How Does Economic Status Affect Social Preferences? Representative Evidence From a Survey Experiment: Pre-Analysis Plan*

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Abstract

This paper investigates the impact of economic status on social preferences. We exogenously alter people's perceived economic status by changing where they think their household stands in the US income distribution. Half of the people who over-estimated their position in the income distribution are told that they are relatively poorer than they thought. Conversely, half of those who under-estimated their position in the income distribution are informed that they are relatively richer than they thought. Then, participants play a series of four incentivized games, which measure different social preferences, such as trust, negative reciprocity, honesty and pro-sociality. This document outlines the analysis plan for this experiment.

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1 Motivation

It is a well-established fact that people care about their economic status (Duesenberry, 1949; Frank, 1985; Veblen, 1899). Indeed, many people would prefer to live in a society where their relative income is high but their absolute income is low, rather than in a society where the opposite is true (Solnick and Hemenway, 1998). Changes in relative income affect not only people's well-being (Clark and Oswald, 1996; Easterlin, 1974; Luttmer, 2005), but also their consumption (Kuhn et al., 2011), their behaviour in the labour market (Card et al., 2012) and their redistributive preferences (Cruces et al., 2013; Karadja et al., 2014).

In order to understand people's behaviour in a social context, it is crucial to understand how social comparisons affect their behaviour towards others (Fehr and Schmidt, 1999). More specifically, it is important to examine whether social preferences are endogenous to economic circumstances and whether people's relative economic position affects their social preferences. In this paper, we present an online experiment in which we exogenously vary people's perceived economic status before measuring their social preferences.

2 Experimental Design

The participants are first asked how much their household earned in 2015. We then ask them where they think their household stood in the income distribution. The exact question they answered was: "According to the 2015 American Population Survey, what percentage of US households earned less than your household?" If participants correctly guess the percentage (within three percentage points), they receive a bonus payment of 10 cents.

Using Census data on the US household income distribution, we can determine whether participants accurately evaluated their position in the income distribution. This allows us to give participants in the treatment group some information on their actual standing in the income distribution. Subjects in the control group, on the other hand, do not receive any information.

We divide participants into two groups: those who over-estimate their position in the income distribution, and those who under-estimate it.[1] For clarity's sake, we call participants who over-estimate their position in the income distribution over-estimators, and participants who

[1] We expect that very few people will guess their exact position in the income distribution, and we therefore discard those observations completely, except when mentioned otherwise.

under-estimate their position under-estimators. This terminology will be used in the rest of the paper.

Half of the over-estimators do not receive any information about the accuracy of their estimate, while the other half receive the following message:

> *Actually, you overestimated your relative position in the income distribution. In reality, you are relatively poorer than you thought. In other words, you are closer to the bottom of the income distribution than you thought. You currently earn significantly less than what you would need to be at the position you thought you occupied.*

Similarly, half of the under-estimators do not receive any information about the accuracy of their estimate, while the other half receive the following message:

> *Actually, you underestimated your relative position in the income distribution. In reality, you are relatively richer than you thought. In other words, you are closer to the top of the income distribution than you thought. You currently earn significantly more than what you would need to be at the position you thought you occupied.*

All participants are then asked how satisfied they are with their position in the income distribution. This question allows us to check, separately for over-estimators and under-estimators, whether the treatment has any effect on the participants' economic satisfaction. We also ask participants in the treatment group to give us a new estimate of their position in the income distribution, now that they have received some information about the accuracy of their estimate. This question enables us to see to what extent participants updated their beliefs regarding their position in the income distribution, after receiving the treatment. These two questions are used as manipulation checks in the analysis, to make sure that our information treatment changed people's perception of their relative income.

After the manipulation checks, our respondents take part in four games, which are randomly ordered. First, participants play the coinflip game, which has been widely used to measure honesty (Abeler et al., 2014; Bucciol and Piovesan, 2011). In this game, people have to toss a coin four times in private, and report how many times "Heads" came up. For each "Heads" that

they report, they receive an extra ten cents. Participants therefore have a financial incentive to over-report the number of times "Heads" came up. We cannot detect lying at the individual level, but we can detect it at the population level, by comparing the distribution of reported outcomes with the theoretical distribution.

