The Effect of Experimenter Demand on Inference: Online Appendices

K. Pun Winichakul ⓡ   Guillermo Lezama ⓡ   Priyoma Mustafi ⓡ

Marissa Lepper ⓡ   Alistair Wilson ⓡ   David Danz ⓡ

Lise Vesterlund ⓡ

August, 2024

A   Online Appendix: Additional Results

Table A.1: Experiment Design

Task	Endowment	Decisions
WTP	$10	10% lottery
	$10	90% lottery
WTA	$10	10% lottery
	$10	90% lottery
Time Preferences	$10	Pay today vs. week from today
	$10	Pay tomorrow vs. week from tomorrow
Charitable Giving	$20	Donation not matched
	$20	Donation matched

Note: Decisions within each task were randomized. WTA and WTP task orders were also randomly determined. In total, participants faced one of sixteen possible decision orders. Experiment stakes shown correspond to laboratory sample. Stakes were scaled down by one-fifth for the MTurk sample.

Table A.2: Summary of Participant Sample

Sample-Type	Total Participants	Participants by Treatment		
		Negative	*No-demand*	*Positive*
Laboratory	236	79	80	77
Amazon MTurk	756	245	262	249
Prolific	732	244	242	246
Totals	1,724	568	584	572

Note: Total observations are reported above for each demand treatment, and described separately for our laboratory, Amazon Mechanical Turk, and Prolific samples.

Table A.3: Significance Levels (p-values) for laboratory comparative static tests

	All	Fixed demand			Mixed demand	
		No demand	Negative	Positive	Minimize$^\ominus$	Maximize$^\oplus$
Probability weighting (WTP):						
Low-p	< 0.001	0.002	< 0.001	< 0.001	< 0.001	< 0.001
High-p	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Relative)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Probability weighting (WTA):						
Low-p	< 0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001
High-p	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Relative)	0.904	0.049	0.333	0.339	0.882	0.038
Endowment effect:						
Low-p	< 0.001	0.002	< 0.001	< 0.001	0.012	< 0.001
High-p	0.019	**0.731**	0.003	0.072	0.001	0.127
Joint (Null)	< 0.001	0.009	< 0.001	< 0.001	0.001	< 0.001
Joint (Relative)	0.019	0.031	0.804	0.138	0.379	0.032
Present bias:						
	0.339	0.239	0.888	0.733	0.819	0.465
Charitable Giving:						
Donation Received	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Donation Given	0.931	0.725	0.696	0.893	**0.074**	0.217

Note: p-values reported from two-sided unpaired t-tests. Joint tests are for high- and low-probability lotteries combined, either that both are significant (Null) or that the difference is the same for both (Relative).

Table A.4: Significance (*p*-values) for online comparative static tests

(a) MTurk

	All	Fixed demand			Mixed demand	
		No demand	Negative	Positive	Minimize$^\ominus$	Maximize$^\oplus$
Probability weighting (WTP):						
Low-*p*	< 0.001	0.001	0.001	< 0.001	0.001	< 0.001
High-*p*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Relative)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Probability weighting (WTA):						
Low-*p*	< 0.001	< 0.001	0.001	< 0.001	< 0.001	< 0.001
High-*p*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Relative)	0.217	0.799	0.023	0.954	0.524	0.068
Endowment effect:						
Low-*p*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
High-*p*	< 0.001	< 0.001	< 0.001	0.005	**0.574**	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	0.001	< 0.001
Joint (Relative)	0.015	0.236	0.228	0.075	0.007	0.746
Present bias:						
	0.843	0.716	0.954	0.992	**0.033**	**0.039**
Charitable Giving:						
Donation Received	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Donation Given	0.376	0.273	0.876	0.759	**0.026**	**0.007**

