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JACKPOT FOR GOOD: CAN LOTTERY MATCHES INCREASE CHARITABLE GIVING?

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ABSTRACT

Can lottery matching gifts accruing to the charity (instead of raffles benefiting the donors) increase charitable donations? We recruit 1,402 online participants to donate to hunger-related charities from a 10-token endowment under different matching conditions. We confirm earlier results that a 1:1 match increases giving over no match, and a 2:1 match does not. But, a lottery match to the charity with a 1% chance of 100 tokens works equally well as a 1:1 match, and, importantly, a 0.5% chance of 100 tokens match also works equally well, allowing for matching funds to go twice as far.

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1 Introduction

Understanding drivers of charitable giving is important for nonprofit organizations and their beneficiaries. Roughly \$2 to \$3 billion is donated annually in the United States under matching schemes, in which a lead donor matches subsequent individual charitable donations by a fixed rate up to a predefined amount to motivate downstream contributions and increase total donations.[1] The 1:1 deterministic match is a popular mechanism for fundraising, where for every \$1 donated a third-party "matches" the donation with an additional \$1. While previous work finds that 1:1 matching ratios effectively increase charitable donations compared to no matching gifts (Karlan and List 2007; List 2011; Vesterlund 2016), larger matching ratios (1:2 and 1:3 matches, where for every \$1 donated a third party donates \$2 or \$3) or equivalent rebates show no significant increases in donations compared to 1:1 matches (Eckel and Grossman 2003; Davis and Millner 2005; Karlan and List 2007; Vesterlund 2016). Matching ratios below 1 (ex. 2:1, where for every \$2 donated a third party donates \$1) do not increase donations compared to no-matching (Karlan, List, and Shafir 2011), suggesting that charitable organizations cannot generate increased efficiency gains in individual donations by using matches smaller than 1:1.

This lack of donor responsiveness to smaller matching ratios suggests the potential for a behavioral intervention to investigate lottery matching gift schemes on donations. More specifically, we are interested in determining if a lottery matching scheme, with the lure of a high reward (albeit at a low probability — including expected value rewards below the 1:1 matching equivalent), can motivate donors to increase contributions while allowing charities to extend the use of available matching funds compared to the gold-standard 1:1 match. Lotteries with their typical low probabilities of winning and low payout ratios are popular despite being economically irrational for risk averse individuals. There are several theories explaining why people engage in lotteries, but there is no clear consensus among researchers. Ariyabuddhiphongs (2011) reviews current psychological and economic theories

1. Source: https://doublethedonation.com/matching-gift-statistics/

such as the theory of judgment under uncertainty, cognitive theory of gambling, and the theory of demand for gamblers. Given the widespread use, familiarity, and fascination of the general public with lotteries, we incorporate this concept into the charitable giving matching literature.

For public goods contributions, the use of lottery incentives (Fabbri, Barbieri, and Bigoni 2019; Naritomi 2019; Goette and Stutzer 2020) and lottery prizes (Morgan 2000; Lange, List, and Price 2007) are generally effective. Lotteries (or raffles) have long been used to finance public good contributions and have shown to be more effective than deterministic (or known fixed) payments, particularly when the prize is large and highly valued (Morgan 2000; Morgan and Sefton 2000). However, lotteries have been less effective in improving survey responses (Singer and Ye 2013; Halpern et al. 2011), education outcomes (Levitt, List, and Sadoff 2016), or health care (Volpp et al. 2017). In these previous studies, the lottery prize is awarded to the *donor*; a key contribution of our methodological framework is that the prize is awarded as a match to the nonprofit organization.

This study investigates two relatively unexplored questions about the impacts of matching gift schemes on charitable giving. We assess if a low-probability, potentially high-reward lottery matching gift influences individual charitable donations to (1) increase individual donations and (2) extend the use of matches to increase fundraising goals. We conduct an online experiment with a large sample of 1,402 general population participants to investigate the effects of uncertain donation matches (lottery matches) at two different expected values compared to no matching and a standard 1:1 match. We implement seven conditions: *"No Match"* (Control), and two sets of 3 matching conditions (1 deterministic and 2 lottery matches) for expected values of 1.0 and 0.5. Participants are endowed with 10 tokens ($5.00) and asked to complete three allocation decisions (Eckel and Grossman 2003, 2006; Charness and Holder 2019; Deck and Murphy 2019) for hunger-related charities, with one allocation randomly selected for realization.

Consistent with previous findings, deterministic 1:1 matching increases contributions by

0.70 tokens ($0.35) over *No Match*, an increase of 16% off the *No Match* base of 4.46 (Mann-Whitney[2] $p = 0.032$). Similarly, we find that deterministic matches with a lower Expected Value (EV) (*2:1*) do not significantly differ from *No Match* (MW $p = 0.830$). The results show that lottery matches with a 1% chance of 100 tokens (a 1:1 probabilistic match) produce donations that are significantly larger than *No Match* (MW $p = 0.019$) and not statistically different than the deterministic *1:1 Match* (MW $p = 0.976$). Crucially, we also find that the lottery match with a 0.5% chance of 100 tokens (implying a 2:1 probabilistic match) also produces higher donations than *No Match* (MW $p = 0.096$) and not statistically different than the *1:1 Match* (MW $p = 0.622$). Two additional treatments (1:10% of 10 and 1:1% of 50) show that, consistent with prospect theory, it is not enough to include a gamble, but the jackpot also has to be substantially large to increase donations. Based on these results, we conduct back-of-the-envelope calculations to investigate if nonprofits can leverage *1%* and *0.5% of 100* lottery matches to extend pledged matching caps to increase donations. Our calculations find a *1%* and *0.5%* of $100 lottery match can increase donations by 19% and 216% respectively without increasing the pledged match cap. Therefore, we conclude lottery matches with a low probability of a large jackpot can raise funds statistically indistinguishable from deterministic 1:1 matches thus extending the use of matches to increase fundraising goals.

Our lottery matching donation conceptual framework has three key contributions. First, we are the first to our knowledge to explore the effect of lottery matches on donations when the lottery prize goes to the charity rather than to the donor.[3] Second, we explore the effects of matches with uncertainty in which the participant is certain that their direct donation will go to the charity, but the match is probabilistic. Third, we demonstrate that lottery matching mechanisms with expected values lower than 1 can extend matches in fundraising campaigns to increase fundraising goals for no additional match cost to nonprofit organizations.

2. Mann-Whitney (hereafter MW) tests the hypothesis that two independent samples are from populations with the same distribution (Wilcoxon 1945; Mann and Whitney 1947).

3. We discuss a concurrent working paper, Higgs (2025), below.

2 Literature Review

While 1:1 matches are effective, individual donations are not sensitive to the magnitude of matching ratios when matches are greater than 1; larger matches (1:2 and 1:3) do not increase contributions beyond the 1:1 match (Karlan and List 2007). Smaller matches (3:1) decreased donations when combined with high example suggested donations (ex. $75), but had no effect on donations when combined with a lower example suggested donation (ex. $25) in a natural field experiment (Karlan, List, and Shafir 2011). While deterministic matching ratios lower than 1 have not been shown to increase donations over no-match, it is possible that lottery incentives with low expected values but substantive jackpots could increase donations because, the predictions of prospect theory suggest that people will be insensitive to smaller probabilities when the prospect of the jackpot is large (Kahneman and Tversky 1979; Peel 2010; Tversky and Kahneman 1992).[4]

Why people routinely choose to participate in lotteries, which are gambles with actuarially unfair odds with low probabilities of winning for a large jackpot but a very small expected value has been highly studied (Friedman and Savage 1948; McCaffery 1994; Clotfelter and Cook 1990; Griffiths and Wood 2001; Ariyabuddhiphongs 2011). Prospect theory suggests that people overweight small chances of winning the lottery (Kahneman and Tversky 1979; Tversky and Kahneman 1992), and potentially focus on the size of the jackpot (Peel 2010). Other theories suggest a consumption value of playing (Burger et al. 2020), with disproportionate utility from lottery winnings (Friedman and Savage 1948). Theories about "longshot bias"[5] suggest individuals favor skewness, not risk, in horse betting (Golec and Tamarkin 1998) and lottery tickets (Garrett and Sobel 1999). However, a later laboratory study suggests that while preferences for skewness may impact risky decision-making, there is evidence of probability weighting impacting participants choices, with larger maxi-

4. Other charitable giving research investigating the "price" of charitable giving examine how tax deductibility and other cost-reducing mechanisms affect donation decisions (Meer 2014; Meer and Priday 2020).

5. A gambling behavior where bettors prefer positive skewness of potential returns (i.e., a low probability of a high return) over higher expected returns (i.e, high probability of a low return).

mum payoffs (jackpots) appearing to drive participant preferences towards skewed lotteries (Grossman and Eckel 2015).

Individuals may treat lotteries differently when the lottery benefits another rather than themselves, although this has not been studied in the context of lottery matches to charities. For example, previous research on risky decision-making finds the responsibility of decision-making for others reduced loss aversion (Andersson et al. 2016), which suggests lotteries may be even more attractive in donation settings. However when risky decisions impose externalities on others, De Oliveira (2021) finds no evidence that individuals increase risk taking to benefit others. Studies investigating how uncertainty and risk impact excuse-driven risk preferences (Exley 2016; Palma and Xu 2019) in charitable giving find that when tradeoffs exist between self and charity, people are risk averse to a charity's risk and risk seeking to self risk, serving as an excuse to not give, which suggests lotteries could be less attractive in our setting.

Classical investigations into competitive fundraising mechanisms such as lotteries provide winnings to the *donor* and thus behave like standard lotteries in gambling theory. These investigations have found that lottery (raffle) tickets and auctions are generally effective at increasing donations compared to voluntary contribution mechanisms (VCM). This literature on competitive fundraising mechanisms including lotteries and auctions has considerably grown (Morgan and Sefton 2000; Morgan 2000; Davis et al. 2006; Lange, List, and Price 2007; Andreoni and Payne 2013; Vesterlund 2016; Carpenter and Matthews 2017; Duffy and Matros 2021).

We have been only able to find one other published study that tests a lottery bonus framework where the bonus is given to the charity rather than to the participant (Deck and Murphy 2019). Their experimental design uses bonus treatments (a deterministic bonus match and two bonus matches akin to an all-pay auction and Tullock contest) however bonuses are only applicable to "eligible" charities[6]. While they find no significant differences

6. Charity eligibility is randomly assigned and varies at the session level

in giving by bonus treatments, and all had small but significant increases over the baseline, their results suggest increases in giving from bonuses are primarily driven by reallocating funds away from match-ineligible charities to match-eligible charities.

A concurrent working paper by Higgs (2025) evaluates uncertain charitable giving matches in a related but different framework. He explores smaller match jackpots between $1 and $2 over repeated decisions for internal comparisons. Unlike previous literature, he finds that a 1:2 deterministic match is preferred to a 1:1 deterministic match, which may be an artifact of his within-subject design allowing direct comparisons. His results suggest increasing donations with higher probability of a match, which is consistent with our findings, although our sample universes are different.

3 Experimental Design

We implement seven between-subject treatments, shown in Table 1, to investigate how probabilistic lottery matches impact an individual's charitable donation and how they compare to deterministic matches.

Table 1: Experimental Treatments

Treatment	Description	EV	N
No Match	No donation match		209
1:1 Match	Donate 1 Token, guaranteed organization donation of 1 Token	1.0	199
1:10% of 10 Tokens	Donate 1 Token, 10% chance organization donation of 10 Tokens	1.0	204
1:1% of 100 Tokens	Donate 1 Token, 1% chance organization donation of 100 Tokens	1.0	196
2:1 Match	Donate 1 Token, guaranteed organization donation of 0.5 Token	0.5	209
1:1% of 50 Tokens	Donate 1 Token, 1% chance organization donation of 50 Tokens	0.5	197
1:0.5% of 100 Tokens	Donate 1 Token, 0.5% chance organization donation of 100 Tokens	0.5	188

*Note each token is worth $0.50

No Match serves as our baseline control with no match. We also implement three treatments with an expected value of one token. That is, if one token is donated by a participant, then, on expectation, an additional "bonus" one token will be donated to the charity. The difference between the treatments is that in the *1:1 Match*, the donation is guaranteed, whereas in the *1:10% of 10 tokens*, for every 1 token donation, the matching gift is probabilistic with a 10% chance of 10 bonus tokens. Similarly, the *1:1% of 100 tokens* provides a 1% chance of 100 bonus tokens matching. The remaining three treatments follow the same pattern but with an expected value of 0.5.