Second, participants play the role of the sender in the trust game (Berg et al., 1995), which is often used to measure how trusting people are (Fehr et al., 2003; Sapienza et al., 2013). In this game, there are two players, referred to as person A and person B. All of our respondents (except for one) play the role of person A. Person A and person B start with $50 each. Then, person A can choose to send some money to person B. Person B receives three times the amount sent by person A. Then person B has to choose how much money to send back to person A. Once all the responses are collected, we will randomly match one participant who played the role of person A with the participant who played the role of person B, and we will implement their choices. In order to understand the participants' behaviour in the trust game, we also ask them how trustworthy they think person B would be. Specifically, we ask them: "What amount do you think will Person B send back to you?"

Third, participants play the role of the second mover in the ultimatum game (Güth et al., 1982), which is commonly used to measure negative reciprocity. In this game, there are two players, referred to as person 1 and person 2. All of our participants (except for one) play the role of person 2. At the beginning of this game, person 1 receives $100, while person 2 receives nothing. Then, person 1 has to make an offer to person 2 on how to split the $100. Person 2 chooses either to accept the offer made by person 1, or to refuse it. If person 2 refuses the offer, both players receive nothing. If person 2 accepts the offer, each player receives the amount specified in the offer. Our respondents have to specify the minimum amount that person 1 would have to offer them, in order for them to accept their offer. Once all the responses are collected, we will randomly match one participant who played the role of person 2 with the participant who played the role of person 1, and we will implement their choices.

Fourth, participants play a dictator game, which is commonly used to measure pro-sociality. In this game, there are two players, whom we shall refer to as person C and person D. All of our participants (except for one) play the role of person C. At the beginning of the game, person C receives $100, while person D receives nothing. Then, person C can choose how much money to give to person D. Once everyone has completed the survey, we will randomly choose one participant in our survey who played the role of C to have their choice implemented and we will

randomly choose one participant to play the role of D.

At the end of the experiment, we ask participants to fill out a questionnaire containing typical demographic questions, such as gender, age, ethnicity, political orientation, household size etc. The exact instructions we use in the experiment can be found in the appendix.

3 Setting, Sample and Power

3.1 Setting

The experiment will be run through Time-Sharing Experiments for the Social Sciences (TESS), which gives us access to a representative sample of the U.S. population of more than 50,000 households.[2]

To ensure that the panel is truly representative, participants are recruited using a dual sampling method, which combines the traditional random digit dialling method with an address-based technique. Approximately ten percent of the people contacted accept to join the panel. It is also important to note that people who have not been invited to join the panel are not allowed to become part of the panel.

3.2 Sample

The final sample will consist of 1300 completed observations. Since we cannot force participants to answer all questions, we will over-sample in order to get 1300 completed observations. Based on previous experience, it should be sufficient to over-sample by fifteen percent.

Participants also need to be at least 26 years old. We decided to impose that restriction in order to avoid getting a lot of students and young people in our final sample. Indeed, the treatment would not be very meaningful to them as many of them are still financially dependent.

3.3 Power

We conducted a pilot study on Amazon Mechanical Turk (MTurk) in order to get a sense of the likely effect sizes we would observe in the main experiment. Overall, we find effect sizes of around 0.25 of a standard deviation.

[2]TESS uses the online panel "KnowledgePanel" developed by GfK (formerly Knowledge Networks).

Given that we expect to have a sample of 350 over-estimators in the main experiment, we will have enough statistical power to detect effect sizes of 0.25 of a standard deviation with 80 percent probability.

For under-estimators, we expect to have a sample of 950 participants which gives us enough statistical power to detect effect sizes of around 0.18 of a standard deviation with 80 percent probability.

4 Hypotheses

Our main hypotheses are based on the results from the pilot we ran on Amazon Mechanical Turk.

- **Over-estimators:** We expect that people who learn that they are relatively poorer than they thought will:
  - be more honest in the coinflip game,
  - send more money to their partner in the trust game,
  - require more money from the first mover in the ultimatum game,
  - give more money to their partner in the dictator game.
- **Under-estimators:** We expect that people who learn that they are relatively richer than they thought will not change their behavior in any of the four games.

5 Definition of the Main Outcome Variables

- **Coinflip Game:** number of "Heads" reported.
- **Trust Game:** amount sent by person A to person B.[3]
- **Ultimatum Game:** minimum amount required by person 2 to accept person 1's offer.
- **Dictator Game:** amount given by person C to person D.

[3]We will also examine the respondent's expected payoff from sending money to the other participant in the trust game.

6 Empirical Analysis

6.1 Methodology

Given that people who over-estimate their position in the income distribution receive a different treatment from those who under-estimate it, we conduct all of the analysis separately for over-estimators and under-estimators.

