# Social Norms with Private Values ${ }^{1}$ 

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## APPENDIX A

## Figures

Figure A1. Treatment effect on the mean of dictator giving, Experiment B\&A


$\square$
$95 \% \mathrm{Cl}$

[^0]Figure A2. Treatment effect on the variance of dictator giving, Experiment B\&A


## Tables

Table A1. Average dictator giving, by experiment and treatment

|  | Amount given by Dictator |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Experiment A | Experiment B\&A |  |

Note: the table reports means and standard deviations of the amount given by the dictator.

Table A2. Treatment effect on dictator giving, Experiment A

|  | Amount given by dictator <br> $(2)$ |  |  |
| :--- | :---: | :---: | :---: |
|  | $(1)$ | $(3)$ |  |
| Low Average | $-1.397 * * *$ | $-1.723^{* * *}$ | $-1.348^{* * *}$ |
|  | $(0.342)$ | $(0.558)$ | $(0.446)$ |
| High Variance | -0.129 | -0.463 | -0.181 |
|  | $(0.422)$ | $(0.601)$ | $(0.437)$ |
| Constant | $2.918^{* * *}$ | $3.027 * * *$ | $2.940^{* * *}$ |
|  | $(0.272)$ | $(0.375)$ | $(0.345)$ |
|  |  |  |  |
| Time Fixed Effects | No | Yes | No |
| Day Fixed Effects | No | No | Yes |
| Observations | 152 | 152 | 152 |
| R-squared | 0.087 | 0.104 | 0.108 |

Note: OLS estimates. Robust standard errors in parentheses. Regressions in columns (1) to
(3) include observations from Baseline, Low Average and High Variance treatments (sessions
A). The Baseline treatment is the omitted category. Columns (2) and (3) include fixed-effects for the time of the day and the day of the week, in which the session was conducted, respectively. ${ }^{* * *} \mathrm{p}<0.01, * *<0.05, * p<0.1$

# Table A3. Treatment effect on dictator giving, Experiment A: extensive and intensive margins 

|  | $(1)$ | $(2)$ | $(3)$ | (4) <br> Amount given | (5) <br> Amount given <br> give $>0$ | (6) <br> Amount given $\mid$ <br> give>0 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Give>0 | Give>0 | Give>0 |  |  |  |
| Low Average | $-0.179^{* *}$ | $-0.250^{* *}$ | $-0.186^{* *}$ | $-1.119^{* * *}$ | $-1.219^{* *}$ | $-0.955^{* *}$ |
| High Variance | $(0.0764)$ | $(0.0991)$ | $(0.0913)$ | $(0.339)$ | $(0.563)$ | $(0.443)$ |
|  | -0.0938 | $-0.179^{*}$ | $-0.101^{*}$ | 0.205 | 0.0833 | 0.191 |
| Constant | $(0.0644)$ | $(0.103)$ | $(0.0607)$ | $(0.423)$ | $(0.612)$ | $(0.440)$ |
|  | $0.918^{* * * *}$ | $1.066^{* * *}$ | $1.001^{* * *}$ | $3.178^{* * *}$ | $2.875^{* * *}$ | $2.909^{* * *}$ |
|  | $(0.0395)$ | $(0.0546)$ | $(0.0489)$ | $(0.263)$ | $(0.355)$ | $(0.331)$ |
| Time Fixed Effects |  |  |  |  |  |  |
| Do | Yes | No | No | Yes | No |  |
| Day Fixed Effects | No | No | Yes | No | No | Yes |
| Observations | 152 | 152 | 152 | 126 | 126 | 126 |
| R-squared | 0.035 | 0.095 | 0.114 | 0.082 | 0.109 | 0.098 |

Note: OLS estimates. Robust standard errors in parentheses. Regressions in columns (1) to (6) include observations from Baseline, Low Average and High Variance treatments (sessions A). The Baseline treatment is the omitted category. In columns from (1) to (3), the dependent variable is a dummy equal to 1 if the dictator has given 0 . In columns (4) to (6), the dependent variable is the amount given by dictators, in the restricted sample of those giving more than 0 . Columns (2)/(5) and $(3) /(6)$ include fixed-effects for the time of the day and the day of the week, in which the session was conducted, respectively. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *}<0.05,^{*} \mathrm{p}<0.1$.