The treatments are structured to answer two main questions. First: Can lottery matching increase charitable giving at a similar rate as the *1:1 Match*? The *1:1% of 100 tokens* match tests the effect of a large jackpot on giving, while the *1:10% of 10 tokens* match tests to see if it is the gamble itself rather than the large jackpot that affects behavior. Second, if so: Can lottery matching increase individual contributions when the organization match has an EV of less than 1? By focusing on lottery matching treatments where EV$\leq$ 1 compared to the common 1:1 match, we can determine if there are effective matching schemes that either (1) increase donation amounts from individuals (lotteries with EV=1) or (2) extend fundraising campaign goals without increasing matching funds (lotteries with EV<1). Here, the *0.5% chance of 100 tokens* match again tests the effect of a large jackpot while the *1% of 50 tokens* match provides information on how large the jackpot needs to be.

3.1 Theoretical Predictions

The extant theory motivating literature on charitable giving preferences using matching gift schemes assumes donors derive utility from donation to charity (e.g., see Becker 1974; Andreoni 1989, 1990, 2006; Andreoni and Payne 2013; Hungerman and Ottoni-Wilhelm 2021; Vesterlund 2016). Matches thus lower the price, in terms of foregone individual consumption, by providing part of the total donation amount received by the charity (Andreoni and Payne 2013). We start with a standard model for charitable giving, adding in the lottery match. We assume an individual donor i maximizes the utility derived from the consumption of private goods (c_i) and how much the charity receives in donations, R_i, which is the sum of the individual's "checkbook" charitable donations (g_i) and any subsequent matches. As per usual, total income $y_i = c_i + g_i$.

We use a simplified CES utility function to capture risk preferences, but, in order to make the math more tractable, remove the $(1/\gamma)$ exponent term that captures social preferences, given that our focus is not social preferences.[7] Thus: $U_i(c_i, R_i) = ac_i^\gamma + (1-a)R_i^\gamma$ where $a\epsilon[0,1]$ is the selfishness parameter, and γ captures risk aversion with $0 < \gamma < 1$ indicating risk aversion.[8]

We introduce a probabilistic match in which the charity always gets the initial individual donation g_i, but there is some probability, p, that the charity gets an additional matched donation which is λ (the jackpot) times g_i (the individual donation).[9]

Then the expectation of U_i is:

$$E[ac_i^\gamma + (1-a)R_i^\gamma] \tag{1}$$

$$= ac_i^\gamma + (1-a)E[R_i^\gamma] \tag{2}$$

$$= ac_i^\gamma + (1-a)E[pR_{i\,win}^\gamma + (1-p)R_{i\,lose}^\gamma] \tag{3}$$

$$= ac_i^\gamma + (1-a)p(g_i + \lambda g_i)^\gamma + (1-a)(1-p)(g_i^\gamma) \tag{4}$$

Taking the partial derivatives w.r.t. c_i and g_i s.t. $MRS = 1$.

$$\frac{\partial E[u_i]}{\partial c} = \gamma a c_i^{\gamma-1} \tag{5}$$

$$\frac{\partial E[u_i]}{\partial g} = (1-a)p\gamma(g_i + \lambda g_i)^{\gamma-1}(1+\lambda) + (1-a)(1-p)\gamma g_i^{\gamma-1} \tag{6}$$

7. Feldman and Vargas (2023) provide a more general framework that allows for a fuller separation between risk and social preferences. Their more general model nests Andreoni and Miller (2002) and thus will yield similar predictions for our set-up.

8. γ also includes preferences for smoothing payoffs between own consumption and donations to charity, again we refer you to the excellent Feldman and Vargas (2023) model.

9. In our experiment the decision on whether to give g would be decided for each additional dollar rather than being decided on the entire donation at one time.

$$MRS = \frac{\frac{\partial E[u_i]}{\partial g}}{\frac{\partial E[u_i]}{\partial c}} = \frac{(1-a)\gamma[p(g_i)^{\gamma-1}(1+\lambda)^{\gamma-1}(1+\lambda)+(1-p)g_i^{\gamma-1}]}{\gamma a c_i^{\gamma-1}} = 1 \quad (7)$$

$$\frac{(1-a)[p(g_i)^{\gamma-1}(1+\lambda)^{\gamma-1}(1+\lambda)+(1-p)g_i^{\gamma-1}]}{a c_i^{\gamma-1}} = 1 \quad (8)$$

$$a c_i^{\gamma-1} = (1-a)g_i^{\gamma-1}[p(1+\lambda)^{\gamma}+(1-p)] \quad (9)$$

$$c_i = [(\frac{1-a}{a})^{\frac{1}{\gamma-1}}(p(1+\lambda)^{\gamma}+(1-p))^{\frac{1}{\gamma-1}}]g_i \quad (10)$$

plug in $y_i = c_i + g_i$

$$y_i - g_i = [(\frac{1-a}{a})^{\frac{1}{\gamma-1}}(p(1+\lambda)^{\gamma}+(1-p))^{\frac{1}{\gamma-1}}]g_i \quad (11)$$

$$y_i = g_i[(\frac{1-a}{a})^{\frac{1}{\gamma-1}}(p(1+\lambda)^{\gamma}+(1-p))^{\frac{1}{\gamma-1}}+1] \quad (12)$$

$$g_i^* = \frac{y_i}{(\frac{1-a}{a})^{\frac{1}{\gamma-1}}(p(1+\lambda)^{\gamma}+(1-p))^{\frac{1}{\gamma-1}}+1} \quad (13)$$

If $\gamma < 1$ is positive, indicating risk aversion, then giving increases with λ and p. We would predict certain *1:1 Matches* will raise the greatest donations, followed by treatments with equivalent expected values but lower match probability (*1:10% of 10* and *1:1% of 100*). Continuing the same theoretical predictions for treatments of lower expected values (EV=0.5), this model predicts more certain matches will raise more funds compared to *No Match*, but less than certain matches with higher expected values (i.e., *1:1 Match*). Within our treatments where EV=0.5, we can predict the deterministic *2:1 Match* will raise the most donations, and *1:1% of 50* the next most, *1:0.5% of 100* the least. Without a behavioral element, our theory predicts that *1:1% of 100* will dominate *1:0.5% of 100.*

If we consider adding in prospect theory, the math is the same, except p is replaced with $\pi(p)$ where $\pi(p) = \frac{p^{\alpha}}{(p^{\alpha}+(1-p)^{\alpha})^{\frac{1}{\alpha}}}$

Thus:

$$g_i^* = \frac{y_i}{(\frac{1-a}{a})^{\frac{1}{\gamma-1}}(\pi(p)(1+\lambda)^\gamma + \pi(1-p))^{\frac{1}{\gamma-1}} + 1} \tag{14}$$

The key insights here are: when p is small, $\pi(p) \approx \pi(p+\varepsilon)$ for all small ε, however $1-p$ will be large when p is small so $\pi(1-p) \not\approx \pi(1-p+\varepsilon)$, so the $(\pi(1-p))$ term is important. But when λ, the jackpot, is large enough, this term swamps the $\pi(1-p)$ term. Thus: when p is small and λ is large, utility maximizers will treat gambles with the same jackpot but different (small) probabilities similarly. In the context of our lottery match treatments, this addition means that a utility maximizer would view treatments with the same large jackpots ($\lambda = 100$) and different small probabilities similarly. For our treatments we would predict the *0.5%* and *1%* of 100 token lottery treatments will raise similar amounts of donations to each other and will raise *more* money compared to smaller jackpot treatments (e.g., *1:10% of 10* and *1:1% of 50*).

Another thing to note in equations (13) and (14) is that λ and p enter nonlinearly and in a way that is not a simple interaction. For example, if p is doubled and λ is halved in equation (13), the expected "cost" to the matcher stays the same but the expected donation changes. This suggests that experimental studies can investigate the combination of λ and p that could maximize donations. We have done this in a limited way by including treatments with different combinations of jackpots and probabilities and the same expected values, but future work can expand on these ideas.

3.2 Experimental Procedures

We conduct an online experiment using panelist from Forthright Access (forthrightaccess.com). The institutional review board (IRB) at Texas A&M University approved the procedures, and the study is pre-registered with the American Economic Association's registry for randomized control trials (AEARCTR-0013266). Participants begin the online experiment by reviewing the consent form, instructions, and passing two attention checks to ensure they pay close attention to the instructions. Participants who fail one attention check receive a warning. Participants who fail both attention checks are disqualified and removed from the study.[10] We implement a decision allocation task (a modified dictator game), a standard method of elicitation in charitable giving literature (Charness and Holder 2019; Deck and Murphy 2019; Eckel and Grossman 2003; Eckel, Sinha, and Wilson 2023) to elicit charitable donations. In line with Deck and Murphy (2019) participants make multiple (3) independent decisions and one decision is randomly selected for realization. We select three reputable 501(c)(3) nonprofit organizations working on hunger issues: Feeding America, Meals on Wheels, and Action Against Hunger. The charities and descriptions given to participants are reported in Table A1. All three charities have a four out of four rating by Charity Navigator, which is a 501(c)(3) nonprofit charity assessment organization that evaluates charitable organizations based on financial stability, adherence to best practices for accountability, transparency, and results reporting.

In each independent decision allocation task, participants are endowed with 10 tokens, with each token worth $0.50, and allocate the 10 tokens between themselves and the charity. Each decision allocation task includes the name of the charity and the brief description provided in Table A1 at the top of the allocation page. An example of what participants see is available in Figure A1. Participants view the three charity allocations in random order to control for order effects. After all three allocation decisions, participants complete a survey to measure reputation perceptions of the charities, charitable giving behavior, 9-point self-reported altruism scale (Manzur and Olavarrieta 2021), and German Socio-Economic Panel Study (SOEP) risk aversion measure (Richter et al. 2017). In addition, for participants in a lottery matching treatment, we elicit their interest in knowing the lottery's resolution.

After the survey, participants receive information about the charity that is randomly selected for realization (Figure A2). Additionally, participants in the lottery match treat-

10. Our study experienced a 9.4% dropout rate: 1,568 surveys started, 1,402 completed, 166 removed (156 incomplete and 10 unqualified), which is low compared to rates of 15-30% reported by Stantcheva (2023). Dropouts on average are more likely to be female (58% compared to the stratified 50%), older (53 compared to 46), and without children under 18 (84% compared to 71%).

ments are subsequently directed to spin a digital lottery wheel (Figure A3) to determine the matching outcome. After participants observe the match outcome, they are informed about the total payments to themselves and the charity and exit the experiment.

3.3 Subjects

We recruit 1,402 general population participants using Forthright Access. Forthright Access is a research-grade, fully-managed online panel of 100% US-based participants. Forthright uses a multi-step verification process to vet and verify all participants' information before they participate in our research. Participants are randomly assigned to one treatment at the beginning of the study. As recent literature has pointed to weaknesses in balance tests (e.g., Deaton and Cartwright 2018; Briz, Drichoutis, and Nayga Jr 2017; Ho et al. 2007; Moher et al. 2010; Mutz and Pemantle 2015), we report standardized differences (Imbens and Rubin 2016; Imbens and Wooldridge 2009) of observable characteristics (gender, age, ethnicity, income, marital status, education, number of children) in Table A2 to check for effective randomization of participants across treatments. Cochran and Rubin's (1973) heuristic is that the standardized difference should be less than 0.25, a threshold that none of the $7 * 21 = 147$ standardized differences meets, suggesting our sample is well randomized. Preliminary power calculations based on Charness and Holder's (2019) suggest we have a sample size appropriate for 0.80 power. Charness and Holder's (2019) reported average contribution, sample size, and standard error for the total no-matching and total matching groups to estimate effect size ($|d = 0.487|$). Based on effect size, we estimate for a power of 0.80 we need a sample size of 69 subjects per cell. To investigate any potential gender differences given our modeling framework incorporating risk, we pre-registered our plan to stratify by gender for 14 total cells (2x7). There is no significant difference (MW $p = 0.1533$) in giving by gender. These power calculations allowed for gender stratification, but because there is no significant difference (MW $p = 0.1533$) in giving by gender, we present combined results. Additional sub-sample analysis by gender is reported in Appendix B. Additional sub-sample analysis by gender is reported in Appendix B.

4 Results

Summary statistics are reported in Table 2 for the overall sample, and by treatment. We generate an *average donation* variable as the average of charitable allocations over all three decisions for each participant. Overall, an average of 4.79 tokens are allocated to charity.