6.2 Baseline Balance

We will test for baseline balance for the following variables:

- gender
- age
- log income
- household size
- ethnicity (dummies for White, Black, Hispanic, and Asian)
- religion (dummy for Christian)
- employment status (dummies for unemployed, part-time employed, and employed full-time)
- education (dummy for person with at least a bachelor degree)
- belief about the position in the income distribution
- political orientation (taking value one for Republicans and zero otherwise)

We will regress each of these variables on a treatment indicator to see if there are imbalances. We will account for multiple hypothesis testing by regressing the treatment indicator on all of the variables, and we will conduct a joint F-test, to see if the coefficients are jointly different from zero.

6.3 Main Specification

To examine how shocks to relative income affect economic satisfaction and social preferences, we estimate the following equation separately for over-estimators (i.e. people with positive bias)

and under-estimators (i.e. people with negative bias):[4]

$$y_i = \gamma_0 + \gamma_1 T_i + \Gamma^T \mathbf{X_i} + \varepsilon_i \tag{1}$$

where y_i is the outcome of interest, and T_i is the treatment indicator, which is equal to one if the respondent received some information about their relative income, and zero otherwise. The idiosyncratic error term is denoted as ε_i. Throughout the analysis, we use robust standard errors to account for potential heteroskedasticity in the error term.

We will present the results with and without control variables. X_i represents a vector of control variables. The control variables are educational level, gender, age, log income, employment status, belief about their position in the income distribution and bias in their belief.

6.4 Re-Weighting

As a robustness check, we will also re-weight all of the results to be nationally representative on observables. In particular, we re-weight each observation in terms of the following four observables.

- gender (an indicator taking value one of the respondent reports being female).
- above vs. below median age (a dummy taking value one if the person reports begin older than the median age in the US).
- white vs. non-white (a dummy taking value one if the person reports being White)
- college degree indicator (an indicator taking value one if the respondent reports having at least a college degree)

Specifically, we re-weight our TESS sample such that it will match the American Community Survey data from 2015 in terms of gender, age, race and educational level (college degree).

6.5 Missing Observations

We will drop any observation for which we do not have any information about the participant's household income and their perceived position in the income distribution. Indeed, if we do not get this information, we cannot know which feedback to give to the participant.

[4] We discard the observations from people who correctly estimate their position in the income distribution.

We will code missing values for the control variables as zero and we will include for each question with missing values a dummy variable which is equal to one if the participant failed to give an answer for that question.

6.6 Differential Attrition

We expect that there will be some attrition in our experiment. We will test whether attrition is related to the treatment by estimating the following equation separately for over-estimators and for under-estimators:

$$A_i = \pi_0 + \pi_1 Treatment_i + \Pi^T \mathbf{X_i} + \varepsilon_i$$

where A_i indicates if a participant did finish our experiment, where $Treatment_i$ is the treatment indicator, and where X_i is a vector of pre-determined characteristics. We will use the same set of pre-determined characteristics as for the baseline balance test.

If the coefficient π_1 on the treatment indicator is significant at the 5 percent level, we will use Lee bounds for the statistical analysis. This will allow us to bound our estimates. If the coefficient π_1 is not significant at the 5 percent level, we will conduct the statistical analysis without adjusting for attrition.

6.7 Multiple Hypothesis Adjustment

6.7.1 Creation of Index

We use the method described in Anderson (2008) to create an index of pro-sociality based on people's behavior in the different games. In our main definition of the index, we use all four behavioral measures recoded such that higher outcomes correspond to more pro-social outcomes (amounts sent in the dictator game and the trust game, number of "Tails" reported, and the minimum amount required from player 1 in the ultimatum game). We also present an alternative definition of the index without the ultimatum game, as it is not obvious whether higher thresholds in the ultimatum game should be counted as pro-social behavior or not.

We normalize these variables, i.e. we subtract the mean before dividing by the standard deviation of each of the outcome variables for the control group (Kling et al., 2007).[5] Then, we

[5] In our case, this means that we normalize the variables for over-estimators and under-estimators separately.

calculate the covariances between the four variables and use the inverse of the covariance matrix in order to weight the outcomes. For more details see Anderson (2008).