Table A4. Treatment effect on beliefs, Experiment B\&A

|  | $r$ | $E(r)$ | $E(x)$ | $V(r)$ | $V(x)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ |
|  |  |  |  |  |  |
| Low Average | $-0.549 * * *$ | $-2.123^{* * *}$ | $-1.084^{* * *}$ | $1.266^{* * *}$ | 0.258 |
|  | $(0.208)$ | $(0.161)$ | $(0.183)$ | $(0.400)$ | $(0.367)$ |
| High Variance | 0.0551 | -0.0174 | $0.378^{*}$ | $2.667^{* * *}$ | $1.230^{* * *}$ |
|  | $(0.217)$ | $(0.155)$ | $(0.227)$ | $(0.382)$ | $(0.397)$ |
| Constant | $3.643 * * *$ | $4.020^{* * *}$ | $2.347^{* * *}$ | $1.568 * * *$ | $1.772^{* * *}$ |
|  | $(0.116)$ | $(0.0926)$ | $(0.154)$ | $(0.124)$ | $(0.173)$ |
|  |  |  |  |  |  |
| Observations | 290 | 290 | 290 | 290 | 290 |
| R-squared | 0.029 | 0.431 | 0.163 | 0.115 | 0.033 |
| N OLS |  |  |  |  |  |

Note: OLS estimates. Robust standard errors in parentheses. Regressions in columns (1) to (5) include observations from Baseline, Low Average and High Variance treatments (sessions B\&A). The Baseline treatment is the omitted category. $\mathrm{V}(\mathrm{r})$ and $\mathrm{V}(\mathrm{x})$ denote, respectively, the variance of the distribution of normative and empirical expectations. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05$, ${ }^{\mathrm{p}}<0.1$.

Table A5. Treatment effect on beliefs, Experiment A, time Fixed Effects

|  | $r$ | $E(r)$ | $E(x)$ | $V(r)$ | $V(x)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ |
|  |  |  |  |  |  |
| Low Average | -0.771 | $-2.450^{* * *}$ | $-0.915^{* *}$ | -0.124 | -0.302 |
|  | $(0.509)$ | $(0.339)$ | $(0.357)$ | $(0.527)$ | $(0.447)$ |
| High Variance | 0.211 | 0.101 | 0.403 | $2.826^{* * *}$ | $1.558^{* * *}$ |
|  | $(0.257)$ | $(0.192)$ | $(0.307)$ | $(0.463)$ | $(0.434)$ |
| Constant | $3.510^{* * *}$ | $3.811^{* * *}$ | $2.373^{* * *}$ | $1.307^{* * *}$ | $0.968^{* * *}$ |
|  | $(0.236)$ | $(0.187)$ | $(0.328)$ | $(0.379)$ | $(0.348)$ |
|  |  |  |  |  |  |
| Time Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Observations | 290 | 290 | 290 | 290 | 290 |
| R-squared | 0.057 | 0.439 | 0.171 | 0.131 | 0.062 |

Note: OLS estimates. Robust standard errors in parentheses. Regressions in columns (1) to (5) include observations from Baseline, Low Average and High Variance treatments (sessions B\&A). The Baseline treatment is the omitted category. $\mathrm{V}(\mathrm{r})$ and $\mathrm{V}(\mathrm{x})$ denote, respectively, the variance of the distribution of normative and empirical expectations. The regressions include fixed effects for the time of the day when the session took place. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$.

Table A6. Treatment effect on beliefs, Experiment A, date Fixed Effects

|  | $r$ | $E(r)$ | $E(x)$ | $V(r)$ | $V(x)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ |
|  |  |  |  |  |  |
| Low Average | -0.595 | $-1.909^{* * *}$ | -0.359 | $1.738^{* * *}$ | $1.096^{* *}$ |
|  | $(0.366)$ | $(0.252)$ | $(0.327)$ | $(0.536)$ | $(0.476)$ |
| High Variance | 0.0432 | -0.00267 | 0.202 | $2.615^{* * *}$ | $1.277^{* * *}$ |
|  | $(0.232)$ | $(0.174)$ | $(0.266)$ | $(0.444)$ | $(0.482)$ |
| Constant | $3.700^{* * *}$ | $3.852^{* * *}$ | $1.625^{* * *}$ | $1.375^{* * *}$ | $1.140^{* * *}$ |
|  | $(0.313)$ | $(0.203)$ | $(0.306)$ | $(0.252)$ | $(0.247)$ |
|  |  |  |  |  |  |
| Day Fixed Effects | Yes | Yes | Yes | Yes | Yes |
| Observations | 290 | 290 | 290 | 290 | 290 |
| R-squared | 0.039 | 0.438 | 0.183 | 0.134 | 0.050 |
| N OLS |  |  |  |  |  |

Note: OLS estimates. Robust standard errors in parentheses. Regressions in columns (1) to (5) include observations from Baseline, Low Average and High Variance treatments (sessions B\&A). The Baseline treatment is the omitted category. $\mathrm{V}(\mathrm{r})$ and $\mathrm{V}(\mathrm{x})$ denote, respectively, the variance of the distribution of normative and empirical expectations. The regressions include fixed effects for the day of the week when the session took place. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05$, ${ }^{*} \mathrm{p}<0.1$.

