COMMENTS WELCOME

Solidarity among the Poor

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Abstract: We conduct a field experiment with low-income subjects in Dallas, Texas. We examine behavior in a voluntary, informal risk sharing game among the poor using three variations on the solidarity game. All subjects participate in the baseline solidarity game. Then, half of the subjects participate in an insurance treatment while the other half of the subjects participate in an investment treatment. This provides a calibration of the extent of risk-pooling which might endogenously arise. We then allow participants the opportunity to either self-insure against the negative shock, or to invest and increase their potential winnings. We examine how the potential of informal risk pooling influences investment and self-insurance rates, and how the existence of these options influences risk pooling decisions.

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Solidarity among the Poor

1. Introduction

Risk sharing is critical and common among individuals living at or below the poverty line. However, very little is understood about the behavioral propensity to risk-pool, nor about the potential behavioral responses that might result. On the one hand, risk pooling provides a safety net for individuals most susceptible to shocks. On the other, it reduces incentives to self-insure against losses, or to invest in reducing or eliminating risks to income. We therefore examine behavior in a voluntary, informal risk sharing game among the poor.

We conduct a field experiment in a low-income minority neighborhood in Dallas, Texas. In addition to survey information on households' economic outcomes, we conduct experimental measures of preferences in three variations of the Solidarity Game (Selten and Ockenfels 1998, hereafter SO98). Solidarity is defined as a type of informal, indirect reciprocity; taking care of others who have ended up in a bad financial situation, purely by chance. It is one of the driving concepts behind informal risk sharing.

In the baseline game, participants are placed in groups of three. Each has a 2/3 chance of earning $75 and 1/3 chance of earning nothing. Before outcomes are known, subjects can decide how much of their earnings to send, conditional on winning, to those who lose. This provides a calibration of the extent of risk-pooling which might arise endogenously. We then examine two treatments. Half of the subjects have the opportunity to self-insure against the negative shock or while half of the subjects have the opportunity to invest and increase their potential winnings. We examine how the potential of informal risk pooling influences investment and self-insurance rates, and how the existence of these options influences risk pooling decisions.

We find evidence of substantial informal risk sharing when the opportunity is available. Conditional gifts in the baseline game are positively and significantly related to age, income, and connection to the community, proxied by knowing others in the room. We find mixed evidence that women make lower conditional gifts. If self-insurance is available, conditional gifts are significantly lower. The decision to insure appears to act as a selection mechanism: Those who are more empathetic select into the investment and make higher conditional gifts if they win. We now turn to a discussion of the foundational experiments on risk sharing and solidarity games.

2. Previous Literature

We are not the first to examine informal risk sharing. However, to the best of our knowledge, we are the first to examine solidarity behavior among the population most likely to be in need of it: The urban poor. We now discuss some of the previous literature on informal risk sharing in general, and solidarity games in particular, before turning to the experimental design and results.

2.1 Risk Sharing

A number of studies have examined risk sharing in a variety of settings. As we have discussed, informal risk sharing provides a last-resort safety-net for the poor. In an experiment where subjects are randomly 'relatively poor,' with a low endowment in any given period, or 'relatively rich,' with a high endowment in any given period, Chaudhuri *et al.* (2005) find that, although the relatively rich give more for mutual insurance in absolute dollars, the relatively poor give more as a proportion of the endowment. They also find higher insurance rates in small groups as compared to large groups.

In an infinite-horizon experiment, Charness and Genicot (2009) examine informal risk-sharing within dyads. In their game, subjects receive a set amount and one member of the dyad

also receives a positive income shock. Since subjects are only paid for one of the periods of the game, if they are risk averse then it makes sense to try to smooth consumption by making voluntary transfers from the subject who receives the positive shock to the one who doesn't, so long as the transfers are reciprocated when the luck is reversed.[1] They find evidence of risk sharing among university students in this game. Further, when the probability of being re-matched with the same partner increases, voluntary transfers double, indicating that the risk sharing is strategic rather than being solely motivated by social preferences.

2.2 The Solidarity Game

To examine solidarity among the poor, we adapt the design of Selten and Ockenfels (1998, hereafter SO98). In their game, university students are randomly assigned to groups of three. They can win 10 DM with 2/3 probability or 0 DM with 1/3 probability. Before the random draw, subjects decide how much of their winnings to give to the loser(s) in the case of either one or two losers. Therefore, the contribution is conditional on both winning and on at least one group member losing.

They find evidence of behavior consistent with several decision rules: egotistical (contributions of zero in both cases), Fixed Total Sacrifice (a budget for giving, regardless of the number of losers), Fixed Gift to Loser (the unlucky receive the same amount, whether there are one or two of them), as well as intermediate behavior. They find that Fixed Total Sacrifice is most prominent, in line with the dictator game results of Bolton, Katok and Zwick (1998). We will discuss the decision rules in more detail with our data.

Later research has to some extent confirmed the presence of these decision rules, and to some extent questioned their applicability across domains. Ockenfels and Weimann (1999)

[1] With infinite horizon experiments, the total number of periods is unknown. For this study, the typical range was 60 to 80 periods.

examine behavior in both the solidarity game and public goods game for East and West Germans after reunification. They find evidence that the decision rule employed can be influenced by cultural factors: East Germans were substantially more likely to make 'egotistical' choices as compared to the West Germans (47% versus 21%). This suggests that the solidarity game may be useful for picking up cultural variation and that cultural norms may influence strategy choice in this setting. Further, the effect has persisted, even among individuals who were too young to recall life 'behind the wall,' suggesting that the effect arises through social norms rather than market integration (Brosig *et al.* 2010).

Further, increased reflection (through a writing task) marginally increases contributions (Frank 2010), implying that positive amounts cannot be attributed to gut reactions or making snap decisions without considering the decision environment. In examining how one winner conditional gifts change in response to the possible conditional gifts of the second winner, Bolle and Heimel (2010) find evidence that the choices are strategic and that there is imperfect crowding out: A winner wants the loser to be taken care of, but they prefer to have someone else do it. Additionally, potential reputation concerns play a role – contributions are 1/3 higher when they will be announced to the other winner. Conditional gifts are higher when the loser is more 'like you' in terms of risk preferences, categorized by gamble choice (Costard and Bolle 2010).

Since behavior appears to be based on both non-standard preferences and strategic concerns, variations in the decision environment may result in different conditional gift behavior. Büchner, Coricelli and Greiner (2007) find no difference in strategies when they are elicited either before or after finding out that the subjects was lucky. The authors interpret this evidence as a rejection of implicit reciprocity motivations in the game, since behavior does not change when they could not potentially lose. However, if the game is measuring underlying traits that

subjects bring into the lab with them, then implicit reciprocity may still be a (albeit small) factor in the decision process.

Eberlin and Przemeck (2006) conduct a variant of the solidarity game where subjects receive ranks (either randomly or based on real effort) which determine both their potential winnings and the probability of winning. They find no difference between random and real-effort rank assignment, but do find that individuals with a higher rank make higher conditional gifts.

Trhal and Radermacher (2009) conduct a within-subject experiment where individuals play both the solidarity game and a treatment where they choose between a safe option of 10€ and a lottery with the same expected value (50% probability of 0€, 40% probability of 10€, 10% probability of 60€). Subjects can make conditional gifts in the solidarity game and in the lottery (either if they take the safe option or if they win exactly 10€, but not if they win the higher amount). They find lower conditional gifts when individuals choose between the safe option and the lottery, which they attribute to self-inflicted neediness. However, in a slightly different game, Buitrago, Güth and Levati (2009) find that the relatively rich do not condition their gifts to the relatively poor on either effort or luck.

We now turn to our implementation of SO98 and the variants chosen for our population of urban poor.