6.8 Heterogeneous Treatment Effects

We will also see whether there are important heterogeneous treatment effects caused by our information treatment. For all of the heterogeneity analysis, we will only look at the four main outcome measures and the index of pro-sociality. Specifically, we will estimate the following equation, where $interaction_i$ refers to the interaction variable:

$$y_i = \pi_0 + \pi_1 Treatment_i \times interaction_i + \pi_2 Treatment_i + \pi_3 interaction_i + \Pi_4^T \mathbf{X_i} + \varepsilon_i$$

We will explore heterogeneity along the following dimensions:

- **Belief about relative position in the income distribution:** We have a variable indicating people's belief about their relative position in the income distribution. In particular, we use people's response to the question "According to the 2015 American Population Survey, what percentage of US households earned less than your household?"
- **Belief about earning more than 50 percent of US households:** We create an indicator variable taking value one if the participant believes that their household earned more than 50 percent of US households in 2015.
- **Log income:** We use the log of people's self-reported household income in 2015 before taxes.

6.9 Determinants of the Size of the Bias

In the following analysis, we will try to understand why people have biased beliefs about their position in the income distribution. We examine which characteristics, at the individual level, county level or state level, are significantly correlated with people's bias about their position in the income distribution.[6]

In particular, we will regress the bias, $bias_i$, on a vector of individual-specific variables, $\mathbf{X_i}$,

[6] We will focus on the size of the bias, measured in percentage points.

and a vector of county-specific or state-specific variables, $\mathbf{Z_{ic}}$:

$$bias_i = \alpha_0 + \Gamma_0^T \mathbf{X_i} + \Gamma_1^T \mathbf{Z_{ic}} + \varepsilon_i$$

The vector of individual-specific variables, X_i, consists of the following variables:

- gender
- age
- log income
- household size
- ethnicity (dummies for White, Black, Hispanic, and Asian)
- religion (dummy for Christian)
- political orientation (taking value one for Republicans and zero otherwise)
- employment status (dummies for unemployed, part-time employed, and employed full-time)
- education (dummy for person with at least a bachelor degree)

The vector of county-specific and state-specific variables, Z_{ic}, consists of the following variables:

- State level inequality as measured by the income share held by the top 5 percent of earners as well as a Gini coefficient based on household level income data.[7]
- People's position in the local income distribution, i.e. the true percentile in the local income distribution (proxied by the county level income distribution).

6.10 Additional Empirical Specifications

We also examine the external validity of our findings using a regression discontinuity approach. We can therefore focus on the behaviour of people who are only slightly biased in one direction or another, and see whether our results hold for this subgroup. Specifically, we compare the behaviour of untreated participants who slightly under-estimate their position in the income distribution with that of treated participants who slightly over-estimate their position.[8]

[7] In an alternative specification, we will also use an inequality measure at the county level.

[8] We also include the behavior of untreated individuals who correctly guess their position in the income distribution.

We also estimate the following equation. We determine the optimal bandwidths following Calonico et al. (2014) and using their Stata program "rdbwselect"(Calonico et al., 2014):

$$y_i = \gamma_0 + \gamma_1 Overestimator_i + \gamma_2 bias_i + \gamma_3 bias_i^2 + \Gamma^T \mathbf{X_i} + \varepsilon_i$$

where y_i is the outcome variable of interest, and where $Overestimator_i$ is a dummy variable taking value one if the person is an over-estimator, and zero otherwise.[9] The variable $bias_i$ represents the bias that people have regarding their position in the income distribution, while X_i represents a vector of control variables.[10] The coefficient γ_1 corresponds to the effect of receiving a negative relative income shock.

Similarly, we compare the behaviour of treated participants who slightly under-estimate their position in the income distribution with that of untreated participants who slightly over-estimate their position.[11] We estimate the following equation and determine the optimal bandwidths following Calonico et al. (2014) and using their Stata program "rdbwselect"(Calonico et al., 2014):

$$y_i = \gamma_0 + \gamma_1 Underestimator_i + \gamma_2 bias_i + \gamma_3 bias_i^2 + \Gamma^T \mathbf{X_i} + \varepsilon_i$$

where y_i is the outcome variable of interest, and where $Underestimator_i$ is a dummy variable taking value one if the person is an under-estimator, and zero otherwise.

We also conduct placebo regressions to test whether untreated over-estimators do not behave any differently from untreated under-estimators in any of the games using the same specification as above.

We also present these regressions discontinuity results graphically using Calonico et al. (2014)'s command: "rdplot", "a command that implements several data-driven choices of the number of bins in evenly spaced and quantile-spaced partitions that are used to construct the RD plots usually encountered in empirical applications" (Calonico et al., 2014).

