.483			-2.299
			(0.789)			(0.981)
Sexual Partner			4.184			-2.057
			(1.789)			(2.223)
Beer Servings			1.954			-1.978
			(0.768)			(0.955)
Constant	8.807	8.684	-4.464	19.252	19.818	40.386
	(2.846)	(3.041)	(4.868)	(3.362)	(3.532)	(6.051)
Adjusted R-Squared	0.0143	0.0035	0.2749	0.0042	-0.0046	0.1928
Observations	97	91	93	97	91	93

Note: Standard Errors in parentheses. All regressions are ordinary least squares.

Appendix Table 1		
Variable	Mean	Standard Deviation
Mean Reservation Value	0.003	1.771
Amount Sent	12.412	4.540
Return Ratio	0.455	0.267
GSS Trust	-1.552	0.498
GSS Help	-1.609	0.489
GSS Fair	1.569	0.496
GSS Index	0.000	2.225
Scale Trust	2.656	1.169
A Lot of Trust	2.856	1.230
A Little Trust	4.411	0.964
Others Honest	4.157	1.039
Cheat	4.130	1.252
Stranger	1.387	0.488
Caution	1.935	0.946
Lend Possessions	2.382	1.151
Lend Money	2.851	1.143
Door Unlocked	4.287	1.077
Behavioral Index	0.009	2.093
Trustworthy	5.309	0.935
Don't lie	0.000	3.585
Pro Charity	2.403	0.960
Pro Transfer	2.171	0.890
Hours Volunteering	0.792	0.836
Dollars Donated	2.023	2.209
Past Windfall	1.434	0.497
Lost Mail	2.542	0.990
White	0.605	0.490
Male	0.663	0.474
Freshman	0.669	0.471
Only Child	0.121	0.327

Appendix Table 1 (continued)		
Variable	Mean	Standard Deviation
Eldest Child	0.561	0.497
Father w/BA	0.892	0.305
Hours Worked For Pay	1.037	1.175
Male * Girlfriends	0.177	0.382
Female * Boyfriends	0.079	0.270
Beer Servings	0.559	0.867
Membership in Service Group	0.460	0.499
Membership in Political Group	0.303	0.460
Membership in Journalism Group	0.280	0.450
Membership in Sports Group	0.444	0.498
Membership in Religious Group	0.352	0.479
Number of Close Friends	1.940	0.597
Hours Studying Alone	2.634	0.555
Hours Watched TV	0.926	0.773
Promise	0.361	0.481
Different Sex	0.421	0.495
Different Country	0.221	0.416
Different Race	0.544	0.499
Time Since Met	0.383	0.902
Number of Common Friends	1.403	1.418

Appendix Table 2						
	Mean Reservation Value	Amount Sent as a function of Recipient Characteristics	Amount Sent as a function of Sender Characteristics	Return Ratio as a function of Recipient Characteristics	Return Ratio as a function of Sender Characteristics	GSS Trust
Mean Reservation Value	1.000	0.158 (0.122)	-0.006 (0.953)	0.009 (0.935)	0.086 (0.427)	0.064 (0.390)
Amount Sent	0.158 (0.122)	1.000		0.246 (0.018)		0.012 (0.910)
Return Ratio	-0.006 (0.954)		1.000		0.246 (0/018)	0.001 (0.993)
GSS Trust	0.064 (0.390)			0.070 (0.513)	0.191 (0.072)	1.000
GSS Help	0.010 (0.889)	-0.064 (0.536)	-0.031 (0.770)	-0.156 (0.139)	0.205 (0.054)	0.259 (0.000)
GSS Fair	0.072 (0.335)	-0.103 (0.325)	0.016 (0.882)	-0.127 (0.234)	0.321 (0.002)	0.405 (0.000)
GSS Index	0.066 (0.377)	-0.058 (0.582)	-0.018 (0.865)	-0.093 (0.384)	0.337 (0.001)	0.751 (0.000)
Scale Trust	0.054 (0.463)	0.131 (0.204)	0.017 (0.869)	-0.058 (0.586)	0.143 (0.176)	0.514 (0.000)
A Lot of Trust	0.056 (0.442)	0.018 (0.859)	-0.002 (0.956)	-0.156 (0.138)	0.272 (0.009)	0.253 (0.000)
A Little Trust	0.050 (0.495)	0.016 (0.876)	0.180 (0.081)	-0.036 (0.733)	0.013 (0.902)	0.383 (0.000)
Others Honest	0.006 (0.938)	-0.128 (0.284)	-0.057 (0.580)	-0.143 (0.175)	0.000 (0.999)	0.349 (0.000)