3. Design and Field Implementation

We adapt the SO98 design for a low-income population by introducing a visual representation of the game and by increasing the stake size, so that subjects can win $75 with 2/3 probability and $0 with 1/3 probability. Care was taken in the instruction phase to insure that subjects understood the game. Figure 1 shows the graphic representation of the solidarity game. There is a group of three subjects, and each has a bag with two winning chips, marked W, and

one losing chip, marked L. It was made clear that, if this activity was chosen for payment, then each person would pull a chip out of the bag, and that chip would determine whether they won or lost. But, before that happened, they needed to make another decision. The pictorial decision form is shown in figure 2. This form shows two situations: When the subject and one other person one (top panel) and when the subject was the only winner (bottom panel). They were instructed to write down the amount they wanted to put in their wallet and the amount they wanted to send to the loser(s) in each situation. Full instructions and the expectations elicitation form are available in Appendix B.[2]

[Figures 1 and 2]

All subjects make a choice for the baseline game. In addition, each subject also plays one of two possible treatments: Insurance or Investment. In Treatment 1, subjects can pay a $20 fee to remove their personal risk, guaranteeing a payment of $75. In this case, subjects have the option of purchasing (efficient) insurance against the risk, increasing the expected value of the game from $50 to $55 ($75 minus the $20 payment). In Treatment 2, subjects can pay a $20 fee to increase their earnings potential from $75 to $125. This increases the expected value of the decision from $50 to $63.33 (2/3 chance of $125 minus the $20 fee). Thus, in both treatments, an expected value maximize would pay the fee.

Experiments were conducted as part of a larger field study examining neighborhood quality and neighborhood change. The first phase of the larger study includes a brief door-to-door survey with participants randomly chosen using geographically-weighted sampling of tax parcels in the neighborhood (n=1460). The second phase includes a detailed survey, where the sample was randomly selected from the first-phase participants, but over-weighting homeowners

[2] Note that SO98 conduct a double-blind study whereas ours is not. All subjects complete their booklets using a code number, but the number is not randomly assigned.

and families with children (n=496). Participants in the experiments were randomly selected from the second phase (n=201). Details on the full project are available from the authors upon request.

A total of 201 subjects participated in the experimental sessions in October 2009, November 2009, and February 2010. Subjects could participate in only one session. All sessions were run at a centrally-located field station maintained for this study, and transportation was provided when necessary. The same lead experimenter ran all sessions, with trained assistants pulled from both the community and from Center for Behavioral and Experimental Economic Science (CBEES) at the University of Texas at Dallas. Subjects arrived, gave informed consent, and were paid a $20 show-up fee. A description of the sample is available in Appendix A.[3]

Subjects first participated in a series of experiments designed to elicit preferences for individual risk, correlated risk, skewness, and time preferences. Additionally, subjects played a dictator game, trust game, and the baseline and one of the treatments of the solidarity game. The solidarity game results are the focus of this study, as previously described. Experimental tasks were followed by a post-experiment survey. Additionally, some subjects completed additional surveys as part of the larger study. These were conducted on different dates/times.

The experimental games were always run in the same order, with no feedback between tasks.[4] One game was chosen at random for payment, so neither the subjects nor the experimenter knew which activity would be paid until the end of the session. Average earnings for the two hour session were $50.16 (minimum = $0, maximum = $170), plus the $20 show-up fee. Additionally, we collected survey information after the experiment, but before earnings were

[3] Note that, with the exception of gender, we have no significant differences in the population characteristics across the randomized treatments. We therefore control for gender in subsequent analyses.

[4] This design choice means that we cannot explicitly test for order effects, nor can we rule out the influence of order on the contribution levels chosen. Paying one activity, with no feedback between activities, should help minimize these effects. In fact, the only task that a subject receives any feedback for is the one for which they will be paid. Additionally, we are particularly concerned with the relationships between variables, and there is no reason to suspect that the order should interact with that relationship.

determined, on how they intended to use the money. Responses fall into the following categories: Bills, 32.3%; Necessities (Food, Gas, Medicine, etc), 39.3%; Discretionary Spending (mainly intra-household transfers), 37.9%; Saving, 3.5%; Tithing/Donations, 3.0%; Don't Know, 1.0%.[5]

To check for potential confounds from out-of-experiment reputation concerns, we asked subjects both about their familiarity with other subjects and about their feelings about the experiment itself. With regard to the other subjects, we asked how many individuals in their session they recognized (mean = 1.05, 55.5% recognized no one) and how many they knew by name (mean = 0.36, 73.1% did not know anyone's name). With regard to the experiment, 99.5% felt they were treated respectfully, 93% felt their privacy was protected, and 95.5% felt that the instructions were clear either always or most of the time.

We now turn to the aggregate results for the Baseline as well as the Insurance and Investment treatments.

4. Baseline Risk Sharing Behavior

We begin with a discussion of aggregate results for the Baseline, Insurance, and Investment games, as presented in Table 1, below. Appendix C contains a table of conditional gifts for all three games.

[Insert Table 1]

4.1 Aggregate Gifts and Strategies

The Baseline is a replication of SO98, except with larger stakes and a visual representation, as described above. Table 1 shows the mean total conditional gift for one and two losers, as well as the 'gift factor,' defined below. For the baseline game, we see that the average per-person gift is $18.68 for one loser (this loser would receive gifts from two winners) while the

[5] Since responses were free-form, categories are not mutually exclusive and many subjects stated multiple uses for the funds.

total conditional gift for two losers is $27.96, or $13.98 each. One simple way to compare conditional gifts across conditions is to use a 'gift factor' which tells you, essentially, how much more a loser receives if there is only one loser compared to how much she would receive if there were two losers.[6] If all participants give a fixed gift to the losers, then the factor would equal 2, whereas if the participants give a total fixed amount, regardless of the number of losers (a fixed total sacrifice, and consistent with a "budget for giving"), then the factor would equal 4. We find that one loser can expect 2.67 times more than when there are two losers, compared with 3.15 in SO98. This suggests that, in the aggregate, the decision rule in our population is closer to the "fixed gift to loser" than "fixed total sacrifice" in comparison.

Examining decision rules more closely, only 13 subjects (6.5%) contribute zero in the case of both one and two losers, termed 'egotistical' by SO98. This is a substantially smaller portion than found in SO98 (21%). By and large, subjects are making positive conditional gifts. Two patterns appear to be focal. In the first, termed Exact Fixed Total Sacrifice by SO98, the decision maker offers the same total amount to losers, whether there are one or two of them. (These gifts are highlighted in light grey in the tables in Appendix C). We find that 21.1% of positive contributions are consistent with this decision rule, compared with their 36%.[7] The second common pattern (highlighted with dark grey), corresponds to the case where the decision maker wants each of the losers to get the same amount, termed Fixed Gift to Loser. So, for example, if there is one loser they contribute $X, and if there are two losers, then they contribute

[6] The gift factor is calculated as follows: (mean gift to one loser x 2) / (mean gift to two losers / 2), since in the first case the loser receives gifts from two winners, and in the second case one gift is split between two losers. For clarity, consider Fixed Total Sacrifice behavior. If the mean total give is $10 for one loser and also $10 for two losers, then the factor would be 4 (=20/5). For Fixed Gift to loser behavior, suppose the mean gift for one loser is $10 but for two losers it is $10 each, or $20 total. Then, the factor would be 2 (=20/10).

[7] This figure does not include their category, Fixed Total Sacrifice 'Up to rounding,' where subjects essentially act as a fixed total sacrifice, except that they round up or down to the nearest integer (14% round down, 2% round up in their data). We do not have any amounts that are not integers, and so we omit this discussion. The difference in the data may be due to the difference in stakes. Including those subjects brings their percentage of subjects exhibiting fixed sacrifice behavior to 52%

$2X. We find that 42.2% of decisions are consistent with this pattern compared with 16% in SO98. Note that 34 subjects exhibit a desire to achieve an egalitarian outcome, sending $25 to one loser and $50 (or $25 each) to two losers. If they believe that the second winner will contribute $25 to the loser if they win, then this pattern of conditional gifts would result in payoffs of $50 each if there are two winners and $25 each if there is only one winner.