## Table A7. Treatment effects on dictator giving, Experiment B\&A

|  | Amount given by dictator |  |  |
| :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) |
| Low Average | 0.210 | 0.886 | 0.411 |
|  | (0.396) | (0.966) | (0.625) |
| High Variance | 0.106 | 0.0599 | -0.000509 |
|  | (0.337) | (0.404) | (0.336) |
| Constant | 2.102*** | 2.407*** | 1.800*** |
|  | (0.198) | (0.413) | (0.500) |
| Time Fixed Effects | No | Yes | No |
| Day Fixed Effects | No | No | Yes |
| Observations | 145 | 145 | 145 |
| R-squared | 0.002 | 0.070 | 0.020 |
| Note: OLS estimates. Robust standard errors in parentheses. Regressions include observations from Baseline, Low Average and High Variance treatments (sessions B\&A). The Baseline treatment is the omitted category. The regressions in Columns (2) and (3) include fixed effects for the time of the day and for the day of the week when the session took place, respectively. ${ }^{* * *} \mathrm{p}<0.01, * * \mathrm{p}<0.05, * \mathrm{p}<0.1$. |  |  |  |

Table A8. Treatment effect on dictator giving, Experiment B\&A: extensive and intensive margins

|  | Give>0 | Give>0 | Give>0 | Amount given give $>0$ | Amount given give $>0$ | Amount given give $>0$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Disclosure Mode 0 within | -0.00383 | 0.185 | 0.0895 | 0.271 | 0.458 | 0.229 |
|  | (0.0798) | (0.157) | (0.164) | (0.408) | (0.992) | (0.619) |
| Distribution with High Var | -0.0455 | -0.0640 | -0.0537 | 0.290 | 0.325 | 0.196 |
|  | (0.0830) | (0.106) | (0.0950) | (0.319) | (0.369) | (0.279) |
| Constant | 0.816*** | 0.837*** | 0.700*** | $2.575^{* * *}$ | $2.875 * * *$ | $2.571^{* * *}$ |
|  | (0.0559) | (0.0983) | (0.149) | (0.168) | (0.360) | (0.461) |
| Time Fixed Effects | no | yes | no | no | yes | no |
| Day Fixed Effects | no | no | yes | no | no | yes |
| Observations | 145 | 145 | 145 | 116 | 116 | 116 |
| R-squared | 0.003 | 0.083 | 0.024 | 0.006 | 0.042 | 0.022 |

Note: OLS estimates. Robust standard errors in parentheses. Regressions in columns (1) to (6) include observations from Baseline, Low Average and High Variance treatments (sessions B\&A). In columns from (1) to (3), the dependent variable is a dummy equal to 1 if the dictator has given 0 . In columns (4) to (6), the dependent variable is the amount given by dictators, in the restricted sample of those giving more than $0 .^{* * *} \mathrm{p}<0.01,{ }^{* *}<0.05,{ }^{*} \mathrm{p}<0.1$.

Table A9. Correlation between actions and beliefs, Experiment B\&A

|  | Amount given by dictator |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | All | Baseline | Low Average | High Variance |
|  | $(1)$ | $(2)$ | $(3)$ | $(4)$ |
|  |  |  |  |  |
| $r$ | $0.275^{* *}$ | 0.129 | $0.388^{*}$ | 0.189 |
| $E(r)$ | $(0.122)$ | $(0.127)$ | $(0.199)$ | $(0.191)$ |
|  | $-0.198^{* *}$ | 0.114 | -0.224 | -0.273 |
| $E(x)$ | $(0.0950)$ | $(0.132)$ | $(0.236)$ | $(0.186)$ |
|  | $0.325^{* * *}$ | $0.246^{* * *}$ | $0.690^{*}$ | $0.368^{* * *}$ |
| Constant | $(0.0724)$ | $(0.0892)$ | $(0.365)$ | $(0.116)$ |
|  | $1.220^{* * *}$ | 0.601 | 0.666 | $1.597^{* *}$ |
|  | $(0.407)$ | $(0.536)$ | $(0.627)$ | $(0.796)$ |
| Observations |  |  |  |  |
| R-squared | 290 | 98 | 96 | 96 |

Note: OLS estimates. Robust standard errors in parentheses. The regressions in column (1) includes observations from Baseline, Low Average and High Variance treatments (sessions B\&A). In columns from (2) to (4), each treatment is considered separately. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *}<0.05,{ }^{*} \mathrm{p}<0.1$

## Conditional Logit Estimation (Table A.10)

The binary dependent variable is an indicator of whether a certain action $a \in\{0,1, \ldots, 10\}$ was taken in the treatments of Experiment A. The explanatory variables are the following beliefs regarding action $a$ that we elicited in the treatments of Experiment B\&A:
i) $r_{a}$ : the average share of subjects in a session who think that action $a$ is the right-thing-to-do; the average is computed across sessions of a given treatment;
ii) $E\left(r_{a}\right)$ : average guess of the share of people who think that action $a$ is the right-thing-todo; the average is computed by treatment; ${ }^{2}$
iii) $E\left(x_{a}\right)$ : average guess of the share of people who will actually take action $a$; the average is computed by treatment.