Table 2: Summary Statistics and Mann-Whitney (MW) Tests for *Average Donations* by Treatment (T)

		Overall			MW Comparison to *No Match*		MW Comparison to *1:1 Match*	
		N	Mean	SD	MW *p-values*	Mean Diff. (T - NM)	MW *p-values*	Mean Diff. (T - 1M)
	No Match (NM)	209	4.46	2.91				
EV=1	*1:1 Match* (1M)	199	5.16	3.13	0.0325**	0.70		
	1:10% of 10	204	4.79	3.17	0.3258	0.33	0.2582	-0.37
	1:1% of 100	196	5.11	2.84	0.0199**	0.65	0.9764	-0.05
EV=0.5	*2:1 Match*	209	4.54	2.92	0.8304	0.08	0.0522*	-0.62
	1:1% of 50	197	4.51	2.91	0.7162	0.05	0.0582*	-0.65
	1:0.5% of 100	188	4.99	2.93	0.0962*	0.53	0.6221	-0.17
	Total	1,402	4.79	2.98				

Note: * p<0.1, ** p<0.05, *** p<0.01

By treatment, the *1:1 Match* has the largest *average donation* at 5.16 tokens, with the second most from *1:1% of 100* at 5.11 tokens (MW test comparison to *1:1 Match*, $p = 0.9764$), and the third highest donation is *1:0.5% of 100* at 4.99 tokens (MW test comparison to *1:1 Match*, $p = 0.6221$).[11]

To identify changes in giving behavior based on match treatments, we first compare our *No Match* control to the standard *1:1 Match* and lottery matches of equivalent value. We report Mann-Whitney tests comparing *average donations* for each treatment relative to *No Match* and relative to *1:1 Match* in Table 2. Consistent with previous literature, we find an *average donation* of 5.16 tokens in the *1:1 Match* is significantly higher (MW

11. There is no significant difference (MW $p = 0.1533$) in giving by gender. Additional sub-sample analysis by gender is reported in Appendix B. Table A3 provides means and standard deviations, while Table A4, column (4) demonstrates no statistically significantly different interaction between female and the six treatments over the control, with the exception of Female X 1:1% of 100 being significant at the 10% level.

$p = 0.0325$, Table 2) than the 4.46 token *average donation* in *No Match*, with an increase of 15.7% in tokens. Looking at equivalent value lottery matches to *1:1 Match* (EV=1), we find *1:10% of 10 tokens* does not produce statistically different donations (MW $p = 0.3258$, Table 2) compared to the *No Match* condition. However, *1:1% of 100 tokens*, does produce a significant increase of 14.6% in *average donations* compared to the *No Match* (MW $p = 0.0199$, Table 2), with an *average donation* of 5.11 tokens.

Looking at treatments with a lower expected value (EV=0.5), *average donations* in the *2:1 Match*, are not statistically different (MW $p = 0.8304$, Table 2) from *No Match*. Additionally, when comparing equivalent lottery matches of EV=0.5 to *No Match* we find *1:1% of 50 tokens* is not significantly different from *No Match*. In contrast, *1:0.5% of 100 tokens* is marginally significantly different (MW $p = 0.0962$, Table 2), with a substantive difference in magnitude of 0.53 more tokens donated. These results suggest that a large jackpot can increase giving, though there is a threshhold for how large the jackpot needs to be.

We then compare our lottery treatments with the *1:1 Match* to determine, first, if equivalent EV lotteries increase donations amounts, which could make them more attractive than the deterministic match. Here, neither lottery match with an equivalent value significantly differs in donations (see Table 2) from the *1:1 Match*. There are slight differences in giving magnitude, with *1:10% of 10* donating 0.37 fewer tokens and *1:1% of 100* donating 0.05 fewer tokens compared to a *1:1 Match*. This indicates that lotteries with the same expected value can elicit donations similar to 1:1 matching, but there is no benefit to non-profits to pursue these schemes over the *1:1 Match*.

Second, there may still be a benefit to schemes with a lower expected value because these have the potential to raise more money from smaller donors by extending the match. Thus, we compare our outcomes to the known quantity of a 1:1 Match to determine if the results from these lower expected value matches are statistically lower than the 1:1 match. Compared to a *1:1 Match*, the *2:1 Match* has marginally statistically lower (MW $p = 0.0522$, Table 2) *average donations* by 0.62 tokens. However, there is no significant difference ($p = 0.6221$, Table 2) in *average donations* between the *1:0.5% of 100* match and the *1:1 Match* suggesting a potential benefit for using a lower EV, higher jackpot scheme.

Figure A4 reports the cumulative distribution function (CDF) for *No Match* and treatments with a significant difference in *average donations* (*1:1 Match*, *1:1% of 100*, and *1:0.5% of 100*). This figure, along with Figure A5 and Figure A6, suggests the differences in giving are primarily driven by lower and mid-range donations.

We report OLS regression models in Table 3.[12] The OLS results support the unconditional comparisons in the MW tests of *1:1 Match*, *1:1% of 100*, and *1:0.5% of 100* eliciting higher *average donations*, and the remaining treatments being statistically no different than *No Match* in Column (1) of Table 3. These results are not affected by the inclusion of a control for the participant's level of risk aversion as in Column (2), and are only slightly attenuated with no change in significance with the inclusion of demographic control variables in Column (3).

Acquiring new donors and increasing average donation size are both important for fundraising. Given that our treatment may change donor participation, we explore potential treatment effects of the extensive and intensive margins in a double hurdle model (Cragg 1971), where the model estimates the extensive margin as the probability of donating and the intensive margin as the amount of charitable giving, in Table 4. Here there appear to be no effects on the extensive margin, but the magnitudes and significance of the intensive margin are slightly larger than the unconditional results but largely similar to Table 3. That said, we want to provide two cautions to this result. First, we did not pre-register any two stage analyses, and these results should be taken only as exploratory. Second, we tried several two stage model commands in Stata and have had problems with convergence and concerns about consistency across the models. [13]

12. Results are nearly identical for pooled OLS regressions clustered on participant in Appendix D, Table A6.

13. The version shown follows Kassas and Palma (2019) and uses a maximum likelihood estimation to identify the extensive margin (decision to donate) and intensive margin (donation amount). The model specifies $y_i^* = x_i'\beta + u_i$ where y_i^* is desired donation amount, x_i' is a vector of explanatory variables and $u_i \sim N(0, \sigma^2)$. We assume p is the proportion of *donors* and the proportion of *non-donors* is $(1-p)$. Thus, observed

There may also be concerns about the censoring of the data at the maximum allocation of 10 tokens and the minimum of 0. Thus we report a two-limit Tobit model regressions in Table A8 with censoring at both zero and 10 and report marginal effects in Tables A9, A10, A11. These show slightly increased magnitudes; however, the directionality and significance of variables do not change.

Returning to our theoretical predictions presented in 3.1, we predicted individuals will donate more to matches that have more certainty and higher expected values, thus the *1:1 Match* would have the largest donation amounts. Our results confirm this prediction, with the *1:1 Match* having the highest *average donations* at 5.16 tokens (see Table 2) and significantly higher donations compared to *No Match* (MW $p = 0.0325$, Table 2). Additionally, we considered predictions under prospect theory, which suggests that for lottery matches an expected utility maximizer will treat matches with small, but different, probabilities with the same large "jackpot" match similarly. A MW test comparing lottery matches to *1:1 Match* in Table 2 indicate *average donations* raised in *1:1%* and *1:0.5% of 100* lottery matches were not statistically different from *average donations* raised in *1:1 Match* (MW $p = 0.9764$ and $p = 0.6221$ respectively, Table 2). Thus our results support our behavioral predictions that *1:1%* and *1:0.5%* of 100 token treatments would raise more money than other lottery treatments. The lack of significance comparing the *1:10% of 10* match to *No Match* suggests that it is not gambling itself, but gambling with a large jackpot that drives these results, while the lack of significance comparing *1:1% of 50 tokens* to *No Match* suggests that participants do not see 50 tokens as "large."

4.1 Potential Fundraising Extensions from Lottery Matches

Our results indicate lottery matches with low probabilities of high rewards can elicit donations no different than standard 1:1 matches and all elicit donations significantly higher than when no matching occurs. We next want to identify if lottery matches can increase

donations (y_i) is $y_i = y_i^*$ if $y_i^* > 0$ and individual i is a *donor*, and $y_i = 0$ otherwise and the individual i is a *non-donor*. The log-likelihood is $\log L = \sum_{i=1}^{n} \left(I_{y_i=0} \ln[1 - p\Phi(x_i'\beta/\sigma)] + I_{y_i>0} \ln[p \cdot \sigma^{-1}\phi((y_i - x_i'\beta)/\sigma)]\right)$.

Table 3: OLS Regression Models on *Average Donation*

	(1)	(2)	(3)
1:1 Match	0.706**	0.707**	0.697**
	(0.299)	(0.300)	(0.298)
1:10% of 10	0.331	0.331	0.331
	(0.300)	(0.300)	(0.296)
1:1% of 100	0.648**	0.647**	0.591**
	(0.286)	(0.286)	(0.284)
2:1 Match	0.080	0.079	0.043
	(0.285)	(0.285)	(0.282)
1:1% of 50	0.057	0.057	0.047
	(0.289)	(0.289)	(0.284)
1:0.5% of 100	0.528*	0.529*	0.506*
	(0.293)	(0.294)	(0.292)
Risk		-0.005	0.009
		(0.032)	(0.032)
Female			0.188
			(0.162)
Age			0.017***
			(0.005)
Hispanic			-0.388*
			(0.206)
Income			0.070
			(0.173)
Married			-0.022
			(0.187)
Education			-0.009
			(0.169)
Children in the HH			0.097
			(0.187)
Constant	4.458***	4.486***	3.560***
	(0.201)	(0.268)	(0.375)
N	1402	1402	1402

Note: Omitted comparison group is *No Match.* Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Average Donation* is the average donation across three charity donation decisions. *Income* is a binary variable where $Income = 1$ if household income $\geq$ \$50,000. *Education* is a binary variable where $Education = 1$ if the participant holds a technical, vocational, or associate degree or higher. *Children in Household* is a binary variable which = 1 if children under eighteen are living in household.

Table 4: Double Hurdle Model on *Average Donations*

	Model 1		Model 2		Model 3	
	(1) Extensive	(2) Intensive	(3) Extensive	(4) Intensive	(5) Extensive	(6) Intensive
1:1 Match	0.085	0.781**	0.108	0.789**	0.243	0.758**
	(0.236)	(0.319)	(0.236)	(0.319)	(0.235)	(0.318)
1:10% of 10	0.260	0.332	0.263	0.343	0.344	0.359
	(0.245)	(0.326)	(0.244)	(0.326)	(0.243)	(0.322)
1:1% of 100	-0.205	0.729**	-0.243	0.711**	-0.136	0.648**
	(0.226)	(0.304)	(0.226)	(0.303)	(0.225)	(0.300)
2:1 Match	-0.011	0.095	-0.051	0.095	0.037	0.044
	(0.233)	(0.310)	(0.232)	(0.308)	(0.232)	(0.304)
1:1% of 50	0.052	0.031	0.071	0.026	0.109	0.019
	(0.242)	(0.319)	(0.242)	(0.319)	(0.238)	(0.311)
1:0.5% of 100	-0.071	0.583*	-0.055	0.554*	0.080	0.518
	(0.235)	(0.315)	(0.235)	(0.315)	(0.237)	(0.316)
Risk			-0.053**	-0.002	-0.055**	0.014
			(0.023)	(0.033)	(0.024)	(0.033)
Female					-0.067	0.253
					(0.131)	(0.173)
Age					0.001	0.018***
					(0.004)	(0.005)
Hispanic					0.027	-0.492**
					(0.171)	(0.223)
Income					0.182	0.054
					(0.139)	(0.186)
Married					-0.191	-0.026
					(0.149)	(0.197)
Education					0.041	-0.022
					(0.136)	(0.179)
Children in the HH					-0.079	0.120
					(0.153)	(0.202)
Constant	3.143***	4.331***	3.423***	4.358***	3.310***	3.384***
	(0.176)	(0.233)	(0.215)	(0.294)	(0.303)	(0.410)
N	1402	1402	1402	1402	1402	1402
Log Likelihood	-3467.435	-3467.435	-3464.759	-3464.759	-3451.972	-3451.972
σ	0.999***	0.999***	0.998***	0.998***	0.999***	0.999***
	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)

Note: Omitted comparison group is *No Match*. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. We estimate a double hurdle model to account for the two-stage decision process in charitable giving. The model treats the decision to donate (extensive margin) and donation amount conditional of participation (intensive margin) as independent decisions. *Average Donation* is the average donation across three charity donation decisions. *Income* is a binary variable where $Income = 1$ if household income $\geq$ \$50,000. *Education* is a binary variable where $Education = 1$ if the participant holds a technical, vocational, or associate degree or higher. *Children in Household* is a binary variable which = 1 if children under eighteen are living in household.

donations by extending the fundraising campaign matching fund budget. We investigate this possibility by using *average donations* in three treatments: the *1:1 Match* and two lottery match treatments of *1:1% of 100* and *1:0.5% of 100*.