4.2 Individual Choices

A number of factors may influence the decision to voluntarily make a conditional gift to others in this setting. In introducing the game, SO98 make some suggestions about the possible underlying mechanisms: "Solidarity means a willingness to help people in need who are similar to oneself but victims of outside influences such as unforeseen illness, natural catastrophes, etc." (p. 518). This definition suggests that being able to identify with the potential losers and either altruistic tendencies or being empathetic towards the needy are likely potential candidates. Further, though gifts are not reciprocated in this environment, if the game is measuring some aspect of the subjects' informal risk-sharing network, then indirect reciprocity and trust as well as individual risk tolerance are likely to impact the choices made as well. Table 2 presents the correlates of conditional gifts.

[Insert Table 2]

The dependent variable is the amount of the conditional gift, in dollars. Columns with a one (two) in the heading indicate that the dependent variable is the conditional gift when there is one (two) loser(s). The first pair of columns includes the decision rules, which gives us an average base conditional gift for one and two losers. 'Egotistical' is the omitted category, and so conditional gifts are, on average, significantly greater than zero for all decision rules. We also see that, for one loser, fixed gift strategies result in lower conditional gifts than fixed sacrifice or

intermediate ($p<0.05$), but that for two losers both fixed gift and intermediate behavior result in significantly higher gifts than fixed sacrifice ($p<0.01$).

The second pair of columns adds some of the observable characteristics often considered in charitable giving studies: Gender, Age, and Income. We find mixed evidence for gender: women give (marginally) less when there are two losers, but there is no difference for only one. This is somewhat in line with previous studies: Büchner Coricelli and Greiner (2007) find no significant differences by gender in the solidarity game whereas Charness and Genicot (2009) find that women transfer less in their risk-sharing game.

Age, as measured in years, is positively related to conditional gifts, unlike Büchner Coricelli and Greiner (2007). Estimates indicate that being a year older increases the amount of the conditional gift by \$0.12 to \$0.13 (\$0.18 to \$0.23) for one (two) loser(s). Though small in magnitude on a marginal basis, our sample varies from 18 to 77, resulting in *ceteris paribus* differences ranging from \$7.08 to \$13.57 (or approximately 9% to 18% of the endowment) when comparing our youngest and oldest subjects. This difference may be due to the greater variability in age in our sample.

Individuals with higher incomes make higher conditional gifts as well. Our income measure is a lumpy indicator from 0-8. Zero indicates an annual household income of less than \$10K, 8 indicates an annual household income of between \$80K and \$90K. Higher numbers step up into the next \$10K range. For the estimation sample, the household median is in the \$10K-\$20K range and the household mean is 1.20 (std. dev. 1.72), or in the \$20K-\$30K range. Therefore, our estimates indicate that moving up an income category increases the conditional gift by \$0.79 to \$0.90 for one loser, and by \$1.33 to \$1.43. Comparing the lowest (coded as zero) to highest (coded as 8), this translates to a range of \$6.32 to \$11.44 (or between approximately 8% and 15% of the endowment).

The third pair of columns add the preference and motivations variables that have been discussed in the literature. Our empathy measure is from the Davis (1980) Interpersonal Reactivity index. Like Büchner Coricelli and Greiner (2007), we do not see a significant relationship between the empathy scale and the conditional gifts.

Risk Tolerance is taken from our experimental risk measure, it takes a value of zero if the subject is not willing to take on any risk, five if they are expected-value maximizers, and 6 if they are risk seeking. We find no significant effect of risk tolerance on the amount an individual is willing to contribute. However, we do find (not shown) that risk significantly correlates with strategy choice, and in the manner expected (in like with Charness and Genicot). Individuals who are more risk tolerant are more likely to make choices consistent with the 'Egotistical' decision rule, and less likely to make choices consistent with any of the other rules.[8]

Based on the definition of solidarity put forth in SO98, the ability to identify with the potential needy might play a role in the gift decision. We therefore include two measures of identity and relatedness. 'Identify' is a dummy variable equal to one if the subject indicates that they strongly agree that they see themselves as a member of their neighborhood. 'Know Name' is the number of individuals in the experimental session that the subject reports they know by name (mean 0.38, max 4, within the estimation sample). While self-reported identification with the community is not significantly related to gift behavior, knowing the name(s) of others in the session is—even though all decisions are anonymous, groups are randomly matched, and the likelihood of being matched with someone you know is very small.

Finally, we find that trust, measured using the typical General Social Survey trust question, is not related to conditional gift behavior.

[8] Note that none of the other demographic or preference variables are significantly related to strategy choice.

5. Treatments

We now turn to discuss the variations on the solidarity game designed for this sample: Insurance and Investment.

5.1 Insurance Treatment

In the Insurance Treatment, subjects can choose to pay $20 to remove the risk associated with this game – in effect guaranteeing that they win $75 if this game is chosen. If they choose not to pay the fee, then the risk remains. If they choose not to pay the fee and win, then they would leave the experiment with $75 winnings plus the $20 show-up fee. If they do not pay the fee and lose, then they would leave with only the show-up fee plus any gifts from winners. Paying the fee gives certain earnings of $75. This allows us to examine efficient-insurance and self-inflicted neediness in a game that is more parallel across decision environments than the design of Trhal and Radermacher (2009).

Table 1 presents the results from the Insurance Treatment, on aggregate, and separated out by those who choose to pay the fee (Insurance) or not (No Insurance). In line with the previous discussion, one loser in this treatment can expect 2.76 times the amount they would receive if there were two losers. We find that 68.6% of subjects in this treatment opt to pay the fee and remove the risk. However, conditional gift behavior does not seem to depend on the insurance decision: Though conditional gifts are lower than the baseline for one ($11.89, lower than baseline by an average of $4.75, $p<0.001$) and two (mean $17.22, lower than baseline by an average of $8.41, $p<0.001$) losers, there are no significant differences between those who choose to pay the fee and those who do not (1 loser, $p=0.28$; 2 losers, $p=0.52$).[9] Additionally, within-subject deviations between decisions in the baseline and insurance game do not differ

[9] Reported differences are within-subject comparisons. The aggregate differences are even larger, $6.79 for 1 loser and $10.74 for two losers.

significantly by those who do and do not Insure (1 loser, p=0.41; two losers, p=0.25). This indicates that individuals are less generous and less willing to participate in the informal risk-sharing when the *option to insure is available*, but that their personal insurance decision is not influencing the amount of their conditional gifts. This suggests an important caveat to the results of Trhal and Radermacher (2009): There is a fixed "punishment' (in the form of reduced conditional gifts), when neediness is self-inflicted. But, at least in this population, the punishment is not different for those who chose similarly (and were willing to take the risk) or those who chose to insure that they would not become needy.

We can apply the decision rules discussed in the Baseline to this setting as well. All percentages are reported as those who do not insure (those who insure). We have 20.7% (25.8%) making choices consistent with the 'egotistical' decision rule, 10.3% (16.7%) making choices consistent with 'Exact Fixed Total Sacrifice,' and 51.7% (36.4%) making choices consistent with 'Fixed Gift to Loser.'

Since we have a within-subject design for the baseline and treatment, we can also compare behavior on an individual level to examine the consistency of choices and the potential for using the same decision heuristic across the two environments. We find a moderate degree of consistency in rule use, with 48.3% (34.9%) making choices consistent with the same *decision rule* in both environments, even if the amount of the conditional gift differs.

5.2 Investment Treatment

In the Investment Treatment, subjects can choose to pay $20 to increase their potential winnings from the game. In this case, the risk is not removed, but the expected value of the game is higher. If they choose not to pay the fee, then the game remains the same as the baseline. Thus, if they do not pay the fee and win, then they would leave the experiment with $75 winnings plus

the $20 show-up fee, and losers retain only the show-up fee. If they pay the fee and win, then they would leave the experiment with $125 ($125 in winnings, but without the show-up fee). If they lose, they leave the experiment with zero. Therefore, the $20 investment increases the expected value of the game from $50 to $83.33, an increase of $33.33 in expectation, or $13.33 over and above the fee.