The coefficient of $r_{a}$ is intended to capture the pull of own values on individual behavior. The coefficients of $E\left(r_{a}\right)$ and $E\left(x_{a}\right)$ should account for the desire to comply with social values and to conform to social behavior, respectively. Observe that the beliefs associated to each action are the same for all individuals in the same treatment, but they possibly differ across treatments.

Appendix Table A10 reports the estimates, separately for each treatment. The first three columns in each treatment present results on $r_{a}, E\left(r_{a}\right)$ and $E\left(x_{a}\right)$ in isolation, while the last column in each treatment combines all ratings (again, collinearity might be a problem). A subject is more likely to take an action the more that action is deemed the right-thing-to-do among subjects in Experiment B\&A (first column in each treatment); the more the action is believed by subjects in Experiment B\&A to be regarded by others as the-right-thing-to-do (second column); and the more the action is believed likely to be actually taken by subjects in Experiment B\&A (third column). When combined in the same regression (last column), the estimates in the Low Average Treatment change sign and rise by an order of magnitudes, signaling that the multicollinearity problem may be excessive. In the Baseline and High Variance Treatments, positive expectations, $E(x)$, have a positive and significant estimated coefficient, again in line with the findings of Bicchieri \& Xiao (2009); personal values have a positive estimated coefficient only in the Baseline treatment; while normative expectations, $E(r)$, are never statistically significant.

[^1]Table A10. Conditional (fixed-effects) logit estimation of correlates of action, by treatment

|  | Amount given by dictator |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Baseline |  |  |  | Low average |  |  |  | High variance |  |  |  |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| $r$ | $\begin{gathered} 9.108^{* * *} \\ (1.332) \end{gathered}$ |  |  | $\begin{gathered} 8.344 * * * \\ (1.569) \end{gathered}$ | $\begin{gathered} 3.482 * * * \\ (1.138) \end{gathered}$ |  |  | $\begin{gathered} -15.77 * * * \\ (3.990) \end{gathered}$ | $\begin{gathered} 6.781 * * * \\ (1.386) \end{gathered}$ |  |  | $\begin{gathered} 2.747 \\ (3.030) \end{gathered}$ |
| $E(r)$ |  | $\begin{gathered} 3.397 * * * \\ (0.669) \end{gathered}$ |  | $\begin{aligned} & -1.640 \\ & (1.445) \end{aligned}$ |  | $\begin{gathered} 7.375 * * * \\ (0.780) \end{gathered}$ |  | $\begin{gathered} 73.99 * * * \\ (16.16) \end{gathered}$ |  | $\begin{gathered} 7.954 * * * \\ (1.736) \end{gathered}$ |  | $\begin{gathered} 0.992 \\ (3.799) \end{gathered}$ |
| $E(x)$ |  |  | $\begin{gathered} 6.742 * * * \\ (0.798) \end{gathered}$ | $\begin{gathered} 5.518 * * * \\ (1.328) \end{gathered}$ |  |  | $\begin{gathered} 4.256^{* * *} \\ (0.532) \end{gathered}$ | $\begin{gathered} -42.38^{* * *} \\ (9.800) \end{gathered}$ |  |  | $\begin{gathered} 10.69 * * * \\ (1.551) \end{gathered}$ | $\begin{gathered} 9.794 * * * \\ (1.863) \end{gathered}$ |
| Observations | 539 | 539 | 539 | 539 | 506 | 506 | 506 | 506 | 627 | 627 | 627 | 627 |

## APPENDIX B

# Experimental instructions ${ }^{3}$ 

Experiment A<br>PART I: INTRODUCTION<br>Instructions for everybody (Experimenter read aloud)

This is a study in decision making. For your participation, you will be paid a participation fee of $€ 3$. In addition, you may receive some additional money based on your choices and the choice of others during the experiment.

If you have any questions during the study, please raise your hand and wait for an experimenter to come to you. Please do not talk, exclaim, or try to communicate with other participants during the experiment.

All participants have a carton box on their desk. Please do not touch any material you find on your desk until you are instructed to do so.

## Description

In the experiment you will randomly be paired with another subject in the room. Thus 10 pairs will be formed. The pairing is anonymous, meaning that neither individual will ever know the identity of the other individual with whom she or he is paired.

In each pair, one individual will be randomly selected to play in the role of "Individual A", while the other one will be "Individual B". This means that you have $50 \%$ probability to be either Individual A or Individual B.

Individual A will find two envelopes in his/her box. One envelope is white, and the other one is yellow.

- The white envelope is marked "Money for Individual A", and it contains $€ 10$ in coins.
- The yellow envelope is marked "Money for Individual B", and it contains no money.