Notes: Entries are correlation coefficients. Numbers in parentheses are p-values.

Appendix Table 2 (page 2)						
	Mean Reservation Value	Amount Sent as a function of Recipient Characteristics	Amount Sent as a function of Sender Characteristics	Return Ratio as a function of Recipient Characteristics	Return Ratio as a function of Sender Characteristics	GSS Trust
Cheat	-0.041	-0.088	-0.093	-0.072	0.109	0.229
	(0.575)	(0.392)	(0.371)	(0.494)	(0.302)	(0.000)
Stranger	0.187	0.188	-0.035	0.079	0.047	0.317
	(0.010)	(1.067)	(0.740)	(0.458)	(0.660)	(0.000)
Caution	0.135	0.033	-0.061	-0.168	0.158	0.427
	(0.065)	(0.748)	(0.558)	(0.109)	(0.135)	(0.000)
Lend Possessions	0.143	0.165	-0.068	0.137	0.034	0.129
	(0.051)	(0.109)	(0.513)	(0.209)	(0.751)	(0.039)
Lend Money	0.034	0.089	-0.072	0.190	-0.103	0.160
	(0.645)	(0.391)	(0.490)	(0.072)	(0.332)	(0.010)
Door Unlocked	0.114	0.231	0.068	-0.015	0.165	0.128
	(0.120)	(0.024)	(0.515)	(0.087)	(0.121)	(0.040)
Behavioral Index	0.146	0.224	-0.021	0.138	0.067	0.204
	(0.047)	(0.029)	(0.839)	(0.193)	(0.350)	(0.001)
Trustworthy	-0.002	0.122	0.099	-0.056	-0.095	0.026
	(0.975)	(0.237)	(0.342)	(0.594)	(0.373)	(0.674)
Don't Lie	0.008	0.129	-0.199	-0.132	0.196	0.011
	(0.924)	(0.271)	(0.109)	(0.274)	(0.120)	(0.877)
Pro Charity	0.144	0.072	-0.026	-0.054	-0.012	0.142
	(0.049)	(0.487)	(0.801)	(0.610)	(0.911)	(0.023)
Pro Transfer	0.230	0.082	-0.114	0.069	-0.029	0.165
	(0.002)	(0.426)	(0.271)	(0.515)	(0.786)	(0.008)
Hours Volunteering	0.022	0.093	-0.016	0.218)	0.106	0.047
	(0.767)	(0.703)	(0.881)	(0.036)	(0.311)	(0.456)
Dollars Donated	-0.036	-0.103	-0.067	-0.113	0.085	0.126
	(0.717)	(0.316)	(0.515)	(0.279)	(0.416)	(0.043)
Past Windfall	0.242	0.081	0.049	-0.012	-0.077	0.127
	(0.001)	(0.446)	(0.662)	(0.911)	(0.500)	(0.101)
Lost Mail	-0.156	-0.149	0.144	0.031	-0.002	-0.062
	(0.330)	(0.150)	(0.172)	(0.769)	(0.987)	(0.402)

Notes: Entries are correlation coefficients. Numbers in parentheses are p-values.