We find that 19.2% of subjects in this treatment opt to pay the fee and increase their potential earnings, significantly less that the proportion of subjects who were willing to pay to remove the risk ($p<0.001$). Conditional gifts are lower for one (mean $17.98, lower than baseline by an average of $2.78, $p<0.06$) and two (mean $27.42, marginally lower than baseline by an average of $2.76, $p<0.06$) losers.[10] Unlike the insurance treatment, those who invest contribute marginally more than those who do not: For those who invest (do not invest), contributions are $2.10 more ($3.93 less) generous than their baseline choice for one loser and $2.50 more ($3.97 less) generous for the case of two losers (two-tailed means test, $p\leq0.05$ and $p\leq0.07$ respectively).

Again, we can apply the decision rules discussed in the Baseline to this setting, with all percentages reported as those who do not invest (those who invest). We see that 10.3% (5.3%) make choices consistent with an 'egotistic' decision heuristic. 23.1% (31.6%) make choices consistent with 'fixed total sacrifice,' and 39.7% (31.6%) for 'fixed gift to loser.'

As observed in the Insurance Treatment, a substantial portion of subjects make choices consistent with the same decision heuristic in both the baseline and the investment treatment. (Recall that all subjects make a decision in the baseline treatment, but that each subject participates in only one of the two treatments). For those who do not invest, 39.7% of subjects do not change decision rules, and for those who do pay the fee, 38.9% do not change decision rules.

[10] Reported differences are within-subject comparisons. The aggregate difference is smaller, only $0.70 and $0.54 respectively.

5.3 Determinants of Insurance and Investment

Table 3 presents the correlates of the decision to insure and the decision to invest (Note, this is not a choice. Subjects are either in the insurance or investment treatment), modeled as a probit. The dependent variable is equal to one if the subject chose to pay the fee (and thus insure or invest, depending on the treatment they were in) and zero otherwise.

[Insert Table 3]

First, we see that this decision if not predicted by typical demographics for either treatment. Next, we see that very different factors are influencing each decision. The decision to insure (and thus remove all risk) is marginally impacted by risk preferences: Those who are not willing to bear any risk in the experimental game are more likely to choose to insure. Further, though only statistically significant at the 10% level, the size of the estimated marginal effect (0.186) is quite large economically.

For insurance, we also find the somewhat counter-intuitive result that individuals who report that they are more trusting are actually more likely to insure.

Turning to the investment decision, we see that the only significant factor is the level of empathy on the Davis (1980) empathetic concern scale: Individuals who score higher on empathy are more likely to invest. The SO98 definition of solidarity emphasizes being able to imagine the pain of losing and being willing to help others 'similar to oneself' in these times of need (p. 518). Empathy captures this very idea: being able to imagine yourself in the other person's shoes. The positive relationship between empathy and the investment decision provides suggestive evidence that a subset of the population, those who are very empathetic, are selecting into the investment so that they can better help both themselves and others. Remember that, in

our setting, investment raises the potential earnings but does not remove the risk. We will return to this point shortly.

5.4. Deviations from Baseline

Since all subjects make a choice for both the baseline and one of the treatments, we can use the deviation in their behavior to examine the impact of the treatment. Figure 3 shows how contributions change between the Baseline and the Insurance Treatment. Positive deviations indicate that the subject is more generous in the baseline, while negative deviations indicate that the subject is more generous in the treatment.

[Insert Figure 3]

Comparing gifts for one loser, individuals who used the same decision rule made choices that were on average $2.14 ($2.17) more selfish in the Insurance Treatment. None of these subjects made choices that were more generous in the Insurance Treatment. For subjects who changed their decision rule, choices that were $4.93 ($7.44) more selfish on average. However, a sizeable minority (10 out of 58) made choices that were more generous.

For the case of two losers, a similar trend holds. For those using the same decision rule, choices are $4.29 ($4.13) more selfish, with no one becoming more generous. For those who change, choices are $7.67 ($12.49) more selfish with a smaller subset becoming more generous. This indicates both that individuals recognized the differences in the decision environments and that, for at least a subset of the population, there is a relative stability in the decision heuristic applied.

[Insert Figure 4]

Comparing the deviation in conditional gift from the Baseline and the Investment Treatment, we see that the trend to make more generous choices if you invest and less generous

choices if you do not invest holds both for those who change type and those who do not, as shown in Figure 4. Though these differences were significant with the pooled data (see section 5.2), with our sample sizes these differences are generally not statistically significant. Suggesting that, while an individuals' willingness to insure did not alter their gift, conditional on the external environment, the decision to invest is made by a substantially *different set of individuals* – those who wish to be able to give more and support their group. Though not conclusive, the fact that higher empathy scores were the only determinant of choosing to invest lends further support to this interpretation. An alternative interpretation would be that, conditional on paying the fee, subjects believe that if they are 'lucky' and win the higher amount, then they should contribute more to those who are unlucky. However, this alternative interpretation would not suggest a relationship between empathy and paying the fee to increase earnings.

6. Closing Comments

On the whole, the evidence indicates substantial levels of voluntary, informal risk sharing in this population. Contrary to previous studies, the most common decision rule observed in our population is 'Fixed Gift to Loser' rather than 'Fixed Total Sacrifice.' We do not find universal support for the role of underlying motivations impacting the choice of conditional gifts. In the Baseline, we see that age, income, and having a closer connection to others positively impact the amount of the conditional gift for both one and two losers. We further find mixed evidence that women are making lower conditional gifts.

Comparing the baseline and the treatments, we observe a high degree of consistency in decision-rule use. However, individuals still make substantially different choices between the Baseline and the Treatments, as well as across the Treatments. A substantially higher proportion of the population chooses to insure than those who choose to invest, and this choice is positively

related to those who cannot tolerate any risk as well as with higher levels of trust. The decision to invest is driven by empathy. Further, conditional on investing, conditional gifts are higher in the Investment Treatment than in the Baseline (conditional on not investing, they are lower). Taken together, this suggests that the investment decision may be selecting a sub-set of the population who wish to facilitate informal risk sharing.

The presence of the opportunity to self-insure makes people less generous. However, outside the lab, the poor have relatively few opportunities to insure against the risks they face in everyday life. Perhaps this is why we see substantial solidarity behavior among the poor. The opportunity to invest to increase earnings conditional on winning is akin to risky human capital investment. However, we see that very few invest. But, why? We believe that understanding the factors influencing the lack of efficient investment is a fruitful line of future research. Several key hypotheses present themselves: Risk aversion, loss aversion, and impatience are prime candidates for future study.