Table 5: Comparison of potential lottery matches with $1,000 pledged match

	Overall Donations by Treatment for $1000 Pledged Match			Difference from *1:1 Match*		%Δ from 1:1 Match	
	1:1 Match	*1% of 100*	*0.5% of 100*	*1% of 100*	*0.5% of 100*	*1% of 100*	*0.5% of 100*
Individual Donation	$ 1,000.00	$ 1,190.00	$ 3,160.00	$ 190.00	$ 2,160.00	19.00%	216.00%
Match	$ 1,000.00	$ 1,000.00	$ 1,000.00	-	-	-	-
Total	$ 2,000.00	$ 2,190.00	$ 4,160.00	$ 190.00	$ 2,160.00	9.50%	108.00%

In our experimental framework, matching costs are (theoretically) limitless. However, in most real-world applications of donation matching, the third-party "matcher" pledges to match individual donations up to a fixed total amount (e.g., up to $10,000). To investigate the potential fundraising extensions of lottery matches to increase donation amounts with a fixed match pledge (or "match cap"),[14] we report simplified back-of-envelope calculations in Table 5 with a fixed match pledge of $1,000.[15] Although our experiment uses experimental tokens with a $0.50 conversion, we present our results in U.S. Dollars (USD) to simplify and enhance applicability. For a $1,000 match pledge, we find lottery matches can increase individual donor contributions by 19% for the *1:1%* and 216% for the *1:0.5% of 100* lottery matches compared to a standard 1:1 match. This implies that lottery matches with low probabilities of a high reward (*1:0.5% of 100*) can effectively increase donations by lengthening the duration of the fundraising campaign to continue to leverage available matching gift funds. Donors give more so they will "trigger" the larger match (e.g., 100) as they overweight very small probabilities (i.e., 1% and 0.5%) of a match.

14. For related works discussing match caps, seed money, and lead donors see Karlan and List (2007), Huck and Rasul (2011), and Saboury, Krasteva, and Palma (2022).

15. Given prospect theory and our statistical results in Table 2, the mechanical prediction (on average) would be an increase of 0% for the *1:1% of 100* and 200% for the *1:0.5% of 100*. We provide actual numbers for these treatments in Appendix Table A12.

5 Conclusion

Donation gift matching is a popular fundraising mechanism used by nonprofit organizations to increase charitable donations. Previous literature has mostly found that 1:1 matching, where for every $1 donated a third-party organization donates $1, is effective at increasing donations; however other matching ratios have not been as effective. While effective, 1:1 matching can be expensive. Therefore we study the effectiveness of matching gifts using lotteries on charitable donations. We investigate if lottery matches, where the match to nonprofits is uncertain, can (1) elicit higher charitable donations and (2) extend fundraising campaigns without increased match costs to nonprofit organizations.

We replicate previous findings that a certain *1:1 Match* significantly increases *average donations* by 0.70 tokens ($0.35), while a certain *2:1 Match* (where for every $2 donated, a third-party organization donates $1) does not significantly increase *average donations* over no matching. For lottery matches, we find matches with a low probability (1% and 0.5%) of a high match (100 tokens) elicit donations larger than *No Match* with MW $p < 0.1$ confidence, and *average donations* are not significantly different from a *1:1 Match*. Lottery matches with the same expected values but larger probabilities and lower jackpots (10 tokens and 50 tokens, respectively) did not elicit larger donations than the *No Match* condition.

Despite the uncertainty in a lottery match compared to previous matching gift schemes with certain matches, our results are consistent with the theoretical predictions of prospect theory. By overweighting the small probability of a large reward, individuals contribute significantly more than the *No Match* and elicit contributions no different than 1:1 matching despite uncertainty. This result does not hold for lottery matches with smaller match jackpots (e.g., 10 and 50), suggesting a minimum threshold exists.

Simple back-of-envelope calculations to investigate potential extension of matching funds to nonprofits by implementing lottery matches with a low probability (*1% and 0.5%*) of a large match (100 tokens) provide insight into the potential extension of fundraising campaigns associated with reducing match costs. Specifically findings from the *1:0.5% of 100* treatment demonstrate the ability to raise donation amounts no different from donations raised in *1:1 Match* fundraising campaigns but for a lower matching rate. This would allow fundraising campaigns to leverage matching gift funds by extending fundraising campaigns durations, resulting in increased individual donation amounts around twice that of traditional *1:1 Matches*. Our results provide an avenue for work building on probabilistic matching mechanisms as a way to more efficiently use matching funds.

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Electronic Supplementary Material of

Jackpot for Good: Can Lottery Matches Increase Charitable Giving?

A Additional Tables & Figures

Table A1: Charities & Descriptions Provided in Experiment

Charity	Description
Feeding America	Feeding America is a United States–based non-profit organization that is a nationwide network of more than 200 food banks that feed more than 46 million people through food pantries, soup kitchens, shelters, and other community-based agencies.
Meals on Wheels	Meals on Wheels America is the community-based organization dedicated to providing nutrition and helping to eliminate isolation among the elderly. It supports more than 5,000 communities across the United States.
Action Against Hunger	Action Against Hunger is a global humanitarian organization which originated in France and is committed to ending world hunger. The organization helps malnourished children and provides communities with access to safe water and sustainable solutions to hunger.

Note: All three charities have a four out of four rating by Charity Navigator, which is a 501(c)(3) nonprofit charity assessment organization that evaluates charitable organizations based on financial stability, adherence to best practices for accountability, transparency, and results reporting.

Table A2: Standardized Differences Between Treatments for Observable Characteristics

	No Match vs.						1:1 Match vs.				
	1:01	1:10% of 10	1:1% of 100	2:01	1:1% of 50	1:0.5% of 100	1:10% of 10	1:1% of 100	2:01	1:1% of 50	1:0.5% of 100
Female	0.0531	0.0429	0.0322	0.1536	0.0476	0.0846	0.096	0.0854	0.2071	0.1007	0.1379
Age	-0.1214	-0.0611	-0.1847	-0.0714	-0.07	-0.141	0.0602	-0.0682	0.0509	0.0482	-0.0228
Hispanic	0.1359	0.1228	0.0393	0.0259	0.0917	0.1542	0.0131	0.1752	0.1618	0.0442	0.0182
Income	0.1731	0.1118	0.1763	0.0113	0.0562	0.1382	-0.0632	0.0048	-0.1592	-0.1151	-0.0347
Married	0.0171	0.0874	0.0684	0.051	0.0099	0.0552	0.0703	0.0855	0.0339	0.0071	0.0381
Education	-0.1448	-0.029	-0.1934	-0.0226	-0.0632	-0.031	0.1183	-0.0477	0.1226	0.0789	0.1104
Children	0.0203	0.0064	0.0412	0.0525	0.0183	0.0008	0.0267	0.0209	0.0323	0.0385	0.0211

	1:10% of 10 vs.				1:1% of 100 vs.			2:1 Match vs.		1:1% of 50 vs.
	1:1% of 100	2:1	1:1% of 50	1:0.5% of 100	2:1	1:1% of 50	1:0.5% of 100	1:1% of 50	1:0.5% of 100	1:0.5% of 100
Female	0.0106	0.1106	0.0047	0.0417	0.1212	0.0153	0.0523	0.1058	0.0688	0.0370
Age	-0.1259	-0.0098	-0.0105	-0.0814	0.1175	0.1127	0.0446	-0.0010	-0.0725	-0.0691
Hispanic	0.1620	0.1487	0.0311	0.0314	0.0133	0.1309	0.1934	0.1176	0.1801	0.0624
Income	0.0672	-0.0989	-0.0542	0.0279	-0.1623	-0.1185	-0.0390	0.0443	0.1250	0.0807
Married	0.1560	0.0364	0.0774	0.0321	0.1195	0.0783	0.1237	0.0411	0.0042	0.0453
Education	-0.1676	0.0061	-0.0358	-0.0033	0.1712	0.1261	0.1576	-0.0411	-0.0090	0.0313
Children	0.0476	0.0589	0.0118	0.0056	0.0113	0.0595	0.0421	0.0708	0.0534	0.0174

A oTree Examples

We provide screenshot examples from our online experiment below.

Charity: Action Against Hunger

Action Against Hunger is a global humanitarian organization which is committed to ending world hunger, reaching 28 million people each year. The organization helps malnourished children and provides communities with access to safe water and sustainable solutions to hunger.

Please select the row which corresponds to how much of your 10 token endowment you would like to allocate to You and how much you would like to allocate to Action Against Hunger.

For each token you allocate to Action Against Hunger the charity will receive one bonus ticket.

The value of each bonus ticket is:

- 10 bonus tokens with a chance of 1 in 10
- 0 bonus tokens with a chance of 9 in 10

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Please read each row carefully. Remember, one round will be selected randomly for payment at the end of the study. So treat each round as if it could be the one that determines your payment.

Allocated to You	Allocated to Charity	Your Choice
10 Tokens	0 Tokens	○
9 Tokens	1 Tokens	○
8 Tokens	2 Tokens	○
7 Tokens	3 Tokens	○
6 Tokens	4 Tokens	○
5 Tokens	5 Tokens	○
4 Tokens	6 Tokens	○
3 Tokens	7 Tokens	○
2 Tokens	8 Tokens	○
1 Tokens	9 Tokens	○
0 Tokens	10 Tokens	○

Click **"NEXT"** when you are ready to continue.

Next

Figure A1: Example of Decision Allocation from oTree Survey

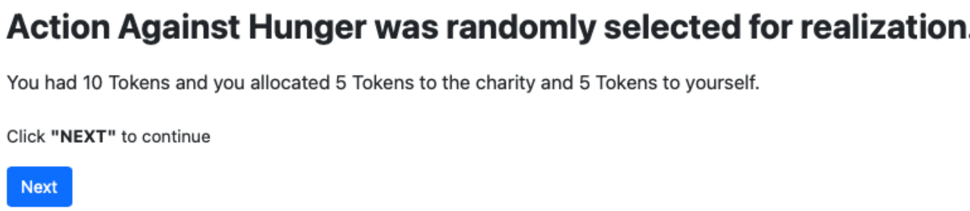


Figure A2: Example of Binding Charity from oTree Survey

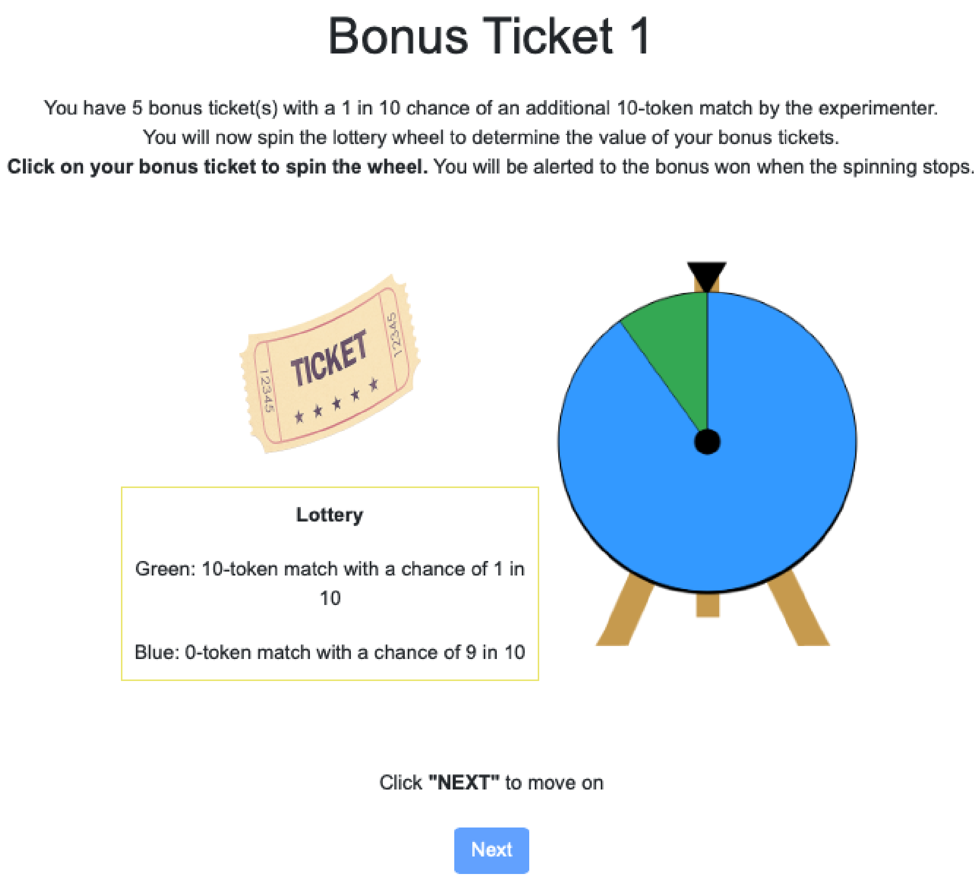


Figure A3: Example of Lottery Match Wheel from oTree Survey

B Gender Analysis

We provide a brief sub-sample analysis aimed at identifying any potential gender effects on charitable giving and risk preferences. Table A3 provides an expanded look at the summary statistics provided in Table 2, Section 4 by gender. Overall, we see *Female* participants donate more with a total *average donation* of 4.89 tokens across treatments than *Males* with a total *average donation* of 4.69 tokens, however the difference is not statistically significant (MW $p = 0.1533$).