(b) Prolific

	All	Fixed demand			Mixed demand	
		No demand	Negative	Positive	Minimize$^\ominus$	Maximize$^\oplus$
Probability weighting (WTP):						
Low-*p*	< 0.001	**0.102**	0.087	< 0.001	0.087	< 0.001
High-*p*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Relative)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Probability weighting (WTA):						
Low-*p*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
High-*p*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Relative)	0.001	0.004	0.007	0.895	0.473	0.033
Endowment effect:						
Low-*p*	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
High-*p*	< 0.001	0.001	< 0.001	< 0.001	**0.249**	< 0.001
Joint (Null)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Joint (Relative)	0.001	0.029	0.535	0.004	0.001	0.594
Present bias:						
	0.862	0.902	0.920	0.588	0.112	**0.043**
Charitable Giving:						
Donation Received	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Donation Given	0.271	0.414	0.478	0.689	**0.082**	**0.004**

Note: *p*-values reported from two-sided unpaired t-tests. Joint tests are for high- and low-probability lotteries combined, either that both are significant (Null) or that the difference is the same for both (Relative).

Table A.5: Quantitative Bounds on Laboratory Treatment Effect Size and Significance

Panel A: Treatment Effect Size

	No Demand	*Minimize*$^{\ominus}$	Maximize$^{\oplus}$
Probability Weighting			
Low-p	0.705	0.743	1.160
High-p	-2.368	-2.890	-2.741
Endowment Effect			
Low-p	1.093	0.929	1.856
High-p	-0.171	1.376	0.648
Present Bias			
	0.359	-0.074	0.225
Charitable Giving			
Donation Received	9.156	6.202	11.096
Donation Given	0.386	-1.862	1.309

Panel B: P-Values

	No Demand	*Minimize*$^{\ominus}$	Maximize$^{\oplus}$
Probability Weighting			
Low-p	0.002	0.000	0.000
High-p	0.000	0.000	0.000
Endowment Effect			
Low-p	0.002	0.012	0.000
High-p	0.731	0.001	0.127
Present Bias			
	0.239	0.819	0.465
Charitable Giving			
Donation Received	0.000	0.000	0.000
Donation Given	0.725	0.074	0.217

Note: Effect size and p-values reported from one-sided unpaired t-tests. Values reported in the *No Demand* column are conventional statistics from the No Demand treatment decisions while the others are drawn from cross-demand treatment comparisons. For each task, the *Minimize*$^{\ominus}$ column provides the lower bound for effect size and the upper bound for significance while the *Maximize*$^{\oplus}$ column provides the upper bound for the effect size and the lower bound for significance.

Table A.6: Quantitative Bounds on Online Treatment Effect Size and Significance

Panel A: Treatment Effect Size

	Mturk			Prolific		
	No Demand	*Minimize*$^{\ominus}$	Maximize$^{\oplus}$	No Demand	*Minimize*$^{\ominus}$	Maximize$^{\oplus}$
Probability Weighting						
Low-p	0.505	0.452	1.133	0.188	0.201	0.473
High-p	-3.489	-2.953	-4.196	-3.327	-2.780	-3.924
Endowment Effect						
Low-p	1.752	1.012	1.873	1.607	1.331	1.877
High-p	1.468	0.153	1.976	0.974	0.299	2.040
Present Bias						
	0.118	-0.658	0.643	-0.038	-0.476	0.604
Charitable Giving						
Donation Received	4.774	2.814	6.676	7.907	5.021	9.138
Donation Given	0.506	-1.151	1.393	0.509	-1.065	1.731

Panel B: P-Values

	No Demand	*Minimize*$^{\ominus}$	Maximize$^{\oplus}$	No Demand	*Minimize*$^{\ominus}$	Maximize$^{\oplus}$
Probability Weighting						
Low-p	0.001	0.001	0.000	0.102	0.087	0.000
High-p	0.000	0.000	0.000	0.000	0.000	0.000
Endowment Effect						
Low-p	0.000	0.000	0.000	0.000	0.000	0.000
High-p	0.000	0.574	0.000	0.001	0.249	0.000
Present Bias						
	0.716	0.033	0.039	0.902	0.112	0.043
Charitable Giving						
Donation Received	0.000	0.000	0.000	0.000	0.000	0.000
Donation Given	0.273	0.026	0.007	0.414	0.082	0.004