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8. Figures

Figure 1. Solidarity Game Instruction page

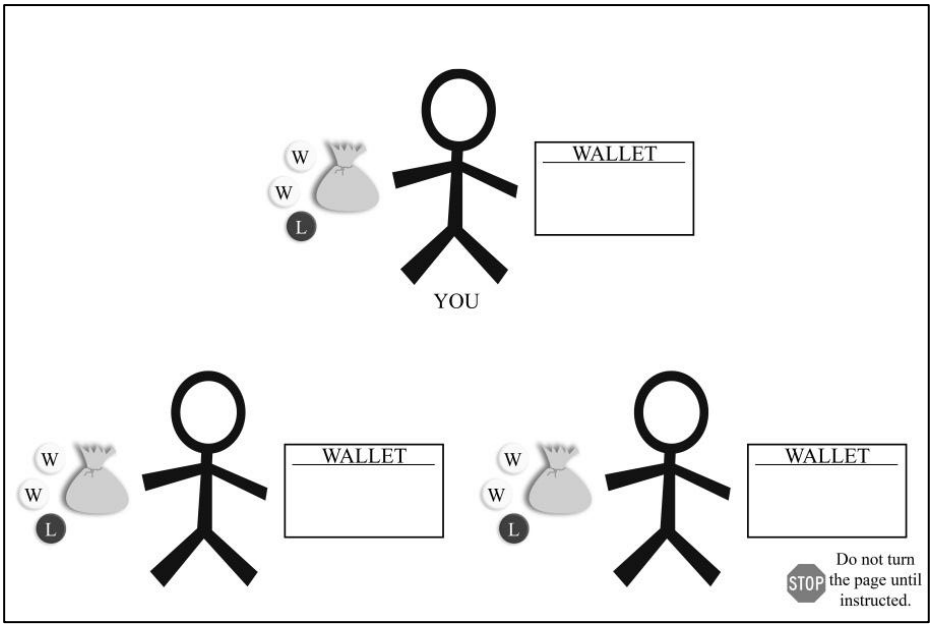


Figure 2. Solidarity Game Decision Form

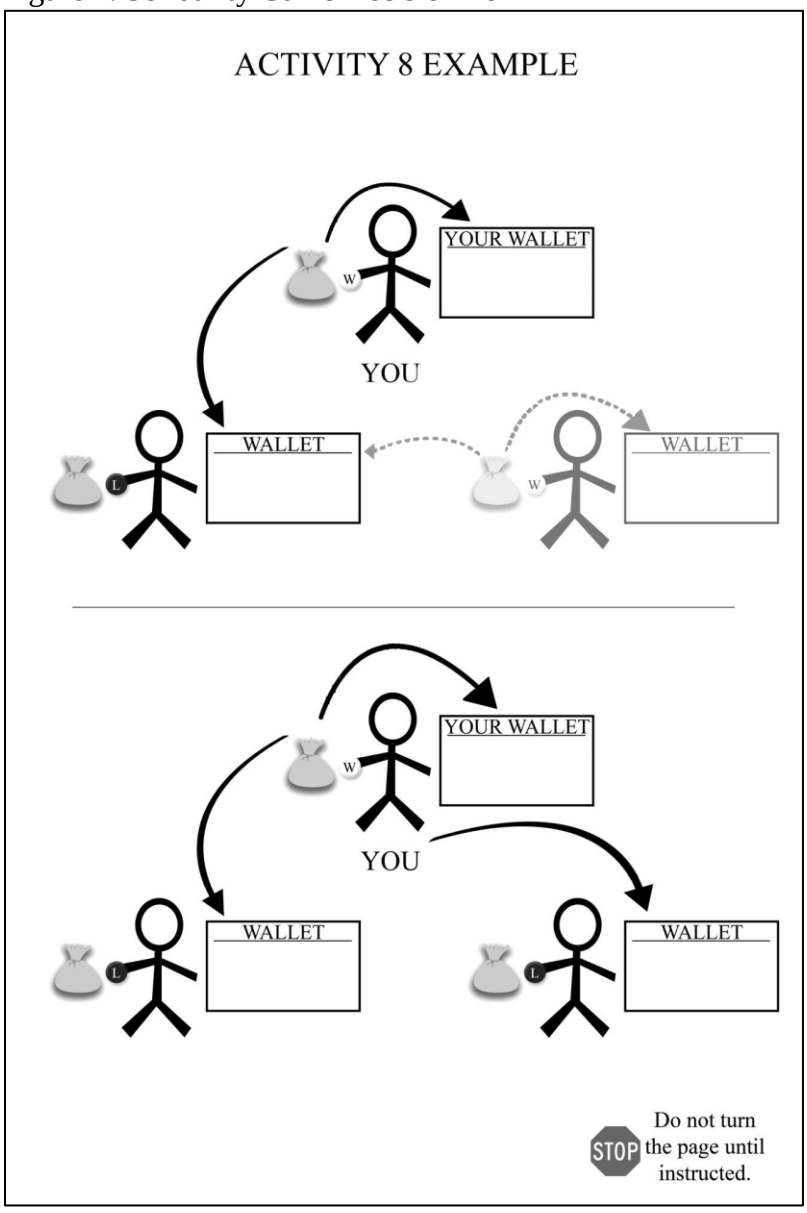
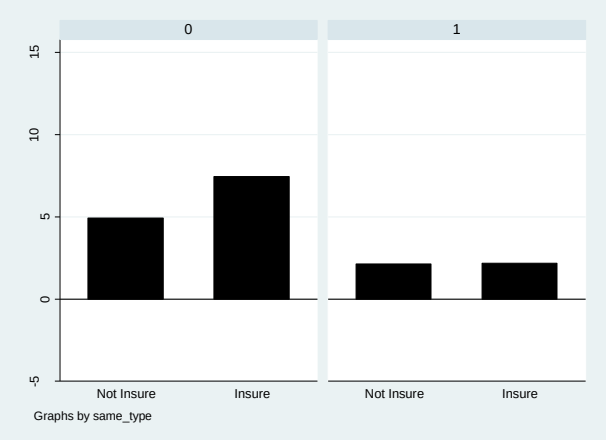
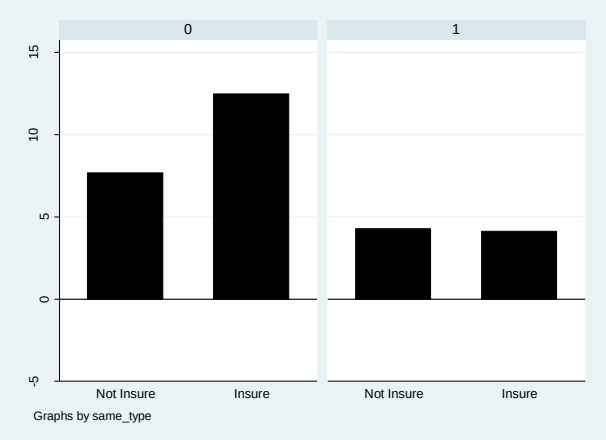


Figure 3. Deviation in Conditional Gift, Insurance Treatment

(a) One Loser



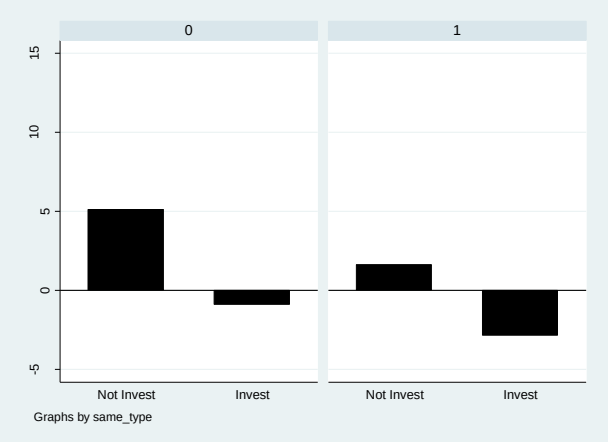
(b) Two Losers



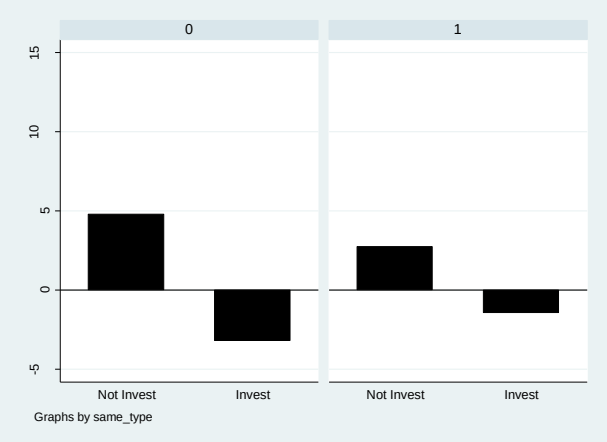
Notes: Panel (a) shows the deviation (Baseline - Treatment) for 1 loser; Panel (b) shows the deviation for two losers. The first pane in each panel gives the deviation for those who changed decision rules while the second pane gives the deviation for those who used the same decision rule. Positive numbers indicate that the individual choices were more generous in the baseline than in the treatment. Negative numbers indicate that the choices were more generous in the treatment.