[9] Note that, in this analysis, all over-estimators received the treatment.

[10] The control variables are educational level, gender, age, log income, employment status, belief about their position in the income distribution, and bias in their belief.

[11] We also include the behavior of untreated individuals who correctly guess their position in the income distribution.

References

Abeler, J., Becker, A., and Falk, A. (2014). Representative Evidence on Lying Costs. *Journal of Public Economics*, 113:96–104.

Anderson, M. L. (2008). Multiple Inference and Gender Differences in the Effects of Early Intervention: A Reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects. *Journal of the American statistical Association*, 103(484).

Berg, J., Dickhaut, J., and McCabe, K. (1995). Trust, reciprocity, and social history. *Games and economic behavior*, 10(1):122–142.

Bucciol, A. and Piovesan, M. (2011). Luck or cheating? a field experiment on honesty with children. *Journal of Economic Psychology*, 32(1):73–78.

Calonico, S., Cattaneo, M. D., Titiunik, R., et al. (2014). Robust data-driven inference in the regression-discontinuity design. *Stata Journal*, 14(4):909–946.

Card, D., Mas, A., Moretti, E., and Saez, E. (2012). Inequality at Work: The Effect of Peer Salaries on Job Satisfaction. *The American Economic Review*, 102(6):2981–3003.

Clark, A. E. and Oswald, A. J. (1996). Satisfaction and Comparison Income. *Journal of public economics*, 61(3):359–381.

Cruces, G., Perez-Truglia, R., and Tetaz, M. (2013). Biased Perceptions of Income Distribution and Preferences for Redistribution: Evidence from a Survey Experiment. *Journal of Public Economics*, 98:100–112.

Duesenberry, J. S. (1949). *Income, Saving, and the Theory of Consumer Behavior*, volume 87. Harvard Univ Press.

Easterlin, R. (1974). Does economic growth improve the human lot? some empirical evidence. In David, P. A. and Reder, M. W., editors, *Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz*. New York: Academic Press, Inc, New York.

Fehr, E., Fischbacher, U., Von Rosenbladt, B., Schupp, J., and Wagner, G. G. (2003). A nation-wide laboratory examining trust and trustworthiness by integrating behavioural experiments into representative surveys.

Fehr, E. and Schmidt, K. M. (1999). A Theory of Fairness, Competition, and Cooperation. *Quarterly journal of Economics*, pages 817–868.

Frank, R. H. (1985). *Choosing the Right Pond: Human Behavior and the Quest for Status.* Oxford University Press.

Güth, W., Schmittberger, R., and Schwarze, B. (1982). An experimental analysis of ultimatum bargaining. *Journal of economic behavior & organization*, 3(4):367–388.

Karadja, M., Mollerstrom, J., and Seim, D. (2014). Richer (and holier) than thou? the effect of relative income improvements on demand for redistribution.

Kling, J. R., Liebman, J. B., and Katz, L. F. (2007). Experimental Analysis of Neighborhood Effects. *Econometrica*, 75(1):83–119.

Kuhn, P., Kooreman, P., Soetevent, A., and Kapteyn, A. (2011). The Effects of Lottery Prizes on Winners and their Neighbors: Evidence from the Dutch Postcode Lottery. *The American Economic Review*, 101(5):2226–2247.

Luttmer, E. F. (2005). Neighbors as Negatives: Relative Earnings and Well-Being. *The Quarterly Journal of Economics*, 120(3):963–1002.

Sapienza, P., Toldra-Simats, A., and Zingales, L. (2013). Understanding trust. *The Economic Journal*, 123(573):1313–1332.

Solnick, S. J. and Hemenway, D. (1998). Is more always better?: A survey on positional concerns. *Journal of Economic Behavior & Organization*, 37(3):373–383.

Veblen, T. (1899). *The Theory of the Leisure Class: an Economic Study of Institutions.* London: Macmillan Publishers.

7 Appendix: Instructions[12]

7.1 Income

- What was your household income before taxes in 2015? Please enter the amount in dollars in the text box below. [text box: minimum of 0, has to be a positive integer]

  Note: A household consists of all the people who occupy a housing unit, such as a house or a flat. Income is comprised of earnings, unemployment compensation, social security, veterans' payments, survivor benefits, disability benefits, pension or retirement income,interest and dividends, alimony and child support, financial assistance from outside of the household and other income.