Note: Effect size and p-values reported from one-sided unpaired t-tests. Values reported in the *No Demand* column are conventional statistics from the No Demand treatment decisions while the others are drawn from cross-demand treatment comparisons. For each task, the *Minimize*$^{\ominus}$ column provides the lower bound for effect size and the upper bound for significance while the *Maximize*$^{\oplus}$ column provides the upper bound for the effect size and the lower bound for significance.

Table A.7: Summary Statistics

	WTA$_{10\%}$	WTA$_{90\%}$	WTP$_{10\%}$	WTP$_{90\%}$	Today	Tomorrow	Not-matched	Matched
Panel A: Laboratory Sessions								
Positive Demand								
Mean	3.599	6.907	2.160	6.110	7.945	8.051	9.926	19.574
Std. Err	0.291	0.314	0.229	0.308	0.231	0.209	0.723	1.466
Obs.	77	77	77	77	77	77	77	77
No demand								
Mean	2.798	6.462	1.705	6.633	7.873	8.232	8.385	17.541
Std. Err	0.270	0.382	0.218	0.317	0.251	0.170	0.780	1.529
Obs.	80	80	80	80	80	80	80	80
Negative Demand								
Mean	3.089	7.487	1.743	6.259	7.826	7.871	8.478	16.128
Std. Err	0.178	0.289	0.188	0.282	0.226	0.225	0.759	1.477
Obs.	79	79	79	79	79	79	79	79
Total Obs.	236	236	236	236	236	236	236	236
Panel B: Mturk Sessions								
Positive Demand								
Mean	3.325	6.780	2.133	6.047	6.254	6.257	5.116	10.566
Std. Err	0.197	0.192	0.180	0.177	0.213	0.216	0.388	0.758
Obs	249	249	249	249	249	249	249	249
No demand								
Mean	3.257	6.979	1.505	5.511	5.636	5.755	3.762	8.536
Std. Err	0.182	0.199	0.147	0.177	0.230	0.231	0.319	0.666
Obs	262	262	262	262	262	262	262	262
Negative Demand								
Mean	3.145	6.126	1.452	4.804	5.614	5.596	3.890	7.931
Std. Err	0.183	0.201	0.134	0.187	0.223	0.224	0.346	0.681
Obs	245	245	245	245	245	245	245	245
Total Obs.	756	756	756	756	756	756	756	756
Panel B: Prolific Sessions								
Positive Demand								
Mean	3.078	7.116	1.473	6.220	6.530	6.689	7.151	14.813
Std. Err	0.177	0.186	0.127	0.167	0.208	0.206	0.453	0.893
Obs	246	246	246	246	246	246	246	246
No demand								
Mean	2.795	6.647	1.188	5.673	6.427	6.388	6.888	14.795
Std. Err	0.171	0.210	0.115	0.183	0.221	0.218	0.435	0.893
Obs	242	242	242	242	242	242	242	242
Negative Demand								
Mean	2.803	6.518	1.201	5.076	6.085	6.054	5.675	12.172
Std. Err	0.179	0.198	0.117	0.174	0.215	0.215	0.409	0.819
Obs	244	244	244	244	244	244	244	244
Total Obs.	732	732	732	732	732	732	732	732