Figure 4. Deviation in Conditional Gift, Investment Treatment

(a) One Loser



(b) Two Losers



Notes: Panel (a) shows the deviation (Baseline - Treatment) for 1 loser; Panel (b) shows the deviation for two losers. The first pane in each panel gives the deviation for those who changed decision rules while the second pane gives the deviation for those who used the same decision rule. Positive numbers indicate that the individual choices were more generous in the baseline than in the treatment. Negative numbers indicate that the choices were more generous in the treatment.

9. Tables

Table 1. Summary of Total Conditional Gifts and Strategies, by Treatment

Data, Stakes	Mean gift (Std. Dev.)		Gift Factor	Conditional Gift Classification, Percent of Respondents				
	1 loser	2 losers		Egotistical	Fixed Sacrifice	Fixed Gift	Intermediate	Same Type
SO98, DM 10	2.46	3.12	3.15	21	36	16	11	N/A
Baseline, $75	$18.68 (11.64)	$27.96 (17.19)	2.67	6.53	21.11	42.21	15.35	N/A
Insurance, $75								
Pooled	$11.89 (10.56)	$17.22 (16.43)	2.76	24.21	14.74	41.05	8.74	45.26
No Insurance	$10.13 (9.22)	$15.60 (15.80)	2.60	20.69	10.34	51.72	3.13	51.72
Insurance	$12.64 (11.05)	$17.95 (16.77)	2.82	25.76	16.67	36.36	11.43	42.42
Investment, $75 or $125								
Pooled	$17.98 (11.60)	$27.42 (17.58)	2.62	9.28	24.74	38.14	17.17	46.88
No Investment	$16.69 (10.31)	$26.22 (16.93)	2.55	10.26	23.08	39.74	15.00	48.72
Investment	$23.42 (15.10)	$32.37 (19.75)	2.89	5.26	31.58	31.58	26.32	38.89

Table 2. Level of Voluntary Risk-Sharing, OLS

	Decision Rule		Observables		Preferences	
	1	2	1	2	1	2
Fixed Sacrifice	22.08***	22.08***	22.50***	23.01***	21.50***	19.87***
	(3.46)	(4.78)	(3.41)	(4.64)	(3.53)	(4.88)
Intermediate	23.00***	33.83***	22.69***	33.16***	20.87***	30.13***
	(3.55)	(4.90)	(3.48)	(4.75)	(3.60)	(4.97)
Fixed Gift	17.86***	35.71***	17.05***	34.45***	16.68***	32.73***
	(3.23)	(4.46)	(3.17)	(4.32)	(3.21)	(4.44)
Other	23.27***	21.62***	22.91***	21.48***	22.86***	20.13***
	(3.63)	(5.01)	(3.60)	(4.90)	(3.59)	(4.95)
Female	…	…	-1.41	-3.92†	-1.63	-4.03†
			(1.64)	(2.23)	(1.62)	(2.25)
Age	…	…	0.12*	0.18*	0.13*	0.23**
			(0.06)	(0.08)	(0.06)	(0.09)
Income	…	…	0.90*	1.33*	0.79†	1.43*
			(0.45)	(0.62)	(0.47)	(0.64)
Empathy	…	…	…	…	0.25	0.21
					(0.16)	(0.22)
Risk Tolerance	…	…	…	…	0.42	-0.11
					(0.56)	(0.77)
Identify	…	…	…	…	1.36	0.97
					(1.53)	(2.12)
Know Name	…	…	…	…	2.83*	3.92*
					(1.14)	(1.58)
GSS Trust	…	…	…	…	0.46	-0.15
					(0.31)	(0.43)
Constant	0.00	0.00	-5.12	-6.60*	-16.05**	-13.21†
	(2.99)	(4.14)	(4.00)	(0.62)	(5.81)	(8.02)
F	13.26	20.96	9.34	14.99	6.77	9.54
(Prob > F)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Adj. R^2	0.2150	0.3085	0.2460	0.3537	0.2790	0.3642

†$p \leq 0.10$, *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$

Notes: OLS, n=180 due to missing observations on some of the survey measures. Standard Errors in parentheses. The dependent variable is the amount of the conditional gift. Egotistical (always having a conditional gift of zero) is the omitted category. For each set, (1) indicates the coefficients for one loser and (2) indicated the coefficients when there are two losers.

Table 3. Correlates of Insurance and Investment, Probit

	Insurance	Investment
Female	-0.15	-0.12
	(0.10)	(0.08)
Age	0.00	0.00
	(0.00)	(0.00)
Income	0.02	-0.01
	(0.04)	(0.02)
Empathy	0.00	0.02**
	(0.01)	(0.01)
No Risk	0.19†	0.10
	(0.09)	(0.09)
Identify	0.03	0.06
	(0.30)	(0.07)
Know Name	0.05	-0.01
	(0.61)	(0.07)
GSS Trust	0.04*	0.01
	(0.02)	(0.02)
n	89	92
χ^2	11.27	11.32
(Prob > χ^2)	(0.19)	(0.18)
Pseudo R^2	0.10	0.13
LnL	-48.98	-36.85

$^{\dagger}p \leq 0.10$, $^{*}p \leq 0.05$, $^{**}p \leq 0.01$, $^{***}p \leq 0.001$

Notes: Marginal effects from a Probit reported. Standard errors are in parentheses. The dependent variable equals 1 if the subject paid the fee in the treatment and zero otherwise.

10. Appendices

Appendix A: Sample Description

Characteristic	Insurance	Investment	Pooled
Female, %†	67.7	53.6	60.7
Black, %	94.8	96.9	95.8
Age, years	43.0	44.0	43.5
Marital Status, %			
Single	60.2	48.5	54.4
Married	16.3	19.6	17.9
Divorced	6.1	10.3	8.2
Time in Neighborhood, years	23.2	23.6	23.4
Home Owner, %	32.7	33.7	33.2
Chief Wage-Earner, %	65.7	58.8	62.2
Employment, %			
Full-Time	10.8	10.1	10.4
Part-Time	9.8	12.1	10.9
Temporary	18.6	15.2	16.9
Income Risk Proxies, %			
Unemployed, last 12m	58.8	63.3	61.0
Utilities Shut Off, last 6m	34.0	32.0	33.0
Cut Back Meal Size, last 6m	33.0	30.9	32.0
Highest Education, %			
HS Graduate	37.6	45.9	41.8
Some College / Vocational Certificate	22.4	30.6	26.5
College Graduate or Beyond	9.4	8.2	8.8

Notes: Categories are not comprehensive or mutually exclusive, and so may not sum to 1.
Treatment assignment was random but resulted in some significant differences across treatments.
†Indicates a significant difference in proportions, with $p<0.05$.

Appendix B: Instructions (script) and Decision Forms

Note: All instructions are verbal, accompanied by the pictorial examples and decision forms.

Activity 8

(Note: BASELINE)

Please open your booklets to Activity 8 on Page 3. Does everyone have this page?
OK, please turn the page. You will see a sheet that says Activity 8 Example. This sheet is for practice. You will make your choices on a different page. Let's walk through the example.

For Activity 8, you will be placed in a group of 3 people, you and two others. You will not know who they are, and they will not know who you are.

If this activity is chosen for payment, then you will pull a chip out of this bag. The bag has two chips with a "W" on them and one chip with an "L" on it. If you pull out the chip with the "W" on it, then you win and make $75. If you pull out the chip with the "L" on it, then you lose and make $0.

If you draw a "W" you can choose to send some of your winnings to the people in your group who draw an "L" if you want to.

There are several possible things that could happen.
1st: All three people draw "W." In this case each of you makes $75.
2nd: All three people draw "L." In this case each of you makes $0
Next, you could draw "L" and either one or both of the other people in your group draw a "W." In this case, the amount of money you make depends on the amount of money that the people who draw "W" send to you.

You will need to make a decision for two different situations. In the first situation, you will decide how much you want to send if one person draws "L" and the other person draws "W." In the second situation you will decide how much you want to send if two people draw "L." You do not have to send anything if you don't want to. You need to choose for both situations because you do not know ahead of time who will draw an "L" or a "W." The other people in your group will make the same decision.