Table A3: Summary Statistics of *Average Donation* by Treatment and Gender

		Overall			*Male*			*Female*		
		Mean	SD	N	Mean	SD	N	Mean	SD	N
	No Match	4.46	2.91	209	4.57	3.00	110	4.33	2.81	99
EV=1	*1:1 Match*	5.16	3.13	199	5.56	2.99	110	4.68	3.24	89
	1:10% of 10	4.79	3.17	204	4.50	3.17	103	5.08	3.16	101
	1:1% of 100	5.11	2.84	196	4.72	2.57	100	5.50	3.07	96
EV=0.5	*2:1 Match*	4.54	2.92	209	4.27	3.18	94	4.76	2.70	115
	1:1% of 50	4.51	2.91	197	4.28	2.98	99	4.76	2.84	98
	1:0.5% of 100	4.99	2.93	188	4.82	2.95	91	5.14	2.92	97
	Total	4.79	2.98	1,402	4.69	3.00	707	4.89	2.97	695

We present OLS Regressions on *average donation* with risk and gender interaction terms in Table A4.[1] Model 4 introduces gender and gender interaction terms to our OLS mode and indicates women donate significantly more ($\hat{\beta} = 0.993, p < 0.10$) in the *1:1% of 100* treatment, though given the number of variables in the model, random chance is a possible explanation for this finding. Model 5 introduces selected demographics and finds that older participants are donate significantly more ($\hat{\beta} = 0.017, p < 0.01$) and Hispanics donate less ($\hat{\beta} = -0.360, p < 0.10$). Similarly, Tobit regression models on *average donation* with Risk and Gender interactions are reported in Table A5 and find similar results.

1. For robustness we report pooled OLS model in Table A7.

Table A4: OLS Regression Models on *Average Donation* with Risk and Gender Interactions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1:1 Match	0.706**	0.707**	0.380	0.636	0.985**	0.990**	0.686
	(0.299)	(0.300)	(0.733)	(0.770)	(0.404)	(0.397)	(0.755)
10% of 10	0.331	0.331	0.098	-0.450	-0.071	-0.028	-0.456
	(0.300)	(0.300)	(0.726)	(0.785)	(0.424)	(0.419)	(0.780)
1% of 100	0.648**	0.647**	1.050	0.439	0.151	0.110	0.291
	(0.286)	(0.286)	(0.682)	(0.748)	(0.384)	(0.381)	(0.738)
2:1 Match	0.080	0.079	0.147	-0.219	-0.307	-0.262	-0.204
	(0.285)	(0.285)	(0.697)	(0.772)	(0.435)	(0.431)	(0.768)
1% of 50	0.057	0.057	0.304	-0.098	-0.297	-0.272	-0.201
	(0.289)	(0.289)	(0.713)	(0.789)	(0.414)	(0.406)	(0.768)
0.5% of 100	0.528*	0.529*	1.183	0.925	0.251	0.334	0.917
	(0.293)	(0.294)	(0.731)	(0.773)	(0.421)	(0.418)	(0.775)
Risk		-0.005	0.017	0.019		0.017	0.022
		(0.032)	(0.079)	(0.079)		(0.032)	(0.078)
Risk x 1:1 Match			0.057	0.062			0.054
			(0.120)	(0.119)			(0.118)
Risk x 10% of 10			0.044	0.064			0.073
			(0.121)	(0.120)			(0.120)
Risk x 1% of 100			-0.076	-0.052			-0.032
			(0.110)	(0.111)			(0.110)
Risk x 2:1 Match			-0.012	-0.017			-0.011
			(0.113)	(0.112)			(0.112)
Risk x 1% of 50			-0.045	-0.036			-0.013
			(0.117)	(0.117)			(0.115)
Risk x 0.5% of 100			-0.116	-0.124			-0.107
			(0.117)	(0.118)			(0.118)
Female				-0.248	-0.243	-0.193	-0.193
				(0.404)	(0.402)	(0.394)	(0.395)
Female x 1:1 Match				-0.650	-0.637	-0.679	-0.690
				(0.601)	(0.601)	(0.597)	(0.599)
Female x 10% of 10				0.907	0.824	0.740	0.814
				(0.598)	(0.599)	(0.593)	(0.592)
Female x 1% of 100				0.993*	1.023*	1.007*	0.980*
				(0.577)	(0.571)	(0.566)	(0.570)
Female x 2:1 Match				0.741	0.736	0.611	0.614
				(0.578)	(0.576)	(0.573)	(0.575)
Female x 1% of 50				0.716	0.722	0.656	0.654
				(0.582)	(0.578)	(0.568)	(0.571)
Female x 0.5% of 100				0.611	0.556	0.360	0.411
				(0.589)	(0.587)	(0.586)	(0.588)
Age						0.017***	0.017***
						(0.005)	(0.005)
Hispanic						-0.379*	-0.360*
						(0.207)	(0.207)
Income						0.088	0.088
						(0.174)	(0.173)
Married						-0.073	-0.060
						(0.187)	(0.188)
Education						-0.017	-0.002
						(0.168)	(0.169)
Children in the HH						0.087	0.079
						(0.187)	(0.189)
Constant	4.458***	4.486***	4.367***	4.471***	4.573***	3.709***	3.681***
	(0.201)	(0.268)	(0.484)	(0.517)	(0.286)	(0.420)	(0.562)
N	1402	1402	1402	1402	1402	1402	1402

Note: Omitted comparison group is *No Match*. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Average Donation* is the average donation across three charity donation decisions. *Income* is a binary variable where $Income = 1$ if household income $\geq$ \$50,000. *Education* is a binary variable where $Education = 1$ if the participant holds a technical, vocational, or associate degree or higher. *Children in Household* is a binary variable which = 1 if children under eighteen are living in household.

Table A5: Tobit Regressions on *Average Donation* with Risk and Gender Interactions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1:1 Match	0.879**	0.880**	0.469	0.747	1.175**	1.187**	0.814
	(0.356)	(0.356)	(0.911)	(0.956)	(0.490)	(0.482)	(0.940)
10% of 10	0.395	0.395	0.047	-0.554	-0.052	-0.005	-0.553
	(0.360)	(0.360)	(0.912)	(0.980)	(0.507)	(0.501)	(0.971)
1% of 100	0.729**	0.728**	1.322	0.596	0.118	0.074	0.423
	(0.335)	(0.335)	(0.830)	(0.897)	(0.452)	(0.449)	(0.884)
2:1 Match	0.091	0.090	0.124	-0.377	-0.435	-0.385	-0.353
	(0.341)	(0.341)	(0.853)	(0.959)	(0.539)	(0.533)	(0.951)
1% of 50	0.009	0.009	0.319	-0.128	-0.397	-0.368	-0.264
	(0.348)	(0.348)	(0.875)	(0.968)	(0.504)	(0.494)	(0.946)
0.5% of 100	0.610*	0.611*	1.389	1.085	0.287	0.381	1.066
	(0.349)	(0.349)	(0.900)	(0.949)	(0.515)	(0.511)	(0.949)
Risk		-0.005	0.022	0.025		0.019	0.028
		(0.039)	(0.098)	(0.097)		(0.039)	(0.095)
Risk x 1:1 Match			0.072	0.076			0.067
			(0.148)	(0.147)			(0.145)
Risk x 10% of 10			0.066	0.085			0.094
			(0.152)	(0.150)			(0.150)
Risk x 1% of 100			-0.112	-0.085			-0.061
			(0.133)	(0.134)			(0.132)
Risk x 2:1 Match			-0.006	-0.011			-0.006
			(0.136)	(0.136)			(0.135)
Risk x 1% of 50			-0.056	-0.048			-0.019
			(0.143)	(0.144)			(0.141)
Risk x 0.5% of 100			-0.138	-0.147			-0.126
			(0.143)	(0.143)			(0.142)
Female				-0.358	-0.351	-0.307	-0.307
				(0.483)	(0.482)	(0.472)	(0.473)
Female x 1:1 Match				-0.699	-0.685	-0.741	-0.751
				(0.709)	(0.710)	(0.706)	(0.705)
Female x 10% of 10				1.027	0.919	0.832	0.927
				(0.715)	(0.716)	(0.709)	(0.707)
Female x 1% of 100				1.206*	1.264*	1.246*	1.191*
				(0.672)	(0.668)	(0.662)	(0.664)
Female x 2:1 Match				1.001	0.995	0.858	0.860
				(0.692)	(0.692)	(0.688)	(0.687)
Female x 1% of 50				0.821	0.830	0.758	0.754
				(0.698)	(0.693)	(0.680)	(0.684)
Female x 0.5% of 100				0.716	0.651	0.434	0.494
				(0.698)	(0.697)	(0.695)	(0.696)
Age						0.020***	0.019***
						(0.006)	(0.006)
Hispanic						-0.455*	-0.431*
						(0.247)	(0.248)
Income						0.106	0.105
						(0.205)	(0.204)
Married						-0.129	-0.111
						(0.219)	(0.219)
Education						-0.061	-0.042
						(0.199)	(0.199)
Children in the HH						0.158	0.145
						(0.219)	(0.221)
Constant	4.435***	4.460***	4.318***	4.467***	4.602***	3.635***	3.595***
	(0.242)	(0.327)	(0.606)	(0.643)	(0.351)	(0.509)	(0.691)
σ^2	12.107***	12.107***	12.073***	11.953***	11.990***	11.832***	11.803***
	(0.553)	(0.553)	(0.551)	(0.548)	(0.551)	(0.546)	(0.545)
N	1402	1402	1402	1402	1402	1402	1402
Uncensored	1170	1170	1170	1170	1170	1170	1170
Left-Censored	101	101	101	101	101	101	101
Right-Censored	131	131	131	131	131	131	131

Note: Omitted comparison group is *No Match*. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Average Donation* is the average donation across three charity donation decisions. *Income* is a binary variable where *Income* = 1 if household income ≥ \$50,000. *Education* is a binary variable where *Education* = 1 if the participant holds a technical, vocational, or associate degree or higher. *Children in Household* is a binary variable which = 1 if children under eighteen are living in household.

C CDF Figures across Average Donation

Figure A4 provides the cumulative probability of any donation across donations for our main treatments of interest. The first thing to note is that the line for *No Match* is above the other treatments until high levels of donation (around 9/10 tokens), indicating that in general, *No Match* donors gave less across the distribution compared to donors in matching conditions. Additionally, while the *1:1 Match* appears to be slightly higher than the "jackpot" lottery treatments (*1%* and *0.5% of 100*) for average donations sizes less than 5 tokens, the difference is very small. Interestingly, at higher levels of donations, the lottery matches dominate the deterministic *1:1 Match*, potentially suggesting that lottery donations are likely to have higher donations than is the deterministic match, although again these differences are not large. All treatments in the figure show a jump up at 5 token mark. The CDFs begin to converge around 8 tokens (and mechanically completely converge at 10 tokens).