Note: This table uses data from laboratory and MTurk sessions. First half presents mean decision values with standard errors and the number of observations, for each of the demand treatment conditions, using the lab population. Second half presents mean decision values with standard errors and the number of observations, for each of the demand treatment conditions using the Mturk population.
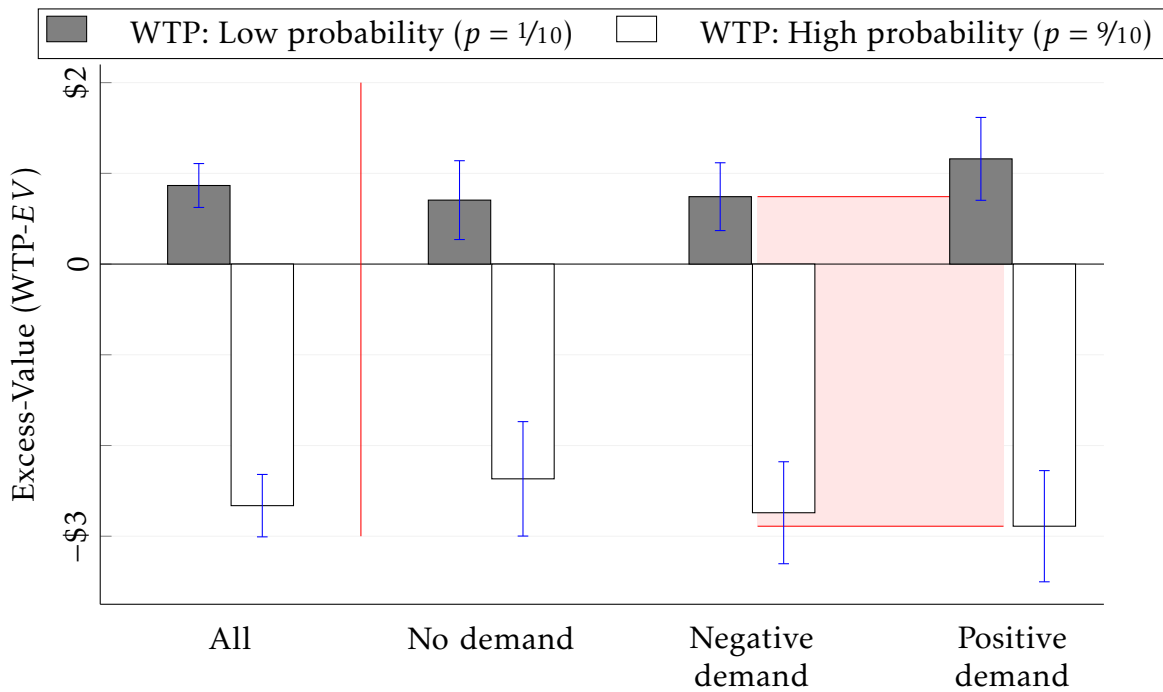
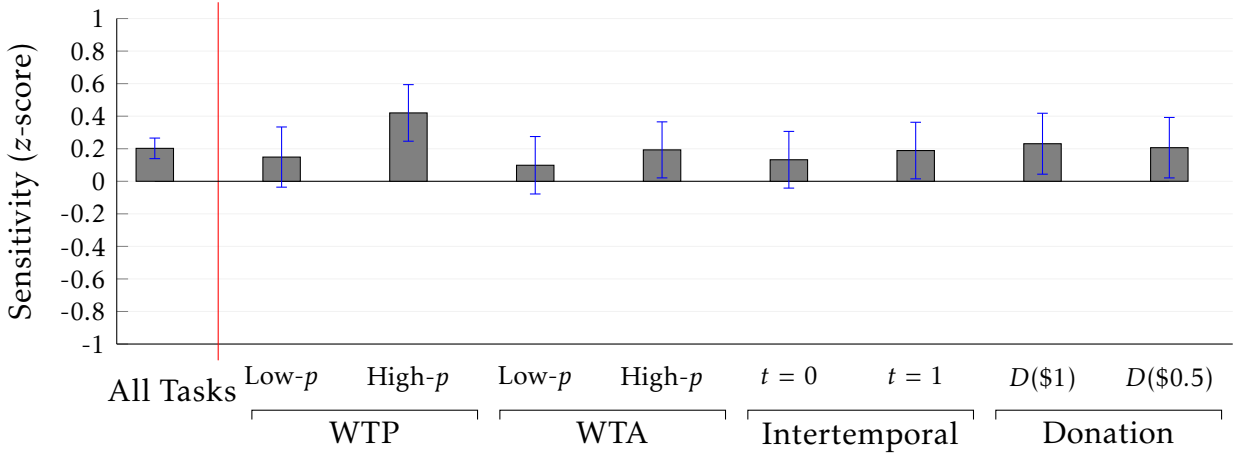Figure A.1: Over-and under-weighting of probabilistic events: Excess Valuations