You will write in the amount that you want to send if one person draws "L" here [point to poster], and you will write in the amount that you want to send if two people draw "L" here [point to poster].

Payoff:

If this is the activity chosen for payment, then we will come around the room and each of you will pull a chip out of the bag. We will mark in your booklet whether you draw a "L" or a "W" and then put the chip back in the bag and continue around the room.

We will then put all of the booklets in a pile and shuffle them. We will then pull out 3 at random to form the groups. Again, you will not know who is in your group and they will not know who you are.

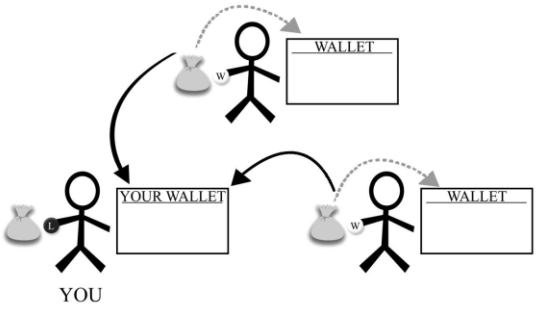
If you draw a "W," you make $75 minus the amount you decide to send to people who draw a "L." If you draw a "L" then you make $0 plus the amount that the people in your group decide to send.

Are there any questions?

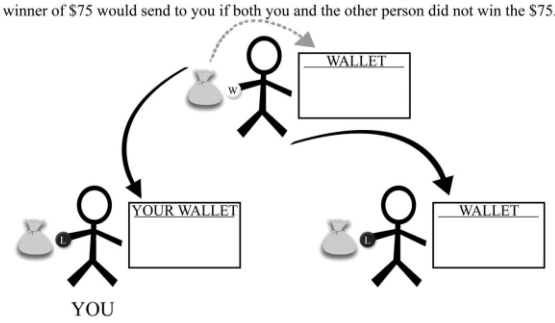
OK, please turn your booklets to page 7 and write in the amount you would like to send, if anything.

ACTIVITY 8 SURVEY

1. On the picture below, please write down how much money you think each of the winners of $75 would send to you if you did not win $75.



2. On the picture below, please write down how much money you think the only winner of $75 would send to you if both you and the other person did not win the $75.



Activity 9, Version A

(Note: TREATMENT 1 – SELF INSURANCE)

For Activity 9, you will be placed in a *different* group of 3 people, you and two others. But, just like the last activity, you will not know who they are, and they will not know who you are.

Part of this activity is similar to the one we just finished, but parts of it are different. Please listen to the instructions before making your choices.

Just like the last activity, if this activity is chosen for payment, then you will pull a chip out of this bag. The bag has two chips with a "W" on them and one chip with a "L" on it. If you pull out the chip with the "W" on it, then you win and make $75. If you pull out the chip with the "L" on it, then you lose and make $0.

For this activity, you also have the option of spending the $20 you received for coming today. You do not have to pay this fee. But, if you choose to pay the $20 fee then it will guarantee that you will draw a "W" and will win $75 for sure if this activity is chosen for payment.

[If they ask: Why would anyone pay the fee? Response: Different people like to do different things. If you want to pay the fee, then that is OK. If you do not want to pay the fee, than that is OK, too. We just want to know what choice you like best.

If you need more: If you pay the fee and this activity is chosen for payment, you make $75 for sure, and you have to give back the show-up fee. If you do not pay the fee, then you have a 2/3 chance of making $75 PLUS the $20 show-up fee ($95) and 1/3 chance of making $0 plus the $20 show-up fee ($20). Whether or not you want to pay the fee is up to you.]

If you want to pay the fee, all you have to do is put a check mark in this box [mark on poster]. If you do not want to pay the fee, put a check mark in this box [mark on poster].

If you draw a "W" you can choose to send some of your winnings to the people in your group who draw a "L" if you want to.

Similar to the last activity, there are several possible things that could happen.
1st: All three people draw "W." In this case each of you makes $75 whether or not you pay the fee.
2nd: All three people do not pay the fee and draw "L." In this case each of you makes $0.
Next, if you do not pay the fee and you draw an "L" and either one or both of the other people in your group draw a "W." In this case, the amount of money you make depends on the amount of money that the people who draw "W" send to you.

You will need to make a decision for two different situations. In the first situation, you will decide how much you want to send if one person draws "L" and the other person draws "W." In the second situation you will decide how much you want to send if two people draw "L." You do not have to send anything if you don't want to. You need to choose for both situations because you do not know ahead of time who will draw an "L" or a "W." The other people in your group will make the same decision.

You will write in the amount that you want to send if one person draws "L" here [point to poster], and you will write in the amount that you want to send if two people draw "L" here [point to poster].

Payoff:

If this is the activity chosen for payment, then we will come around the room and each of you will pull a chip out of the bag. If you want to pay the $20 fee then you will draw out of this bag, which has three "W's" in it. If you do not want to pay the fee, then you will draw out of the bag that has two "W's" and one "L" in it. We will mark in your booklet whether you draw a "L" or a "W" and then put the chip back in the bag and continue around the room.

We will then put all of the booklets in a pile and shuffle them. We will then pull out 3 at random to form the groups. Again, you will not know who is in your group and they will not know who you are.

If you draw a "W," you make $75 minus the amount you decide to send to people who draw a "L." If you draw an "L" then you make $0 plus the amount that the people in your group decide to send.

Note that in this situation, the only way it is possible for the other group members to draw a "L" is if they decided <u>not</u> to pay the fee.

Are there any questions?

OK, please turn your booklets to page 13 and write in the amount you would like to send, if anything.

Activity 9, Version B

(Note: TREATMENT 2 – INVESTMENT)

Please open your booklet to Activity 9 on page 10. Does everyone have this page?

For Activity 9, you will be placed in a *different* group of 3 people, you and two others. But, just like the last activity, you will not know who they are, and they will not know who you are.

Part of this activity is similar to the one we just finished, but parts of it are different. Please listen to the instructions before making your choices.

Just like the last activity, if this activity is chosen for payment, then you will pull a chip out of this bag. The bag has two chips with a "W" on them and one chip with a "L" on it. If you pull out the chip with the "W" on it, then you win and make $75. If you pull out the chip with the "L" on it, then you lose and make $0.

Now, this part is different. For this activity, you also have the option of spending the $20 you received for coming today. You do not have to pay this fee. But, if you choose to pay the $20 fee then it will change the amount of money you can win. In this case, if you draw a "W" than you win and make $125. If you draw an "L" then you lose and make $0.

[If they ask: Why would anyone pay the fee? Response: Different people like to do different things. If you want to pay the fee, then that is OK. If you do not want to pay the fee, than that is OK, too. We just want to know what choice you like best.

If you need more: If you pay the fee and this activity is chosen for payment, then you have a 2/3 chance of making $125, but you have to give back the $20 show-up fee. You have a 1/3 chance of making $0 if you draw L, because you still have to give back the $20 show-up fee. If you do not pay the fee, then you have a 2/3 chance of making $75 PLUS the $20 show-up fee ($95) and 1/3 chance of making $0 plus the $20 show-up fee ($20). Whether or not you want to pay the fee is up to you.]

If you want to pay the fee, all you have to do is put a check mark in this box [mark on poster]. If you do not want to pay the fee, put a check mark in this box [mark on poster].

If you draw a "W" you can choose to send some of your winnings to the people in your group who draw a "L" if you want to.

There are several possible things that could happen.

1st: All three people draw "W." In this case each of you makes $75 if you did not pay the fee and $125 if you did pay the fee.

2nd: All three people draw "L." In this case each of you makes $0 whether or not you paid the fee.

Next, if you do not pay the fee and you draw an "L" and either one or both of the other people in your group draw a "W." In this case, the amount of money you make depends on the amount of money that the people who draw "W" send to you.