The box of Individual B is empty.
Individual A must decide how much money to keep and how much to transfer to individual

[^2]B. The amount that Individual A decides to transfer to Individual B will be doubled by the experimenter. The table below reports the possible choices that Individual A can make, and the corresponding amount of money both Individual A and Individual B will receive after A's choice.

## Table A

| Individual $\mathbf{A}$ must choose one of the following actions |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Give nothing | Give <br> $1 €$ | Give $2 €$ | $\begin{gathered} \hline \text { Give } \\ 3 € \end{gathered}$ | Give <br> $4 €$ | Give $5 €$ | $\begin{gathered} \text { Give } \\ 6 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 7 € \end{gathered}$ | Give $8 €$ | Give $9 €$ | $\begin{aligned} & \text { Give } \\ & 10 € \end{aligned}$ |
| Resulting payment to A |  |  |  |  |  |  |  |  |  |  |
| $10 €$ | $9 €$ | $8 €$ | $7 €$ | $6 €$ | $5 €$ | $4 €$ | $3 €$ | $2 €$ | $1 €$ | $0 €$ |
| Resulting payment to $\mathbf{B}$ |  |  |  |  |  |  |  |  |  |  |
| $0 €$ | $2 €$ | $4 €$ | $6 €$ | $8 €$ | $10 €$ | $12 €$ | $14 €$ | $16 €$ | $18 €$ | $20 €$ |

Once Individual A has made a choice, he/she will keep his/her money, while the experimenter will take care of the payment for Individual B at the end of the experiment. All participants will follow instructions provided on the screen or by the experimenter to ensure anonymity.

Every participant will be paid his/her participation fee and any additional earnings from the experiment before leaving the laboratory.

Individual A's choice is anonymous. No other subject will know about Individual A's decision.

Now please proceed to the next page, by clicking the Right arrow on the keyboard.

## PART II: TREATMENT

## On screen instructions for everybody

Before starting the experiment, we wish to let you know that we have run sessions similar to the one you are in before. Table B describes the proportion of choices that occurred in a sample of responses that previous subjects gave to this question.

Table B
(The content of Table B varies by treatment: Baseline, Low Average and High Variance)

| "Which is the socially most appropriate action that Individual A should take?" |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Give nothing | Give $1 €$ | Give $2 €$ | Give $3 €$ | Give $4 €$ | Give $5 €$ | Give $6 €$ | Give $7 €$ | Give $8 €$ | Give $9 €$ | Give $10 €$ |
| Percentage of people who answered | ..\% | ...\% | ...\% | ...\% | ..\% | ..\% | ...\% | ...\% | ...\% | ..\% | ..\% |

Now please follow the instructions on the screen. These instructions will reveal whether you have been selected to be Individual A or B.

## PART III: MODIFIED DICTATOR GAME <br> On screen instructions for Dictators, p. 1

You have been paired to another participant, and you have been selected to play the role of

## Individual A

Please open the box on your table. You will find two envelopes.

- The white envelope is marked "Money for Individual A". It contains $€ 10$.
- The yellow envelope is marked "Money for Individual B". It is empty.

You can transfer money from the white envelope to the yellow envelope. Please do it now, paying attention that your action is not visible or audible to other persons in the room, so as to preserve anonymity.

Please make your choice and record it in the Table below.

Table 4A

| Please, make your choice. Tick the corresponding box in this table and put the corresponding amount in the yellow envelope |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Give nothing | Give <br> $1 €$ | $\begin{gathered} \text { Give } \\ 2 € \end{gathered}$ | Give $3 €$ | Give <br> $4 €$ | $\begin{gathered} \text { Give } \\ 5 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 6 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 7 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 8 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 9 € \end{gathered}$ | $\begin{aligned} & \text { Give } \\ & 10 € \end{aligned}$ |
| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |

Please insert the yellow envelope in the box. The white envelope is for you. You can put it in your pocket, or simply take the money and put it in your pocket, leaving the empty envelope in the box.

Please remain seated. The experimenter will come to your table to collect the box.

## On screen instructions for Receivers, p. 1

You have been paired to another participant. You have been selected to play the role of

## Individual B

You can open the box on your table. It is empty. Please remain seated. The experimenter will collect it and hand it back to you with the money that your paired participant decided to transfer to you.

> Instructions for everybody (Experimenter read aloud)

The experimenter will now collect all of the boxes and take them to the other room. There, he/she will transfer the yellow envelopes from each Individual A's box to the box of the Individual B matched with him/her. The experimenter will then return all boxes. Once boxes have been returned, please follow further instructions on the screen.

The experimenter hands you back the box after he/she has transferred the yellow envelope to your paired receiver. Now, please answer the question below.

## Table 5A

## If you could write a message to your paired Individual B, explaining your choice, what would it be?

Now please go to the next page.

On screen Instructions for Receivers, p. 2

Once the experimenter hands you back the box, please check the yellow envelope in it. This is the money Individual A transferred to you. Recall that at the end of the experiment that money will be doubled by the experimenter. Now, please answer the questions below.