- According to the 2015 American Population Survey, what percentage of US households earned less than your household? Please select the appropriate percentage using the slider. If you correctly guess the percentage (within three percentage points), you will receive a bonus of 10 cents. [slider from 0 to 100, increments of 1.]

7.2 Treatment [Only for the Treatment group]

[People in the treatment group who over-estimated their relative income will receive the following message:]

> *Actually, you overestimated your relative position in the income distribution. In reality, you are relatively poorer than you thought. In other words, you are closer to the bottom of the income distribution than you thought. You currently earn significantly less than what you would need to be at the position you thought you occupied.*

[People in the treatment group who under-estimated their relative income will receive the following message:]

[12] All the notes in brackets are not part of the items, and they are there to clarify the design.

Actually, you underestimated your relative position in the income distribution. In reality, you are relatively richer than you thought. In other words, you are closer to the top of the income distribution than you thought. You currently earn significantly more than what you would need to be at the position you thought you occupied.

[People in the treatment group who correctly estimate their relative income will receive the following message:]

Actually, you gave a correct estimate of your position in the income distribution.

7.3 Manipulation Check [Only for the Treatment group]

- Now that you have received this feedback, what percentage of US households do you think earned less than you, according to the 2015 Current Population Survey? Please select the appropriate percentage using the slider. [Slider from 0 to 100, increments of 1]

7.4 Manipulation Check (1 item)

- How satisfied are you with your position in the income distribution? [Very dissatisfied, Dissatisfied, Somewhat dissatisfied, Neutral, Somewhat satisfied, Satisfied, Very satisfied]

7.5 Coinflip

For this game you need a coin. Please go and get a coin. Your coin has one side showing the head of a person, and another one showing something else. The side with the head will be referred to as "Heads", while the other side will be referred to as "Tails". In this game, you will be asked to toss your coin four times, and to count the number of times "Heads" comes up. For each "Heads" that comes up, you will receive 10 cents. For example if you toss three times "Heads" you will receive 30 cents.

Now, please toss the coin four times, and count the number of times "Heads" comes up. Please do not toss the coin more than four times. How many times did "Heads" come up? [0, 1, 2, 3, 4]

7.6 Dictator

We will now ask you to complete a game in which there are two players, whom we shall refer to as person C and person D. You will play the role of person C. At the beginning of the game, person C receives $100, while person D receives nothing. Then, person C can choose how much money to give to person D. Once everyone has completed the survey, we will randomly choose one participant in our survey who played the role of person C, and we will implement their choice.

As person C, how much money would you like to give to person D? [Slider from 0 to 100, increments of 1.]

7.7 Negative Reciprocity

We will now ask you to complete a game in which there are two players, whom we shall refer to as person 1 and person 2. You will play the role of person 2. At the beginning of this game, person 1 receives $100, while person 2 receives nothing. Then, person 1 has to make an offer to person 2 on how to split the $100. Person 2 chooses either to accept the offer made by person 1, or to refuse it. If person 2 refuses the offer, both players receive nothing. If person 2 accepts the offer, each player receives the amount specified in the offer. Once everyone has completed the survey, we will randomly choose one participant in our survey who played the role of person 2, and we will implement their choice. We will also choose one participant who played the role of person 1 and we will implement their choice.

Please use the slider to specify the minimum amount of money that player 1 needs to offer you in order for you to accept the offer. [slider from 0 to 100, increments of 1.]

7.8 Trust

We will now ask you to complete a game in which there are two players, whom we shall refer to as person A and person B. You will play the role of person A. Person A and person B start with $50 each. Then, person A can choose to send some money to person B. Person B will receive 3 times the amount sent by person A. Then person B will have to choose how much money to send back to person A. For example, imagine that person A sends $12 to person B, then person B will receive 3x$12=$36. If person B decides to send back $16 to person A, then person A will end up with $50-$12+$16=$54, while person B will end up with $50+$36-$16=$70. Once everyone

has completed the survey, we will randomly choose one participant in our survey who played the role of person A, and we will implement their choice. We will also choose one participant who played the role of person B and we will implement their choice.

As person A, how much money would you send to person B? [slider from 0 to 50, increments of 1.]

7.9 Belief Trustworthiness

[X represents the amount which the participant sent to his or her partner on the previous page. The X needs to be replaced with the actual amount which was sent.]

On the previous page, you specified that you will send X to person B, if you are selected to play this game. This amount will then be multiplied by 3, so person B will receive 3X.

How much money do you think person B would send back to you? [Slider from 0 to 3X, increments of 1.]