Appendix Table 2 (page 3)						
	Mean Reservation Value	Amount Sent as a function of Recipient Characteristics	Amount Sent as a function of Sender Characteristics	Return Ratio as a function of Recipient Characteristics	Return Ratio as a function of Sender Characteristics	GSS Trust
White	0.081	-0.003	-0.033	0.110	0.175	0.043
	(0.269)	(0.976)	(0.746)	(0.296)	(0.093)	(0.494)
Male	0.046	0.048	-0.079	0.118	-0.018	0.072
	(.527)	(0.642)	(0.450)	(0.260)	(0.865)	(0.246)
Freshman	-0.026	-0.057	-0.031	-0.127	-0.129	-0.056
	(0.722)	(0.577)	(0.765)	(0.227)	(0.216)	(0.369)
Only Child	-0.489	-0.129	-0.010	-0.002	-0.302	0.003
	(0.508)	(0.207)	(0.926)	(0.985)	(0.004)	(0.965)
Eldest Child	-0.119	-0.139	0.062	-0.066	-0.012	0.025
	(0.103)	(0.176)	(0.550)	(0.533)	(0.907)	(0.686)
Father w/BA	-0.107	-0.002	-0.015	0.248	0.086	0.001
	(0.140)	(0.984)	(0.885)	(0.017)	(0.414)	(0.981)
Hours Worked For Pay	-0.002	-0.137	0.108	-0.283	-0.002	0.081
	(0.984)	(0.182)	(0.295)	(0.006)	(0.982)	(0.184)
Male * Girlfriends	-0.004	0.170	0.229	0.075	-0.070	0.028
	(0.952)	(0.096)	(0.024)	(0.476)	(0.448)	(0.649)
Female * Boyfriends	-0.180	0.010	-0.111	0.164	-0.064	-0.115
	(0.803)	(0.922)	(0.281)	(0.115)	(0.545)	(0.064)
Beer Servings	0.036	0.097	-0.025	0.269	0.182	0.051
	(0.626)	(0.346)	(0.811)	(0.009)	(0.081)	(0.410)
Service Group Membership	-0.042	0.060	0.258	0.229	0.095	-0.055
	(0.563)	(0.561)	(0.012)	(0.027)	(0.372)	(0.381)

Notes: Entries are correlation coefficients. Numbers in parentheses are p-values.

Appendix Table 2 (page 4)

	Mean Reservation Value	Amount Sent as a function of Recipient Characteristics	Amount Sent as a function of Sender Characteristics	Return Ratio as a function of Recipient Characteristics	Return Ratio as a function of Sender Characteristics	GSS Trust
Political Group Membership	-0.006	0.061	-0.129	0.169	0.048	0.094
	(0.934)	(0.553)	(0.214)	(0.104)	(0.653)	(0.133)
Journalism Group Membership	-0.075	0.069	-0.088	0.025	0.026	-0.064
	(0.303)	(0.501)	(0.396)	(0.811)	(0.806)	(0.307)
Sports Group Membership	0.104	0.102	0.012	0.136	-0.085	-0.001
	(0.153)	(0.321)	(0.908)	(0.194)	(0.416)	(0.988)
Religious Group Membership	0.023	-0.062	-0.089	-0.162	-0.087	0.038
	(0.750)	(0.544)	(0.393)	(0.122)	(0.414)	(0.543)
Number of Close Friends	-0.066	-0.070	0.031	0.217	0.054	0.231
	(0.371)	(0.498)	(0.764)	(0.010)	(0.612)	(0.000)
Hours Studying Alone	-0.052	-0.332	0.088	0.034	-0.177	0.038
	(0.483)	(0.001)	(0.402)	(0.747)	(0.100)	(0.546)
Hours Watching Television	0.052	-0.045	0.004	0.038	-0.131	0.059
	(0.489)	(0.669)	(0.968)	(0.724)	(0.231)	(0.356)
Promise		-0.008	-0.008	-0.097	-0.097	
		(0.937)	(0.937)	(0.355)	(0.355)	
Different Sex		-0.076	-0.076	0.037	0.037	
		(0.463)	(0.463)	(0.731)	(0.731)	
Different Nationality		-0.047	-0.047	-0.285	-0.285	
		(0.649)	(0.649)	(0.006)	(0.006)	
Different Race		-0.055	-0.055	-0.235	-0.235	
		(0.610)	(0.610)	(0.029)	(0.029)	
Months Since First Meeting		0.172	0.172	0.267	0.267	
		(0.092)	(0.092)	(0.010)	(0.010)	
Number of Common Friends		0.123	0.123	0.193	0.193	
		(0.230)	(0.230)	(0.064)	(0.064)	

Notes: Entries are correlation coefficients. Numbers in parentheses are p-values.