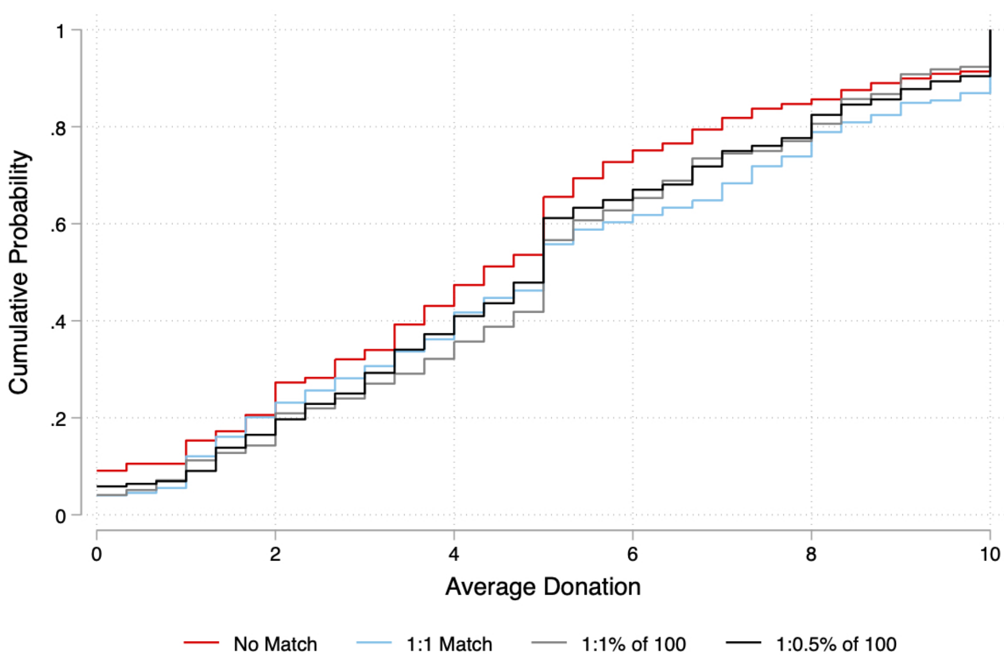


Figure A4: CDFs of *Average Donations* for *No Match*, *1:1 Match* and Jackpot Lotteries

Figure A5 provides CDFs for all of the match treatments with EV = 1 and Figure A6 provides CDFs for those with EV = 0.5. As expected given the main results, the *2:1 Match* and the *1:1% of 50 Match* follow a very similar pattern to the *No Match* condition throughout the distribution. Interestingly, while the *1:10% of 10* condition maps to the *No Match* condition for smaller average donations, it diverges at higher donations. It also appears that participants are more slightly likely to give small donations in the *1:10% of 10* compared to the *1:1% of 100* condition, but are less likely to give larger donations, accounting for the higher donation power of the *1:1% of 100* option. Again, these results are just suggestive given the small size of the differences.

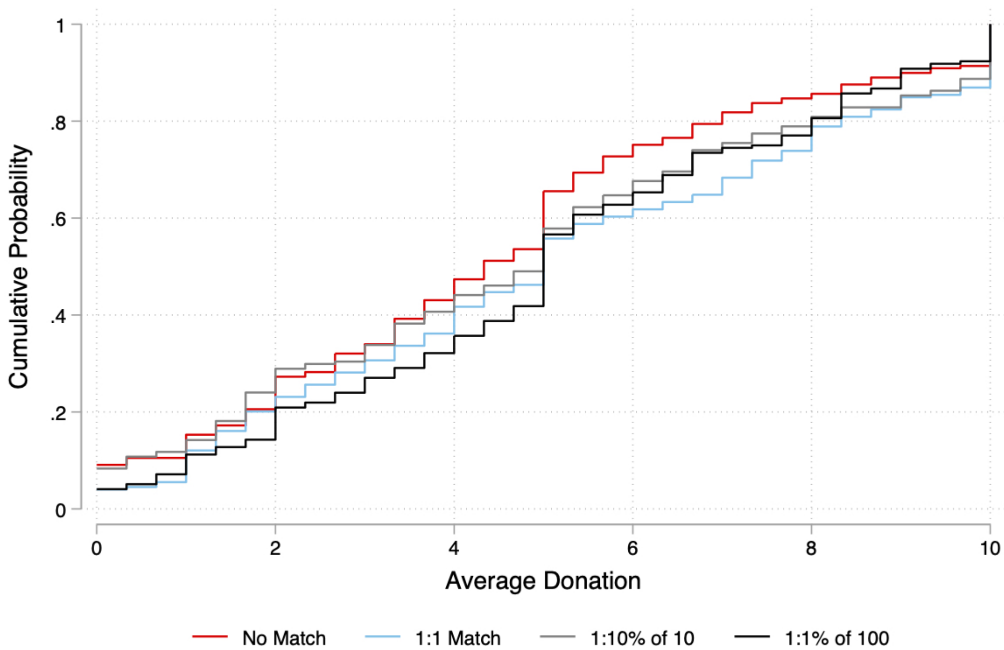


Figure A5: CDFs of *Average Donations* of *No Match* and EV=1 Treatments

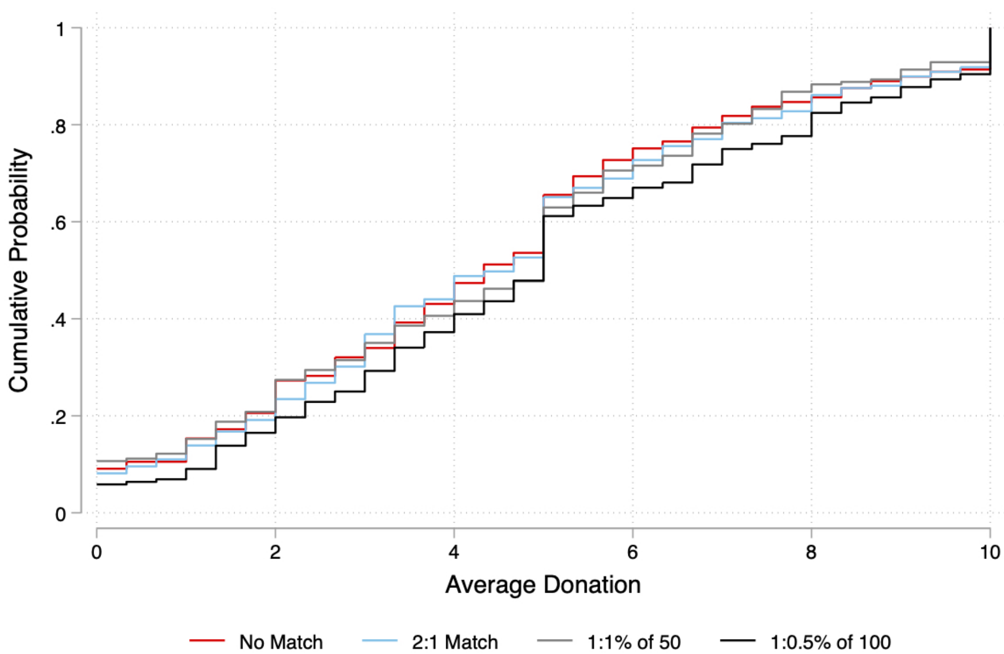


Figure A6: CDFs of *Average Donations* of *No Match* and EV=0.5 Treatments

D Additional Analysis

These tables provide additional robustness checks referred to in the main paper.

Table A6: Pooled OLS Regression Models on 3 Charitable Donations

	(1) Base	(2) Base + Risk	(3) Base + Demographics
1:1 Match	0.706**	0.707**	0.697**
	(0.299)	(0.299)	(0.297)
1:10% of 10	0.331	0.331	0.331
	(0.299)	(0.299)	(0.295)
1:1% of 100	0.648**	0.647**	0.591**
	(0.286)	(0.285)	(0.283)
2:1 Match	0.080	0.079	0.043
	(0.285)	(0.285)	(0.281)
1:1% of 50	0.057	0.057	0.047
	(0.289)	(0.289)	(0.283)
1:0.5% of 100	0.528*	0.529*	0.506*
	(0.293)	(0.293)	(0.291)
Risk		-0.005	0.009
		(0.032)	(0.032)
Female			0.188
			(0.162)
Age			0.017***
			(0.005)
Hispanic			-0.388*
			(0.205)
Income			0.070
			(0.173)
Married			-0.022
			(0.186)
Education			-0.009
			(0.168)
Children in the HH			0.097
			(0.187)
Constant	4.458***	4.486***	3.560***
	(0.201)	(0.267)	(0.374)
N	4206	4206	4206

Note: Omitted comparison group is *No Match*. Standard errors clustered on participant in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Average Donation* is the average donation across three charity donation decisions. *Income* is a binary variable where $Income = 1$ if household income $\geq$ \$50,000. *Education* is a binary variable where $Education = 1$ if the participant holds a technical, vocational, or associate degree or higher. *Children in Household* is a binary variable which = 1 if children under eighteen are living in household.

Table A7: Pooled OLS Regression Models on 3 Charitable Donations with Risk and Gender Interactions

	(1) Base	(2) 1 + Risk	(3) 2 + Risk Inter.	(4) 3 + Female Inter.	(5) 4 + Demographics.
1:1 Match	0.706**	0.707**	0.380	0.636	0.686
	(0.299)	(0.299)	(0.731)	(0.766)	(0.750)
1:10% of 10	0.331	0.331	0.098	-0.450	-0.456
	(0.299)	(0.299)	(0.724)	(0.782)	(0.775)
1:1% of 100	0.648**	0.647**	1.050	0.439	0.291
	(0.286)	(0.285)	(0.679)	(0.745)	(0.734)
2:1 Match	0.080	0.079	0.147	-0.219	-0.204
	(0.285)	(0.285)	(0.694)	(0.768)	(0.763)
1:1% of 50	0.057	0.057	0.304	-0.098	-0.201
	(0.289)	(0.289)	(0.711)	(0.785)	(0.763)
1:0.5% of 100	0.528*	0.529*	1.183	0.925	0.917
	(0.293)	(0.293)	(0.728)	(0.769)	(0.771)
Risk		-0.005	0.017	0.019	0.022
		(0.032)	(0.079)	(0.079)	(0.077)
Risk x 1:1 Match			0.057	0.062	0.054
			(0.120)	(0.119)	(0.117)
Risk x 1:10% of 10			0.044	0.064	0.073
			(0.121)	(0.120)	(0.119)
Risk x 1:1% of 100			-0.076	-0.052	-0.032
			(0.110)	(0.110)	(0.109)
Risk x 2:1 Match			-0.012	-0.017	-0.011
			(0.112)	(0.112)	(0.111)
Risk x 1:1% of 50			-0.045	-0.036	-0.013
			(0.117)	(0.117)	(0.114)
Risk x 1:0.5% of 100			-0.116	-0.124	-0.107
			(0.117)	(0.117)	(0.117)
Female				-0.248	-0.193
				(0.402)	(0.393)
Female x 1:1 Match				-0.650	-0.690
				(0.599)	(0.595)
Female x 1:10% of 10				0.907	0.814
				(0.596)	(0.589)
Female x 1:1% of 100				0.993*	0.980*
				(0.574)	(0.567)
Female x 2:1 Match				0.741	0.614
				(0.575)	(0.571)
Female x 1:1% of 50				0.716	0.654
				(0.580)	(0.567)
Female x 1:0.5% of 100				0.611	0.411
				(0.586)	(0.584)
Age					0.017***
					(0.005)
Hispanic					-0.360*
					(0.206)
Income					0.088
					(0.172)
Married					-0.060
					(0.187)
Education					-0.002
					(0.168)
Children in the HH					0.079
					(0.188)
Constant	4.458***	4.486***	4.367***	4.471***	3.681***
	(0.201)	(0.267)	(0.483)	(0.514)	(0.559)
N	4206	4206	4206	4206	4206

Note: Omitted comparison group is *No Match*. Standard errors clustered on participant in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Average Donation* is the average donation across three charity donation decisions. *Income* is a binary variable where $Income = 1$ if household income $\geq$ \$50,000. *Education* is a binary variable where $Education = 1$ if the participant holds a technical, vocational, or associate degree or higher. *Children in Household* is a binary variable which = 1 if children under eighteen are living in household.