You will need to make a decision for two different situations. In the first situation, you will decide how much you want to send if one person draws "L" and the other person draws "W." In the second situation you will decide how much you want to send if two people draw "L." You do not have to send anything if you don't want to. You need to choose for both situations because you do not know ahead of time who will draw an "L" or a "W." The other people in your group will make the same decision.

You will write in the amount that you want to send if one person draws "L" here [point to poster], and you will write in the amount that you want to send if two people draw "L" here [point to poster].

Payoff:

If this is the activity chosen for payment, then we will come around the room and each of you will pull a chip out of the bag. You will draw out of the bag that has two "W's" and one "L" in it. If you want to pay the $15 fee then the amount you can win is $125 instead of $75. We will mark in your booklet whether you draw a "L" or a "W" and then put the chip back in the bag and continue around the room.

We will then put all of the booklets in a pile and shuffle them. We will then pull out 3 at random to form the groups. Again, you will not know who is in your group and they will not know who you are.

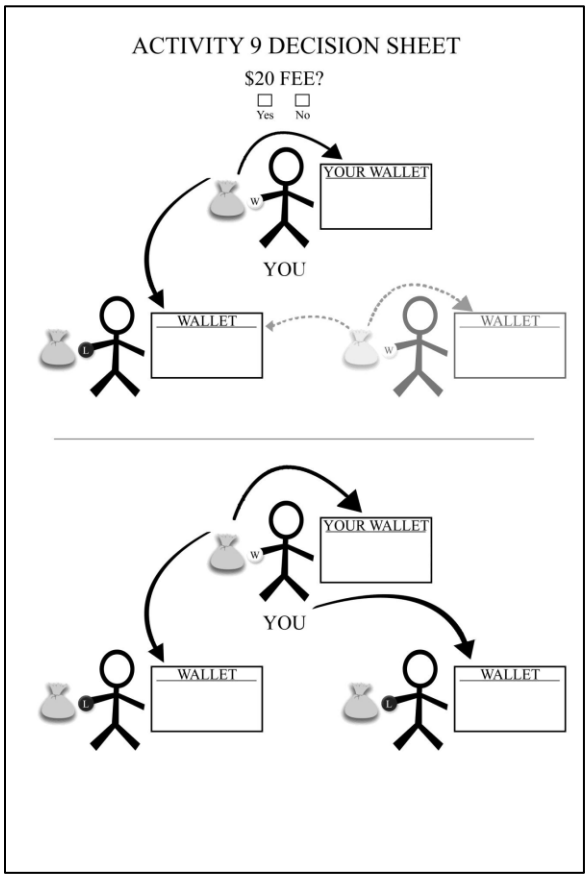
If you <u>do not</u> pay the $15 fee, then if you draw a "W," you make $75 minus the amount you decide to send to people who draw a "L." If you draw a "L" then you make $0 plus the amount that the people in your group decide to send.

If you <u>do</u> pay the $15 fee, then if you draw a "W," you make $125 minus the amount you decide to send to people who draw a "L." If you draw a "L" then you make $0 plus the amount that the people in your group decide to send.

Note that in this situation, the amount that the other group members can win depends on whether or not they decide to pay the fee.

Are there any questions?

OK, please turn your booklets to page 13 and write in the amount you would like to send, if anything.



Appendix C: Conditional Gift Tables

Table C1. Conditional gifts, baseline condition

$x_1/2x_2$	*0*	*2*	*4*	*5*	*10*	*15*	*20*	*25*	*30*	*40*	*45*	*50*	*55*	*60*	*74*	*75*	*Total*
0	13	-	-	-	-	-	1	2	1	-	-	1	-	-	-	-	*18*
1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	*1*
5	-	1	-	1	8	-	-	-	-	-	-	-	-	-	-	-	*10*
10	-	-	-	-	13	1	21	-	-	-	-	1	-	-	-	-	*36*
15	-	-	-	-	-	2	4	1	9	-	-	-	-	-	-	-	*16*
20	1	-	-	-	-	-	17	-	8	10	-	-	-	-	-	-	*36*
25	5	-	-	-	-	-	8	3	4	6	1	34	1	-	-	-	*62*
30	-	-	-	-	-	-	1	-	1	1	-	3	-	1	-	-	*7*
35	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	*2*
37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	*1*
40	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	*2*
45	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*1*
50	-	-	-	-	-	-	-	-	-	1	-	4	-	-	-	-	*5*
55	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	*1*
75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	*1*
Total	*19*	*1*	*1*	*1*	*21*	*3*	*52*	*6*	*25*	*20*	*1*	*45*	*1*	*1*	*1*	*1*	*199*

Notes: The x_1 column indicates the conditional gift for one loser, and $2x_2$ indicates the conditional gift for two losers. The numbers in the cells are subject counts for that $(x_1, 2x_2)$ pair. Light grey shading indicated fixed total sacrifice behavior, darker grey shading indicates fixed gift to loser behavior, and the diagonal shading indicates intermediate behavior. For comparison, see Table 1 in SO98 (note, they use x rather than 2x on the columns). Contingency table tests confirm that the gifts are not independent, $p<0.00$.

Table C2. Conditional gifts when insurance is available, by insurance decision

	No Insurance									Insurance								
$y_1/2y_2$	*0*	*4*	*10*	*15*	*20*	*30*	*40*	*74*	*Total*	*0*	*10*	*15*	*20*	*25*	*30*	*40*	*50*	*Total*
0	6	-	-	-	-	-	-	-	*6*	17	1	-	-	-	-	-	-	*18*
2	-	1	-	-	-	-	-	-	*1*	-	-	-	-	-	-	-	-	-
5	-	-	6	-	-	-	-	-	*6*	-	7	-	-	-	-	-	-	*7*
10	-	-	-	-	5	-	-	-	*5*	-	4	1	8	-	-	-	-	*13*
15	-	-	1	1	-	1	1	-	*4*	-	-	1	2	-	1	-	-	*4*
20	-	-	-	1	2	1	1	-	*6*	2	-	-	4	-	1	2	1	*10*
25	1	-	-	-	-	-	-	-	*1*	-	-	-	2	1	2	1	6	*12*
37	-	-	-	-	-	-	-	1	*1*	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	*1*
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	*1*
Total	*7*	*1*	*7*	*2*	*7*	*2*	*2*	*1*	*29*	*19*	*12*	*2*	*16*	*1*	*4*	*3*	*9*	*66*

Note: Contingency table tests confirm that the gifts are not independent, p<0.00 for both the No Insurance and Insurance cases.

Table C3. Conditional gifts when investment is available, by investment decision

	No Investment										Investment								
$z_1/2z_2$	*0*	*5*	*10*	*15*	*20*	*25*	*30*	*40*	*50*	*Total*	*0*	*10*	*20*	*40*	*45*	*50*	*60*	*70*	*Total*
0	8	-	-	-	-	-	-	-	1	*9*	1	-	-	-	-	-	-	-	*1*
5	-	1	3	-	1	-	-	-	-	*5*	-	-	-	-	-	-	-	-	-
10	-	-	7	-	10	-	-	-	1	*18*	-	2	4	-	-	-	-	-	*6*
15	-	-	-	1	3	-	4	1	-	*9*	-	-	-	-	-	-	-	-	-
20	-	-	-	-	5	-	1	3	1	*10*	-	-	2	-	-	-	-	-	*2*
25	1	-	-	-	2	1	2	2	11	*19*	-	-	1	2	1	1	-	-	*5*
30	-	-	-	-	1	-	1	1	2	*5*	-	-	-	-	-	-	1	-	*1*
35	-	-	-	-	-	-	-	-	1	*1*	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	1	-	*1*	-	-	-	1	-	-	-	-	*1*
50	-	-	-	-	-	-	-	-	1	*1*	-	-	-	-	-	1	1	1	*3*
Total	*9*	*1*	*10*	*1*	*22*	*1*	*8*	*8*	*18*	*78*	*1*	*2*	*7*	*3*	*1*	*2*	*2*	*1*	*19*

Note: Contingency table tests confirm that the gifts are not independent, p<0.00 for the No Investment and p<0.05 for Investment.