Appendix Table 3 The Effect of Different Scenarios on Reservation Price	
	Reservation Value
Constant	5.82 (0.109)
Post Office	2.29 (0.128)
No Postage	-2.5 (0.116)
Unsealed	-2.03 (0.116)
Night	-0.983 (0.128)
Porter Square	-0.357 (0.116)
Central Square	-0.486 (0.116)
Adjusted R-Squared Observations	0.279 2850

Notes: Standard Errors in parentheses. Results are from ordinary least squares regressions where each person-condition reservation value is an observation.

Appendix I.

This appendix analyzes the model described in section II. Recall that the preferences of the sender are represented by:

$$[\bar{S} - S + R] + \delta \cdot a(S) \cdot \theta_{\text{Recipient}} + [\alpha_{\text{Sender}} + \kappa_{\text{Recipient}} + a(R - S)] \cdot [\phi S - R]$$

and the preferences of the recipient are represented by:

$$[\phi S - R] + \delta \cdot a(R - S) \cdot \theta_{\text{Sender}} + [\alpha_{\text{Recipient}} + \kappa_{\text{Sender}} + a(S)] \cdot [\bar{S} - S + R].$$

See section II for motivation and variable definitions. We make the following assumptions:

- $\phi > 1$.
- $\delta, \theta_{\text{Sender}}, \theta_{\text{Recipient}} \geq 0$
- $a(\cdot)$ increasing and strictly concave
- $0 \leq [\alpha_{\text{Sender}} + \kappa_{\text{Recipient}} + a(R - S)] \leq 1$.
- When multiple equilibria exist, the sender always selects the equilibrium with the highest value of S. This assumption is not practically restrictive, as multiplicity only arises in a measure zero subset of the parameter space.

Lemma 1. *If the constraint $R \geq 0$ is not binding, then $\frac{\partial R}{\partial S} > 1$.*

Proof: Assume the constraint $R \geq 0$ is not binding. If the constraint $R \leq \phi S$ binds, then $\frac{\partial R}{\partial S} = \phi > 1$. If the constraint $R \leq \phi S$ does not bind, then the recipient's

choice of R must satisfy the first-order-condition:

$$-1 + \delta \cdot a'(R-S) \cdot \theta_{\text{Sender}} + [\alpha_{\text{Recipient}} + \kappa_{\text{Sender}} + a(S)] = 0.$$

Totally differentiating this condition yields,

$$\frac{\partial R}{\partial S} = \frac{\delta \cdot a''(R-S) \cdot \theta_{\text{Sender}} - a'(S)}{\delta \cdot a''(R-S) \cdot \theta_{\text{Sender}}} > 1$$

since, $a''(R-S) < 0$ and $a'(S) > 0$.■

Lemma 2. *If the constraint $R \geq 0$ is not binding, then the constraint $S \leq \bar{S}$ will bind.*

Proof: Assume the constraint $R \geq 0$ is not binding. The derivative of the sender's objective function is given by:

$$\left[-1 + \frac{\partial R}{\partial S}\right] + \delta \cdot a'(S) \cdot \theta_{\text{Recipient}} + a'(R-S) \cdot \left[\frac{\partial R}{\partial S} - 1\right] \cdot [\phi S - R] \ldots$$

$$+ [\alpha_{\text{Sender}} + \kappa_{\text{Recipient}} + a(R-S)] \cdot \left[\phi - \frac{\partial R}{\partial S}\right]. \qquad (1)$$

If $\phi - \frac{\partial R}{\partial S} \geq 0$, then by application of Lemma 1, the derivative of the sender's objective function is strictly positive. If $\phi - \frac{\partial R}{\partial S} < 0$, then the derivative of the sender's objective function is greater than or equal to

$$\left[-1 + \frac{\partial R}{\partial S}\right] + \left[\phi - \frac{\partial R}{\partial S}\right],$$

which is strictly positive.■

Proposition *The equilibrium values of S and R rise weakly with δ, θ_{Sender}, $\theta_{Recipient}$, α_{Sender}, $\alpha_{Recipient}$, κ_{Sender}, $\kappa_{Recipient}$.*

Proof: Consider the following three mutually exclusive regions of the parameter space:

Region I: Constraint $S \geq 0$ binds.