Table A8: Tobit Regression on *Average Donation*

	(1) Base	(2) Base + Risk	(3) Base + Demographics
1:1 Match	0.879**	0.880**	0.870**
	(0.356)	(0.356)	(0.355)
1:10% of 10	0.395	0.395	0.398
	(0.360)	(0.360)	(0.355)
1:1% of 100	0.729**	0.728**	0.669**
	(0.335)	(0.335)	(0.334)
2:1 Match	0.091	0.090	0.053
	(0.341)	(0.341)	(0.337)
1:1% of 50	0.009	0.009	-0.001
	(0.348)	(0.348)	(0.342)
1:0.5% of 100	0.610*	0.611*	0.588*
	(0.349)	(0.349)	(0.348)
Risk		-0.005	0.010
		(0.039)	(0.039)
Female			0.173
			(0.193)
Age			0.020***
			(0.006)
Hispanic			-0.464*
			(0.247)
Income			0.082
			(0.205)
Married			-0.069
			(0.219)
Education			-0.054
			(0.200)
Children in the HH			0.172
			(0.219)
Constant	4.435***	4.460***	3.441***
	(0.242)	(0.327)	(0.451)
σ^2	12.107***	12.107***	11.927***
	(0.553)	(0.553)	(0.549)
N	1402	1402	1402
Uncensored	1170	1170	1170
Left-Censored	101	101	101
Right-Censored	131	131	131

Note: Omitted comparison group is *No Match*. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. *Average Donation* is the average donation across three charity donation decisions. *Income* is a binary variable where $Income = 1$ if household income $\geq$ \$50,000. *Education* is a binary variable where $Education = 1$ if the participant holds a technical, vocational, or associate degree or higher. *Children in Household* is a binary variable which = 1 if children under eighteen are living in household.

Table A9: Marginal Effects for Model (1) in A8

	Latent Bid	Expected Bid	Probability Uncensored
1:1 Match	0.745**	0.456**	0.004
	(0.301)	(0.184)	(0.005)
1:10% of 10	0.335	0.205	0.005
	(0.305)	(0.186)	(0.005)
1:1% of 100	0.618**	0.378**	0.005
	(0.284)	(0.174)	(0.005)
2:1 Match	0.077	0.047	0.002
	(0.288)	(0.176)	(0.006)
1:1% of 50	0.007	0.005	0.000
	(0.294)	(0.180)	(0.007)
1:0.5% of 100	0.517*	0.316*	0.005
	(0.296)	(0.181)	(0.005)
Uncensored	1170	1170	1170
Left-Censored	101	101	101
Right-Censored	131	131	131

Standard errors in parentheses. * p<0.1, ** p<0.05 *** p<0.01

Table A10: Marginal Effects for Model (2) in A8

	Latent Bid	Expected Bid	Probability Uncensored
1:1 Match	0.746**	0.456**	0.004
	(0.301)	(0.184)	(0.005)
1:10% of 10	0.334	0.204	0.005
	(0.305)	(0.186)	(0.005)
1:1% of 100	0.618**	0.378**	0.005
	(0.284)	(0.174)	(0.005)
2:1 Match	0.076	0.046	0.002
	(0.288)	(0.176)	(0.006)
1:1% of 50	0.008	0.005	0.000
	(0.294)	(0.180)	(0.007)
1:0.5% of 100	0.518*	0.317*	0.005
	(0.296)	(0.181)	(0.005)
Risk	-0.004	-0.002	-0.000
	(0.033)	(0.020)	(0.000)
Uncensored	1170	1170	1170
Left-Censored	101	101	101
Right-Censored	131	131	131

Standard errors in parentheses. * p<0.1, ** p<0.05 *** p<0.01

Table A11: Marginal Effects for Model (3) in A8

	Latent Bid	Expected Bid	Probability Uncensored
1:1 Match	0.738**	0.454**	0.003
	(0.300)	(0.185)	(0.005)
1:10% of 10	0.337	0.208	0.005
	(0.301)	(0.185)	(0.005)
1:1% of 100	0.567**	0.349**	0.005
	(0.283)	(0.175)	(0.004)
2:1 Match	0.045	0.027	0.001
	(0.284)	(0.175)	(0.006)
1:1% of 50	-0.001	-0.000	-0.000
	(0.289)	(0.178)	(0.006)
1:0.5% of 100	0.499*	0.307*	0.005
	(0.295)	(0.182)	(0.004)
Risk	0.009	0.005	0.000
	(0.033)	(0.020)	(0.000)
Female	0.146	0.090	0.001
	(0.164)	(0.101)	(0.001)
Age	0.017***	0.010***	0.000*
	(0.005)	(0.003)	(0.000)
Hispanic	-0.393*	-0.242*	-0.005
	(0.208)	(0.128)	(0.004)
Income	0.070	0.043	0.001
	(0.174)	(0.107)	(0.001)
Married	-0.058	-0.036	-0.000
	(0.186)	(0.114)	(0.002)
Education	-0.045	-0.028	-0.000
	(0.169)	(0.104)	(0.001)
Children in the HH	0.145	0.090	0.001
	(0.186)	(0.114)	(0.001)
Uncensored	1170	1170	1170
Left-Censored	101	101	101
Right-Censored	131	131	131

Standard errors in parentheses. * p<0.1, ** p<0.05 *** p<0.01

E Donor Analysis and Fundraising

Table A12: Donations by charity and overall for 1:1 and low probability of high match lottery treatments

	1:1 Match	1% of 100	0.5% of 100
Action Against Hunger			
Donation by Individual	$ 157.00	$ 125.00	$ 152.00
Match	$ 157.00	$ 300.00	$ 100.00
Total to Charity	$ 314.00	$ 425.00	$ 252.00
Feeding America			
Donation by Individual	$ 162.00	$ 184.50	$ 160.50
Match	$ 162.00	$ 100.00	$ 50.00
Total to Charity	$ 324.00	$ 284.50	$ 210.50
Meals on Wheels			
Donation by Individual	$ 185.50	$ 166.50	$ 161.50
Match	$ 185.50	$ -	$ -
Total to Charity	$ 371.00	$ 166.50	$ 161.50
Total			
Donation by Individual	$ 504.50	$ 476.00	$ 474.00
Match	$ 504.50	$ 400.00	$ 150.00
N	199	196	188

F Experiment Instructions

<u>Informed Consent:</u>

"Thank you for your participation in our study on economic decisions. Please read and click the continue button if you agree with the informed consent below."

[IRB Approved Informed Consent]

<u>Instructions:</u>

"Please read the following instructions carefully. This is a study about economic decisions. Your payment will be processed at the conclusion of the study. You will be paid [[$3]] for your participation. In addition, you will have the opportunity to earn more based on your decisions, so please read the instructions carefully. "

"You will be asked to complete three similar tasks where you will receive a monetary endowment and decide how to allocate it between you and three hunger-related charity organizations. All charities are 501(c)(3) non-profit organizations with four-star (out of four) ratings by Charity Navigator. This charity assessment organization evaluates hundreds of thousands of charitable organizations based on a nonprofit's financial stability, adherence to best practices for both accountability and transparency and results reporting. "You will make each decision independently and at the end of the experiment one of the three decisions will be randomly chosen to determine your additional earnings. Since you do not know (and we do not know) which task will be selected for additional payment, it is in your best interest to treat all of them as if they will be the selected task."

"For each task, you will be given a budget of 10 tokens. Tokens can be exchanged for $0.50 each. You will decide how much of your budget to allocate to the specified charity, and how much to allocate to you. Decisions are limited to 1 token increments. The allocation you make to the charity will be donated on your behalf as an anonymous donor. After the conclusion of the study, you can visit https://hbl.tamu.edu/donation-certificates/ to see donation certificates.

Example 1: Person A allocates 2 tokens to the charity, while keeping the remaining 8 tokens.

Example 2: Person B allocates 8 tokens to the charity, while keeping the remaining 2 tokens.

Remember, you can only allocate in increments of 1 token."

[INSERT ATTENTION CHECK #1]

QUESTION: *Please select "strongly agree" to show you are paying attention to the instructions.*

Answer Options: *Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree*

Incorrect Answer Warning*: Caution you don't seem to be paying attention. Please read each question carefully.*

[THE FOLLOWING STATEMENTS ARE TREATMENT DEPENDENT]

[NO MATCH]

Note: No additional info is given.

[1:1 MATCH]
For every token You allocate to the charity, the experimenters will match your allocation with one bonus ticket.

The value of each bonus ticket is:
- 1 bonus token

Example 1: Person A allocates 2 tokens to the charity, the experimenters will match the allocation with 2 bonus tickets. Person A will receive the remaining 8 tokens (initial 10 - 2 allocated to charity = 8 tokens to Person A) and the charity will receive 2 tokens and 2 bonus tickets (2 tokens allocated by Person A + 2 bonus tickets).

Therefore the charity will receive 2 bonus tokens, one for each bonus ticket. The 2 tokens directly allocated by Person A will be allocated to the charity in all cases. Thus the charity will receive 4 tokens (2 tokens allocated by Person B + 2 bonus tokens).

Example 2: Person B allocates 8 tokens to the charity, the experimenters will match the allocation with 8 bonus tickets. Person B will receive the remaining 2 tokens (initial 10 - 8 allocated to charity = 2 tokens to Person B) and the charity will receive 8 tokens and 8 bonus tickets (8 tokens allocated by Person B + 8 bonus tickets).

Therefore the charity will receive 8 bonus tokens, one for each bonus ticket. The 8 tokens directly allocated by Person B will be allocated to the charity in all cases. Thus the charity will receive 16 tokens (8 tokens allocated by Person B + 8 bonus tokens).

[10% of 10 tokens MATCH]
For every token You allocate to the charity, the experimenters will match the allocation with one bonus ticket.

The value of each bonus ticket is:
- 10 bonus tokens with a chance of 1 in 10
- 0 bonus tokens with a chance of 9 in 10

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Example 1: Person A allocates 2 tokens to the charity, the experimenters will match the allocation with 2 bonus tickets. Person A will receive the remaining 8 tokens (initial 10 - 2 allocated to charity = 8 tokens to Person A) and the charity will receive 2 tokens and 2 bonus tickets (2 tokens allocated by Person A + 2 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 10, or 20, bonus tokens (with a 81%, 18%, and 1% probability respectively). The 2 tokens directly allocated by Person A will be allocated to the charity in all cases.

Example 2: Person B allocates 8 tokens to the charity, the experimenters will match the allocation with 8 bonus tickets. Person B will receive the remaining 2 tokens (initial 10 - 8 allocated to charity = 2 tokens to Person B) and the charity will receive 8 tokens and 8 bonus tickets (8 tokens allocated by Person B + 8 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 10, 20, 30, 40, 50, 60, 70, or 80 bonus tokens (with a 43.05%, 38.26%, 14.88%, 3.31%, 0.46%, 0.04%, 0.002%, 0.00007%, and 0.000001% probability respectively). The 8 tokens directly allocated by Person B will be allocated to the charity in all cases.

[1% of 100 tokens MATCH]
For every token You allocate to the charity, the experimenters will match the allocation with one bonus ticket.

The value of each bonus ticket is:
- 100 bonus tokens with a chance of 1 in 100
- 0 bonus tokens with a chance of 99 in 100

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Example 1: Person A allocates 2 tokens to the charity, the experimenters will match the allocation with 2 bonus tickets. Person A will receive the remaining 8 tokens (initial 10 - 2 allocated to charity = 8 tokens to Person A) and the charity will receive 2 tokens and 2 bonus tickets (2 tokens allocated by Person A + 2 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 100, or 200, bonus tokens (with a 98.01%, 1.98%, and 0.01% probability respectively). The 2 tokens directly allocated by Person A will be allocated to the charity in all cases.

Example 2: Person B allocates 8 tokens to the charity, the experimenters will match the allocation with 8 bonus tickets. Person B will receive the remaining 2 tokens (initial 10 - 8 allocated to charity = 2 tokens to Person B) and the charity will receive 8 tokens and 8 bonus tickets (8 tokens allocated by Person B + 8 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 100, 200, 300, 400, 500, 600, 700, or 800 bonus tokens (with a 92.27%, 7.46%, 0.26%, 0.005%, 0.000067%, 0.00000054%, 0.0000000027%, 0.0000000000079%, and 0.00000000000001% probability respectively). The 8 tokens directly allocated by Person B will be allocated to the charity in all cases.

[1% of 50 tokens MATCH]
For every token You allocate to the charity, the experimenters will match the allocation with one bonus ticket.

The value of each bonus ticket is:
- 50 bonus tokens with a chance of 1 in 100
- 0 bonus tokens with a chance of 99 in 100

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Example 1: Person A allocates 2 tokens to the charity, the experimenters will match the allocation with 2 bonus tickets. Person A will receive the remaining 8 tokens (initial 10 - 2 allocated to charity = 8 tokens to Person A) and the charity will receive 2 tokens and 2 bonus tickets (2 tokens allocated by Person A + 2 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 50, or 100 bonus tokens (with a 98.01%, 1.98%, and 0.01% probability respectively). The 2 tokens directly allocated by Person A will be allocated to the charity in all cases.