Note: This figure measures the Excess-value (subtracting the expected value from the WTP) for each lottery. The Probability-weighting comparative static is over the difference between the relative valuations for the high and low probability lotteries.
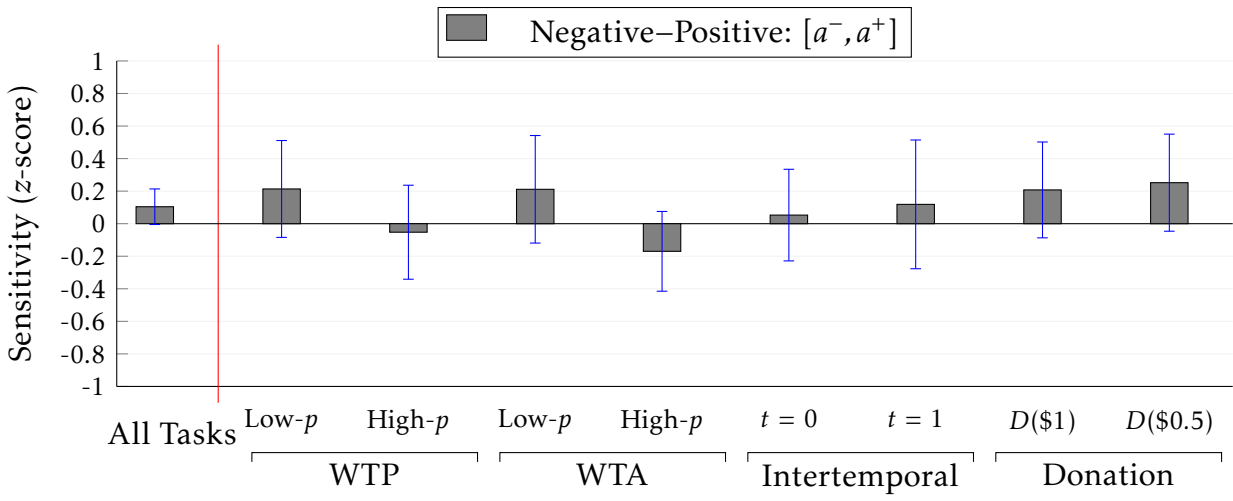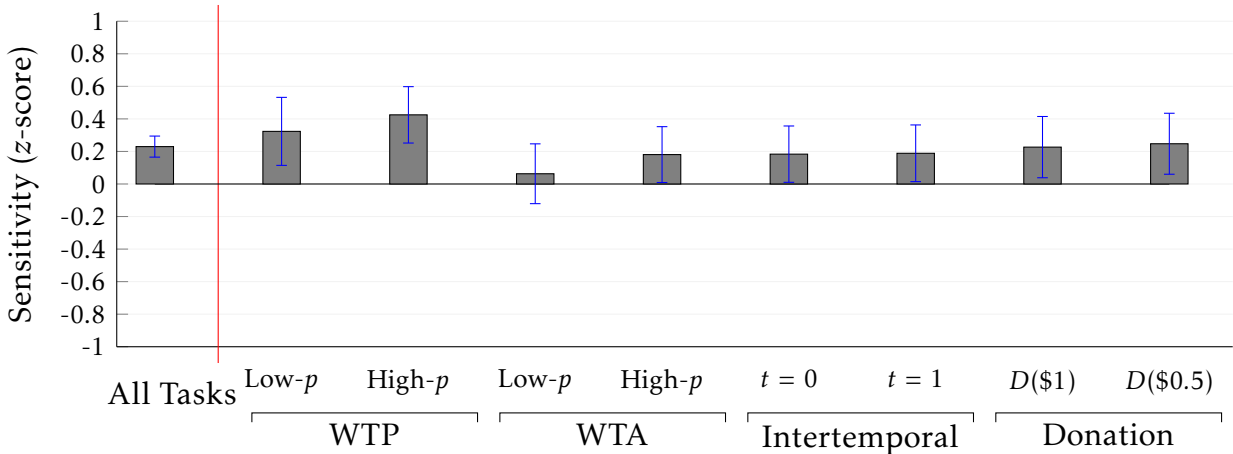
Figure A.2: Replication of de Quidt et al. (2018) Figure 1