## Table 5B

| How much money did you receive in the envelope?$\ldots . . €$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | If you | pres | a m your $\qquad$ | $\begin{aligned} & \text { age to } \\ & \text { elings } \end{aligned}$ |  | Ind <br> dit b | ual |  |  |
| How much would you be willing to pay to have Individual A lose all his/her money? (please tick one box below) |  |  |  |  |  |  |  |  |  |  |
| $\begin{gathered} \hline \text { Pay } \\ 0 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 1 € \end{gathered}$ | $\begin{aligned} & \hline \text { Pay } \\ & 2 € \end{aligned}$ | $\begin{gathered} \hline \text { Pay } \\ 3 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 4 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 5 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 6 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 7 € \end{gathered}$ | $\begin{aligned} & \hline \text { Pay } \\ & 8 € \end{aligned}$ | $\begin{gathered} \hline \text { Pay } \\ 9 € \end{gathered}$ | $\begin{aligned} & \text { Pay } \\ & 10 € \end{aligned}$ |
| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |

You can keep the money in the yellow envelope, it is yours. You can put the envelope in your pocket, or simply take the money and put it in your pocket, leaving the empty envelope in the box.

Then please go to the next page.

## PART IV: FINAL INSTRUCTIONS <br> Instructions for everybody (Experimenter read aloud)

We will now call you outside one by one by your ID (i.e. the number of the position where you are seated). We will give you your participation fee and the money you earned from guessing other participants' answers.

## Experiment B\&A

## PART I: INTRODUCTION

Instructions for everybody (Experimenter read aloud)

This is a study in decision making. For your participation, you will be paid a participation fee of $€ 3$. In addition, you may receive some additional money based on your choices and the choice of others during the experiment.

If you have any questions during the study, please raise your hand and wait for an experimenter to come to you. Please do not talk, exclaim, or try to communicate with other participants during the experiment.

All participants have a carton box on their desk. Please do not touch any material you find on your desk until you are instructed to do so.

## Description

In the experiment you will randomly be paired with another subject in the room. Thus 10 pairs will be formed. The pairing is anonymous, meaning that neither individual will ever know the identity of the other individual with whom she or he is paired.

In each pair, one individual will be randomly selected to play in the role of "Individual A", while the other one will be "Individual B". This means that you have $50 \%$ probability to be either Individual A or Individual B.

Individual A will find two envelopes in his/her box. One envelope is white, and the other one is yellow.

- The white envelope is marked "Money for Individual A", and it contains $€ 10$ in coins.
- The yellow envelope is marked "Money for Individual B", and it contains no money.

The box of Individual B is empty.

Individual A must decide how much money to keep and how much to transfer to individual B. The amount that Individual A decides to transfer to Individual B will be doubled by the experimenter. The table below reports the possible choices that Individual A can make, and the corresponding amount of money both Individual A and Individual B will receive after A's choice.

## Table A

| Individual A must choose one of the following actions |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Give nothing | Give <br> $1 €$ | $\begin{gathered} \text { Give } \\ 2 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 3 € \end{gathered}$ | Give <br> $4 €$ | $\begin{gathered} \text { Give } \\ 5 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 6 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 7 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 8 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 9 € \end{gathered}$ | $\begin{aligned} & \text { Give } \\ & 10 € \end{aligned}$ |
| Resulting payment to A |  |  |  |  |  |  |  |  |  |  |
| $10 €$ | $9 €$ | $8 €$ | $7 €$ | $6 €$ | $5 €$ | $4 €$ | $3 €$ | $2 €$ | $1 €$ | $0 €$ |
| Resulting payment to $B$ |  |  |  |  |  |  |  |  |  |  |
| $0 €$ | $2 €$ | $4 €$ | $6 €$ | $8 €$ | $10 €$ | $12 €$ | $14 €$ | $16 €$ | $18 €$ | $20 €$ |

Once Individual A has made a choice, he/she will keep his/her money, while the experimenter will take care of the payment for Individual B at the end of the experiment. All participants will follow instructions provided on the screen or by the experimenter to ensure anonymity.

Every participant will be paid his/her participation fee and any additional earnings from the experiment before leaving the laboratory.

Individual A's choice is anonymous. No other subject will know about Individual A's decision.

Now please proceed to the next page, by clicking the Right arrow on the keyboard.

## PART II: TREATMENT AND BELIEF ELICITATION

On screen instructions for everybody

## Questions

Before starting the experiment, we would like to ask your opinion in a series of questions. We would like you to answer as truthfully as possible, based on your personal view. Please read carefully the questions in the next pages. You can receive additional money depending on your answers to these questions.

## Question 1

In a few minutes you will be paired with another participant, and the experiment will start. One of you will be randomly selected to play in the role of Individual A. Please use Table 1 to answer the following question:

## In your opinion, which is the socially most appropriate action that Individual A should take?

By "socially most appropriate", we mean behavior that you consider the "right" or "ethical" thing to do.