Example 2: Person B allocates 8 tokens to the charity, the experimenters will match the allocation with 8 bonus tickets. Person B will receive the remaining 2 tokens (initial 10 - 8 allocated to charity = 2 tokens to Person B) and the charity will receive 8 tokens and 8 bonus tickets (8 tokens allocated by Person B + 8 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 50, 100, 150, 200, 250, 300, 350, or 400 bonus tokens (with a 92.27%, 7.46%, 0.26%, 0.005%, 0.000067%, 0.00000054%, 0.0000000027%, 0.0000000000079%, and 0.00000000000001% probability respectively). The 8 tokens directly allocated by Person B will be allocated to the charity in all cases.

[0.05% of 100 tokens MATCH]
For every token You allocate to the charity, the experimenters will match the allocation with one bonus ticket.

The value of each bonus ticket is:
- 100 bonus tokens with a chance of 1 in 200
- 0 bonus tokens with a chance of 199 in 200

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Example 1: Person A allocates 2 tokens to the charity, the experimenters will match the allocation with 2 bonus tickets. Person A will receive the remaining 8 tokens (initial 10 - 2 allocated to charity = 8 tokens to Person A) and the charity will receive 2 tokens and 2 bonus tickets (2 tokens allocated by Person A + 2 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 100, or 200, bonus tokens (with a 99%, 0.995%, and 0.0025% probability respectively). The 2 tokens directly allocated by Person A will be allocated to the charity in all cases.

Example 2: Person B allocates 8 tokens to the charity, the experimenters will match the allocation with 8 bonus tickets. Person B will receive the remaining 2 tokens (initial 10 - 8 allocated to charity = 2 tokens to Person B) and the charity will receive 8 tokens and 8 bonus tickets (8 tokens allocated by Person B + 8 bonus tickets).

Each bonus ticket is resolved independently, therefore the charity may receive 0, 100, 200, 300, 400, 500, 600, 700, or 800 bonus tokens (with a 96%, 3.86%, 0.0679%, 0.00068%, 0.000004%, 0.000000017%, 0.00000000004%, 0.00000000000006%, and 0.000000000000000039% probability respectively). The 8 tokens directly allocated by Person B will be allocated to the charity in all cases.

Charity Descriptions: Participants will view this information on the allocation task pages.

Charity	Description
Feeding America	Feeding America is a United States–based non-profit organization that is a nationwide network of over 200 food banks and 60,000 meal programs that feed more than 46 million people.
Meals on Wheels	Meals on Wheels America, is a community based organization dedicated to providing nutrition and helping to eliminate isolation among the elderly. It supports more than 5,000 community-based programs across the United States.
Actions Against Hunger	Action Against Hunger is a global humanitarian organization which is committed to ending world hunger, reaching 28 million people each year. The organization helps malnourished children and provides communities with access to safe water and sustainable solutions to hunger.

[INSERT ATTENTION CHECK #2]

QUESTION: *This is a check to make sure you are paying attention. Please select Purple*

Answers: *Red, Green, Yellow, Pink, Purple*

Incorrect Answer Warning*: Caution you don't seem to be paying attention. Please read each question carefully.*

[INSERT MODIFIED DICTATOR GAME/ALLOCATION DECISION TASK]

Participants will see the following 3 screens in a random order.

They contain instructions for the task, a reminder about the amount each bonus ticket is worth (treatment dependent) and the charity description (see charity description table for reference)

Charity: Feeding America

Feeding America is a United States–based non-profit organization that is a nationwide network of over 200 food banks and 60,000 meal programs that feed more than 46 million people.

Please select the row which corresponds to how much of your 10 token endowment you would like to allocate to You and how much you would like to allocate to Feeding America.

For each token you allocate to Feeding America the charity will receive one bonus ticket.

The value of each bonus ticket is:

- 50 bonus tokens with a chance of 1 in 100
- 0 bonus tokens with a chance of 99 in 100

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Please read each row carefully. Remember, one round will be selected randomly for payment at the end of the study. So treat each round as if it could be the one that determines your payment.

Allocated to You	Allocated to Charity	Your Choice
10 Tokens	0 Tokens	○
9 Tokens	1 Tokens	○
8 Tokens	2 Tokens	○
7 Tokens	3 Tokens	○
6 Tokens	4 Tokens	○
5 Tokens	5 Tokens	○
4 Tokens	6 Tokens	○
3 Tokens	7 Tokens	○
2 Tokens	8 Tokens	○
1 Tokens	9 Tokens	○
0 Tokens	10 Tokens	○

Click **"NEXT"** when you are ready to continue.

Next

Charity: Meals on Wheels

Meals on Wheels America is a community based organization dedicated to providing nutrition and helping to eliminate isolation among the elderly. It supports more than 5,000 community-based programs across the United States.

Please select the row which corresponds to how much of your 10 token endowment you would like to allocate to You and how much you would like to allocate to Meals on Wheels.

For each token you allocate to Meals on Wheels the charity will receive one bonus ticket.

The value of each bonus ticket is:

- 50 bonus tokens with a chance of 1 in 100
- 0 bonus tokens with a chance of 99 in 100

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Please read each row carefully. Remember, one round will be selected randomly for payment at the end of the study. So treat each round as if it could be the one that determines your payment.

Allocated to You	Allocated to Charity	Your Choice
10 Tokens	0 Tokens	○
9 Tokens	1 Tokens	○
8 Tokens	2 Tokens	○
7 Tokens	3 Tokens	○
6 Tokens	4 Tokens	○
5 Tokens	5 Tokens	○
4 Tokens	6 Tokens	○
3 Tokens	7 Tokens	○
2 Tokens	8 Tokens	○
1 Tokens	9 Tokens	○
0 Tokens	10 Tokens	○

Click **"NEXT"** when you are ready to continue.

Next

Charity: Action Against Hunger

Action Against Hunger is a global humanitarian organization which is committed to ending world hunger, reaching 28 million people each year. The organization helps malnourished children and provides communities with access to safe water and sustainable solutions to hunger.

Please select the row which corresponds to how much of your 10 token endowment you would like to allocate to You and how much you would like to allocate to Action Against Hunger.

For each token you allocate to Action Against Hunger the charity will receive one bonus ticket.

The value of each bonus ticket is:

- 50 bonus tokens with a chance of 1 in 100
- 0 bonus tokens with a chance of 99 in 100

Each bonus ticket is resolved independently using a lottery wheel that will be shown to you later.

Please read each row carefully. Remember, one round will be selected randomly for payment at the end of the study. So treat each round as if it could be the one that determines your payment.

Allocated to You	Allocated to Charity	Your Choice
10 Tokens	0 Tokens	○
9 Tokens	1 Tokens	○
8 Tokens	2 Tokens	○
7 Tokens	3 Tokens	○
6 Tokens	4 Tokens	○
5 Tokens	5 Tokens	○
4 Tokens	6 Tokens	○
3 Tokens	7 Tokens	○
2 Tokens	8 Tokens	○
1 Tokens	9 Tokens	○
0 Tokens	10 Tokens	○

Click **"NEXT"** when you are ready to continue.

Next

Survey Questions:

"Please carefully read and answer the following questions. When you have completed the survey click next to continue."

[INSERT SURVEY QUESTIONS]

1. On a scale of 1 - 5 (1:Not Very Reputable 5 is Most Reputable) how reputable do you view the following charities:
    - Feeding America
    - Meals on Wheels
    - Actions Against Hunger
2. Have you ever donated to the following charities (yes/no response):
    - Feeding America
    - Meals on Wheels
    - Actions Against Hunger
3. On a scale of 1-5 how important do you view the issue of hunger?
    - 1: Very Unimportant 2: Unimportant 3: Neutral 4: Important 5: Very Important
4. In the past 12 months how often have you donated to charity?
    - 0 times, 1-2 times, 3-6 times, 7 or more times
5. What issues do you donate to?
6. What charities do you donate to?
7. Did we also talk about a question for how good they feel about their donation.
    - How does donating make you feel?
      Scale form: 1:Very Unhelpful 3: Neutral 5: Very Helpful
8. ***Treatment dependent Q: On a scale of 1-10 where 1 is very unimportant and 10 is very important how important is it to know the outcome of the lottery?
    - 1- Very Unimportant 10-Very Important
9. 9-Self Reported Altruism Scale

	Never 1	**Rarely 3**	**Sometimes 3**	**Frequently 4**	**Always 5**
I have given money to a charity					
I have donated goods or clothes to a charity					
I have done volunteer work for a charity					
I have helped carry a stranger's belongings.					
I have made change for someone I did not know					

I have helped an acquaintance to move houses	
I have let a neighbor I did not know well borrow an item of some value to me	
I have offered to help a disabled or elderly stranger across a street	
I have offered my seat to a stranger who was standing.	

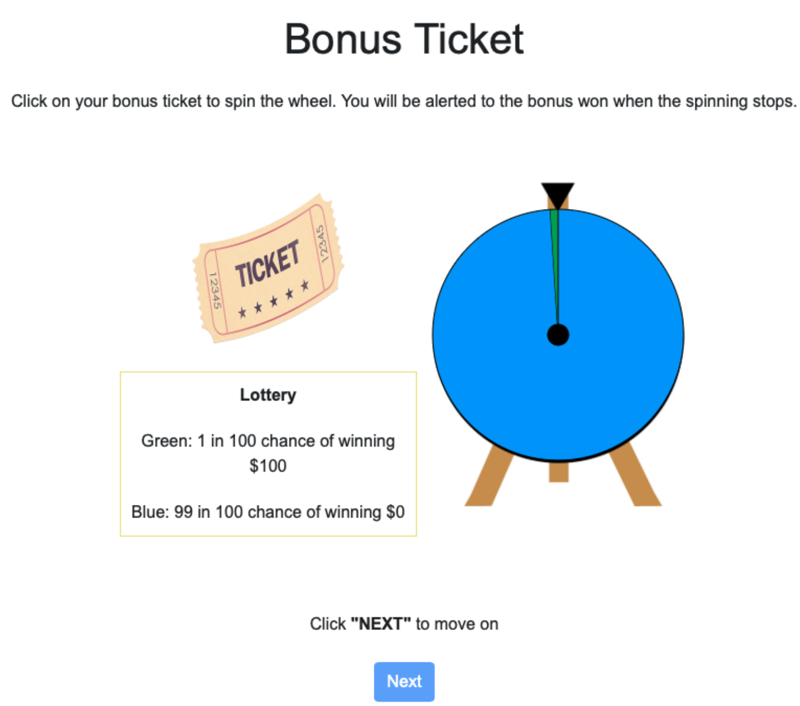
10. How do you see yourself: Are you a person who is generally willing to take risks, or do you try to avoid taking risks? (scale 0-10 with 0 meanings “completely unwilling to take risks” and 10 means “very willing to take risks”)
    - Risk survey based on SOEP and Falk et. al. (2023) and Eckel et al., (2023) (scale 1 -10 – 1: risk averse 10: fully prepared to take risks)

Charity Selected & Lottery Outcome

“Charity X was randomly selected for realization. You had 10 tokens and you allocated X tokens to the charity and X tokens for yourself.”

[THE FOLLOWING STATEMENTS ARE TREATMENT-DEPENDENT]

[INSERT LOTTERY WHEELS]



[NO MATCH]
Note: No additional info is given.

[1:1 MATCH]
You have X bonus ticket(s) with a guaranteed 1 token match by the experimenter.

[10% of 10 tokens MATCH]
You have X bonus ticket(s) with a 1 in 10 chance of an additional 10-token match by the experimenter. You will now spin the lottery wheel to determine the value of your bonus tickets.

[1% of 100 tokens MATCH]
You have X bonus ticket(s) with a 1 in 100 chance of an additional 100-token match by the experimenter. You will now spin the lottery wheel to determine the value of your bonus tickets.

[1% of 50 tokens MATCH]
You have X bonus ticket(s) with a 1 in 100 chance of an additional 50-token match by the experimenter. You will now spin the lottery wheel to determine the value of your bonus tickets.

[0.5% of 100 tokens MATCH]
You have X bonus ticket(s) with a 1 in 200 chance of an additional 100-token match by the experimenter. You will now spin the lottery wheel to determine the value of your bonus tickets.

Match Outcome:

An additional X token(s) will be donated to Charity X based on the value of your bonus tickets.

Payment Page:

Total payment: X

- Participation Fee
- Endowment: $5 (10 tokens)
- Matching

Total Amount Allocated by You to Charity:

Total Amount Owed to You:

Each token is worth $0.50.

The donation to the charity will be made on your behalf as an anonymous donation.

Click Here to confirm and proceed to the completion page

Completion Page:

Thank you for participating in our study. You will now be directed back to Forthright Access.

If you would like to see a donation certificate confirmation after all participants have completed this study please visit the following link: https://hbl.tamu.edu/donation-certificates/