Region II: Neither constraint on S binds.

Region III: Constraint $S \leq \bar{S}$ binds.

Let X represent a fixed parameter of the problem (e.g., δ). In the interior of Region I, $\frac{dS}{dX} = 0$ and $\frac{dR}{dX} = 0$, since $R = 0$. In the interior of Region II, the constraint $R \geq 0$ will bind (by application of Lemma 2). So $\frac{dS}{dX} = \frac{dS}{dX}|_R$ and $\frac{dR}{dX} = 0$. In the interior of Region III, $\frac{dS}{dX} = 0$ and $\frac{dR}{dX} = \frac{dR}{dX}|_S$. Using these intermediate results, it is straightforward to show that *in the interior each of the three regions,* both S and R rise weakly with δ, θ_{Sender}, $\theta_{\text{Recipient}}$, α_{Sender}, $\alpha_{\text{Recipient}}$, κ_{Sender}, $\kappa_{\text{Recipient}}$. This follows from total differentiation of the first-order conditions of the sender and recipient (setting S and R fixed when required).

It only remains to show that these comparative statics results continue to hold when shifts occur between regions I, II, and III. Specifically, it is sufficient to rule out the following three types of shifts: shifts from Region II to I (as X rises); shifts from Region III to I (as X rises); shifts from Region III to II (as X rises).

Suppose that as X rises, a shift occurs from Region II to Region I at $X = \hat{X}$. Let $\hat{S}$ represent the limiting equilibrium value of S in Region II (as X rises to $\hat{X}$). By Lemma 2, the constraint $R \geq 0$ will bind. Let $V(S, R, X)$, represent the value of the sender's objective function. To justify a shift from Region II to I, it is necessary to show that $V_X(\hat{S}, 0, \hat{X}) < V_X(0, 0, \hat{X})$, since by assumption $V(\hat{S}, 0, \hat{X}) \geq V(0, 0, \hat{X})$. It is straightforward to confirm that $V_X(\hat{S}, 0, \hat{X}) \geq V_X(0, 0, \hat{X})$ for all of the parameters of interest: $X \in \{\delta, \theta_{\text{Sender}}, \theta_{\text{Recipient}}, \alpha_{\text{Sender}}, \alpha_{\text{Recipient}}, \kappa_{\text{Sender}}, \kappa_{\text{Recipient}}\}$. Hence, a shift from Region II to Region I can not exist (unless $\hat{S} = 0$, which would not contradict the Proposition in the first place).

Suppose that as X rises, a shift occurs from Region III to Region I at $X = \hat{X}$. $\bar{S}$ will be the equilibrium value of S in Region III. To justify a shift from Region III to I, it is necessary to show that $V_X(\bar{S}, \hat{R}, \hat{X}) + V_R(\bar{S}, \hat{R}, \hat{X}) \cdot \frac{\partial R}{\partial X}|_S < V_X(0, 0, \hat{X})$, since by assumption $V(\bar{S}, \hat{R}, \hat{X}) \geq V(0, 0, \hat{X})$. It is straightforward to confirm that $V_X(\bar{S}, \hat{R}, \hat{X}) + V_R(\bar{S}, \hat{R}, \hat{X}) \cdot \frac{\partial R}{\partial X}|_S \geq V_X(0, 0, \hat{X})$, for all of the parameters of interest: $X \in \{\delta, \theta_{\text{Sender}}, \theta_{\text{Recipient}}, \alpha_{\text{Sender}}, \alpha_{\text{Recipient}}, \kappa_{\text{Sender}}, \kappa_{\text{Recipient}}\}$. Hence, a shift from Region III to Region I can not exist.