Before you answer, we wish to let you know that we have run sessions similar to the one you are in before. Table B describes the proportion of choices that occurred in a sample of responses that previous subjects gave to this question.

Table B
The content of Table B varies by treatment:
Baseline, Low Average and High Variance; cf. Figure 1 in the main text

| "Which is the socially most appropriate action that Individual A should take?" |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Give nothing | Give $1 €$ | Give $2 €$ | Give $3 €$ | Give $4 €$ | Give $5 €$ | Give $6 €$ | Give $7 €$ | $\begin{gathered} \text { Give } \\ 8 € \end{gathered}$ | Give $9 €$ | Give $10 €$ |
| Percentage of people who answered | ..\% | ..\% | ..\% | ...\% | ..\% | ...\% | ..\% | ..\% | ..\% | ..\% | ..\% |

Now please answer our question:

## Table 1

| "Which is the socially most appropriate action that Individual A should take?" <br> Tick one box in the table below |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Give nothing | Give <br> $1 €$ | Give <br> $2 €$ | Give $3 €$ | Give <br> $4 €$ | $\begin{gathered} \text { Give } \\ 5 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 6 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 7 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 8 € \end{gathered}$ | Give <br> $9 €$ | $\begin{aligned} & \text { Give } \\ & 10 € \end{aligned}$ |
| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |

## Question 2

Consider the previous question: "In your opinion, which is the socially most appropriate action that Individual A should take?" We asked this question to all 20 participants in this session.

Now please,

## guess the distribution of their answers.

Please use the last row of the following table. Write in each cell the number of people you think chose that action as the most appropriate for Individual A. For instance, if you think that, say, 3 people answered "Give $€ x$ ", just write " 3 " in the cell under "Give $€ x$ ". You will gain $€ 0.2$ for each correct guess.

Be careful, the numbers you write must sum up to 20, because this is the number of participants in the group. You have eleven numbers to guess, and they must sum up to 20.

Table 2

| "Which is the socially most appropriate action that Individual A should take?" For each action, please guess how many people answered that action |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Write the number of people in the last row. The numbers you write must sum up to 20 |  |  |  |  |  |  |  |  |  |  |  |
|  | Give nothing | $\begin{gathered} \text { Give } \\ 1 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 2 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 3 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 4 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 5 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 6 € \end{gathered}$ | $\begin{gathered} \text { Give } \\ 7 € \end{gathered}$ | $\begin{aligned} & \text { Give } \\ & 8 € \end{aligned}$ | $\begin{gathered} \text { Give } \\ 9 € \end{gathered}$ | $\begin{aligned} & \text { Give } \\ & 10 € \end{aligned}$ |
|  | $\ldots$ |  | ..... | ..... |  | $\ldots$ | ...... | $\ldots$ | ...... | ..... | ..... |

## Question 3

Now we would like to ask you something different.

## Please guess the distribution of the actions participants deciding as Individual $\mathbf{A}$ in this session will actually take

Please use the last row of following table. Write in each cell the number of "Individuals A" you think will take that action. For instance, if you think that, say, two Individuals A will choose "Give $€ x$ ", just write " 2 " in the cell under "Give $€ x$ ".

Remember that ten participants will be selected as "Individual A" in this session. Thus be careful, the numbers you write must sum up to 10 , because this will be the number of individuals A in the group. You have eleven numbers to guess, and they must sum up to 10 .

You will gain $€ 0.2$ for each correct guess. A guess is correct if it matches the number of Individuals A who will actually take that action in this session.

## Table 3

| "Please guess the distribution of the actions participants deciding as Individual A in this session will actually take" <br> For each action, please guess how many "Individuals $A$ " will take that action |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Write the number of people in the last row. The numbers you write must sum up to 10 |  |  |  |  |  |  |  |  |  |  |  |
|  | Give nothing | $\begin{gathered} \hline \text { Give } \\ 1 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 2 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 3 € \end{gathered}$ | Give <br> $4 €$ | $\begin{gathered} \hline \text { Give } \\ 5 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 6 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 7 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 8 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 9 € \end{gathered}$ | $\begin{gathered} \hline \text { Give } \\ 10 € \end{gathered}$ |
| Number of <br> Individuals A | ....... |  |  | ....... | ...... | ....... | ...... | ...... | ...... | ..... |  |

Thank you for answering the three questions above.

Now please follow the instructions on the screen. These instructions will reveal whether you have been selected to be Individual A or B.

## PART III: MODIFIED DICTATOR GAME <br> On screen Instructions for Dictators, p. 1

You have been paired to another participant, and you have been selected to play the role of

## Individual A

Please open the box on your table. You will find two envelopes.