Suppose that as X rises, a shift occurs from Region III to Region II at $X = \hat{X}$. Let $\hat{S} < \bar{S}$ represent the limiting equilibrium value of S in Region II (as X falls to $\hat{X}$). In Region II, the constraint $R \geq 0$ will bind (by Lemma 2). To justify a shift from Region III to II, it is necessary to show that $V_X(\bar{S}, \hat{R}, \hat{X}) + V_R(\bar{S}, \hat{R}, \hat{X}) \cdot \frac{\partial R}{\partial X}|_S < V_X(\hat{S}, 0, \hat{X})$, since by assumption $V(\bar{S}, \hat{R}, \hat{X}) \geq V(\hat{S}, 0, \hat{X})$. It is straightforward to confirm that $V_X(\bar{S}, \hat{R}, \hat{X}) + V_R(\bar{S}, \hat{R}, \hat{X}) \cdot \frac{\partial R}{\partial X}|_S \geq V_X(\hat{S}, 0, \hat{X})$, for all of the parameters of interest: $X \in \{\delta, \theta_{\text{Sender}}, \theta_{\text{Recipient}}, \alpha_{\text{Sender}}, \alpha_{\text{Recipient}}, \kappa_{\text{Sender}}, \kappa_{\text{Recipient}}\}$. Hence, a shift from Region III to Region II can not exist.■

APPENDIX II: DEFINITIONS OF VARIABLES		
Variable Name	Question/Description	Answer Range
Amount Sent	Amount Sent from the Sender to the Recipient in the Trust Game.	0 - 15
Attendence	"How often do you attend religious services?"	Never - 0 Less than once a year -1 About once or twice a year - 2 Several times a year - 3 About once a month - 4 2-3 times a month - 5 Nearly every week - 6 Every week - 7 Several times a week - 8 Don't know, No Answer - 9
Beer Servings	Log of one plus the number of beers consumed per week.	Positive Real Numbers
Caution	"When dealing with strangers, one is better off using caution before trusting them."	Disagree Strongly - 1 Disagree Mildly - 2 Agree and Disagree equally - 3 Agree Mildly - 4 Agree Strongly - 5
Cheat	"Most students do not cheat on exams."	Disagree Strongly - 1 Disagree Somewhat - 2 Disagree Slightly - 3 Agree Slightly - 4 Agree Somewhat - 5 Agree Strongly - 6
Number of Close Friends	Log of one plus the number of close friends listed by the subject.	Positive Real Numbers
Number of Common Friends	Log of one plus the number of friends the two participants of the trust game have in common.	Positive Real Numbers
Different Nationality	Are the participants in the trust game from different countries?	0 - No, 1 - Yes
Different Sex	Are the participants in the trust game of opposite sex?	0 - No, 1 - Yes
Different Race	Are the participants in the trust game of different races?	0 - No, 1 - Yes
Dollars Donated	Log of one plus the amount of money donated in the past year.	Positive Real Numbers
Door Unlocked	"How often do you leave your door unlocked?"	Very Often - 1 Often - 2 Sometimes - 3 Rarely - 4 Never - 5
Eldest Child	Eldest Child	0 - No, 1 - Yes
Father w/BA	Father with a College degree	0 - No, 1 - Yes
Freshman	Freshman	0 - No, 1 - Yes
GSS Fair	"Do you think most people would try to take advantage of you if they got a chance, or would they try to be fair?"	Would take advantage of you - 1 Would try to be fair - 2 Depends - 3 Don't know - 8 No Answer 9