- The white envelope is marked "Money for Individual A". It contains $€ 10$.
- The yellow envelope is marked "Money for Individual B". It is empty.

You can transfer money from the white envelope to the yellow envelope. Please do it now, paying attention that your action is not visible or audible to other persons in the room, so as to preserve anonymity.

Please make your choice and record it in the Table below.

Table 4A

Please, make your choice. Tick the corresponding box in this table and put the corresponding amount in the yellow envelope
$\left.\begin{array}{|c|c|c|c|c|c|c|c|c|c|c|}\hline \text { Give } \\ \text { nothing }\end{array} \quad \begin{array}{c}\text { Give } \\ 1 €\end{array} \begin{array}{c}\text { Give } \\ 2 €\end{array} \begin{array}{c}\text { Give } \\ 3 €\end{array} \begin{array}{c}\text { Give } \\ 4 €\end{array} \begin{array}{c}\text { Give } \\ 5 €\end{array} \begin{array}{c}\text { Give } \\ 6 €\end{array} \begin{array}{c}\text { Give } \\ 7 €\end{array} \begin{array}{c}\text { Give } \\ 8 €\end{array} \begin{array}{c}\text { Give } \\ 9 €\end{array} \begin{array}{c}\text { Give } \\ 10 €\end{array}\right]$

Please insert the yellow envelope in the box. The white envelope is for you. You can put it in your pocket, or simply take the money and put it in your pocket, leaving the empty envelope in the box.

Please remain seated. The experimenter will come to your table to collect the box.

## On screen Instructions for Receivers, p. 1

You have been paired to another participant. You have been selected to play the role of

## Individual B

You can open the box on your table. It is empty. Please remain seated. The experimenter will collect it and hand it back to you with the money that your paired participant decided to transfer to you.

## Instructions for everybody (Experimenter read aloud)

The experimenter will now collect all of the boxes and take them to the other room. There, he/she will transfer the yellow envelopes from each Individual A's box to the box of the Individual B matched with him/her. The experimenter will then return all boxes. Once boxes have been returned, please follow further instructions on the screen.

## On screen Instructions for Dictators, p. 2

The experimenter hands you back the box after he/she has transferred the yellow envelope to your paired receiver. Now, please answer the question below.

## Table 5A

## If you could write a message to your paired Individual B, explaining your choice, what would it be?

Now please go to the next page.

## On screen Instructions for Receivers, p. 2

Once the experimenter hands you back the box, please check the yellow envelope in it. This is the money Individual A transferred to you. Recall that at the end of the experiment that money will be doubled by the experimenter. Now, please answer the questions below.

Table 5B

| How much money did you receive in the envelope?$\ldots . . €$ |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| If you could write a message to your paired Individual A expressing your feelings, what would it be? |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| How much would you be willing to pay to have Individual A lose all his/her money? (please tick one box below) |  |  |  |  |  |  |  |  |  |  |
| $\begin{gathered} \hline \text { Pay } \\ 0 € \end{gathered}$ | $\begin{gathered} \text { Pay } \\ 1 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 2 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 3 € \end{gathered}$ | $\begin{aligned} & \text { Pay } \\ & 4 € \end{aligned}$ | $\begin{gathered} \hline \text { Pay } \\ 5 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 6 € \end{gathered}$ | $\begin{gathered} \hline \text { Pay } \\ 7 € \end{gathered}$ | $\begin{aligned} & \text { Pay } \\ & 8 € \end{aligned}$ | $\begin{gathered} \hline \text { Pay } \\ 9 € \end{gathered}$ | $\begin{aligned} & \text { Pay } \\ & 10 € \end{aligned}$ |
| $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ | $\square$ |

You can keep the money in the yellow envelope, it is yours. You can put the envelope in your pocket, or simply take the money and put it in your pocket, leaving the empty envelope in the box.

Then please go to the next page.

## PART IV: FINAL INSTRUCTIONS

## Instructions for everybody (Experimenter read aloud)

We will now call you outside one by one by your ID (i.e. the number of the position where you are seated). We will give you your participation fee and the money you earned from guessing other participants' answers.


[^0]:    ${ }^{1}$ We are grateful to two referees for helpful comments, to PRIN grant 2015PJL3XP and to MIUR grant "Dipartimenti di Eccellenza 2018-2022" for financial support, and to Giacomo Lemoli, Francesca Miserocchi, and Tommaso Cohen for excellent research assistance.

[^1]:    ${ }^{2}$ More precisely, for any action $a$, all participants in Experiment B\&A guessed the number of people in their session choosing that action as "the right thing to do". We transformed individual guesses in percentages. We computed the average for each action " $a$ " across all sessions of the same treatment. Given an action $a$, any possible differences in $E\left(r_{a}\right)$ are due to treatments.

[^2]:    ${ }^{3}$ Text in italics was not included in the instructions that were handed out to the participants. It contains information to help the reader understand how the experiment was conducted.