APPENDIX II (page 2)		
Variable Name	Question/Description	Answer Range
GSS Help	"Would you say that most of the time people try to be helpful, or that they are mostly just looking out for themselves?"	Try to be helpful - 1 Just look out for themselves - 2 Depends - 3 Don't know - 8 No answer - 9
GSS Index (Trust Index)	Normalized Average of GSS Fair, GSS Trust and GSS Help.	
GSS Trust	"Generally speaking, would you say that most people can be trusted or that you can't be too carefull in dealing with people?"	Most people can be trusted - 1 Can't be too careful - 2 Other, depends - 3 Don't know - 8 No answer - 9
Honesty Index	Average of five lying variables asking people to rate how often they lie to their: parents, roommates, acquaintances, close friends and partners on a scale of 1to 5. 1 being very often and 5 being never.	[1,5]
Hours Studying Alone	Log of one plus the number of hours spent studying alone per week.	Positive Real Numbers
Hours Watched TV	Log of one plus the number of hours spend watching television.	Positive Real Numbers
Hours Worked for Pay	Log of one plus the number of hours worked for pay per week.	Positive Real Numbers
Hours Volunteering	Log of one plus the number of hours spent volunteering per week.	Positive Real Numbers
Lend Money	"How often do you lend money to to friends?"	More than once a week - 1 About once a week - 2 About once a month - 3 Once a year or less - 4
Lend Possessions	"How often do you lend personal possessions to friends?"	More than once a week - 1 About once a week - 2 About once a month - 3 Once a year or less - 4
A Little Trust	"How much do you tend to trust others when you don't have a lot at stake?"	1 to 6, 1 denoting no trust and 6 denoting complete trust
A Lot of Trust	"How much do you tend to trust others when you have a lot at stake?"	1 to 6, 1 denoting no trust and 6 denoting complete trust
Lost Mail	"Have you or someone close to you recently lost something in the mail?"	Never - 1 Not in several years - 2 Within 1-2 years - 3 Within the last 6 months - 4
Male	Male	0 - No, 1 - Yes
Mean Reservation Value	Average of reservation values over all the conditions for the envelope drop experiment.	0 - 10
Met prior to experiment	Had the participants in the trust game met prior to the experiment?	yes or no
Membership in a Political Organization	Members of Political Clubs	0 - No, 1 - Yes

APPENDIX II (page 3)		
Variable Name	Question/Description	Answer Range
Member of a Journalism Group	Members of Newspaper or Magazine	0 - No, 1 - Yes
Member of a Service Group	Members of Service Organization	0 - No, 1 - Yes
Member of a Sports Team	Members of Sports Organizations	0 - No, 1 - Yes
Member of a Religious Group	Members of Religious Organizations	0 - No, 1 - Yes
Only Child	Only Child	0 - No, 1 - Yes
Others Honest	"Most people are basically honest."	Disagree Strongly - 1 Disagree Somewhat - 2 Disagree Slightly - 3 Agree Slightly - 4 Agree Somewhat - 5 Agree Strongly - 6
Past Windfall	"Have you ever spontaneously benefited from the generosity of someone you never knew before?	yes - 1 or no - 2
Pro-Charity	"I don't mind giving money to others if they need the money more than I do."	Disagree Strongly - 1 Disagree Somewhat - 2 Agree Somewhat -3 Agree Strongly - 4
Pro-Transfer	"Personal Income shouldn't be determined by work."	Disagree Strongly - 1 Disagree Somewhat - 2 Agree Somewhat -3 Agree Strongly - 4
Promise	Promise to return at least as much to the sender as he sent.	0 - agreed, 1 - didn't agree
Return Ration	(Amount returned to Sender)/(Amount Recipient received)	[0,1]
Scale Trust	"Rate your willingness to trust others on a scale of 1-6 where 1 is always trusting and 6 is never trusting."	1 to 6
Sexual Partner	Does the participant have a sexual partner?	0 - No, 1 - Yes
Stranger (Trust Stranger)	"You can't count on strangers anymore."	More or less agree - 1 More or less disagree - 2
Time since Met	Log of one plus the number of months the sender and recipient have known eachother.	Positive Real Numbers
Trustworthy (Self-Reported Trustworthiness)	"I am trustworthy."	Disagree Strongly - 1 Disagree Somewhat - 2 Disagree Slightly - 3 Agree Slightly - 4 Agree Somewhat - 5 Agree Strongly - 6
White	White	0 - No, 1 - Yes