Note: This figure measures the sensitivity of participant decisions to demand treatments for each decision. The size of each bar represents the difference between (standardized) mean decision values in the *Positive* and *Negative* demand treatments. 95 percent confidence intervals are also reported.
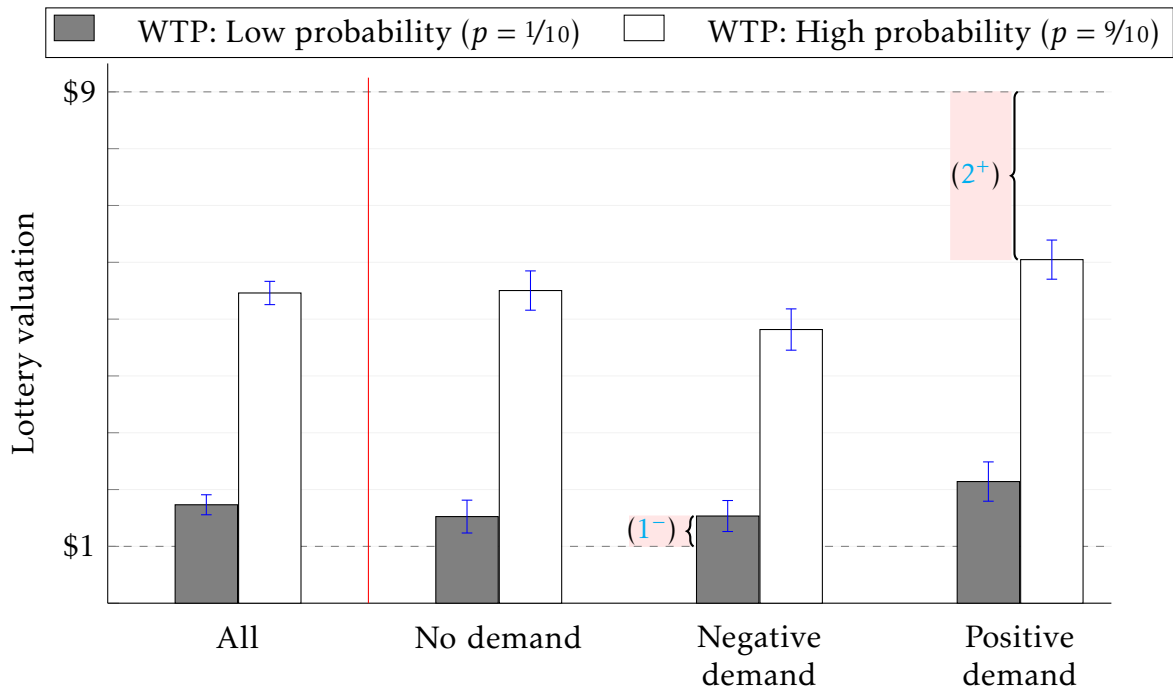
Figure A.3: Probability Weighting – MTurk Results

Note: This figure uses data from Amazon MTurk sessions. It presents mean decisions and 95 percent confidence intervals. Decision values are scaled up by 5x to compare to laboratory sample.
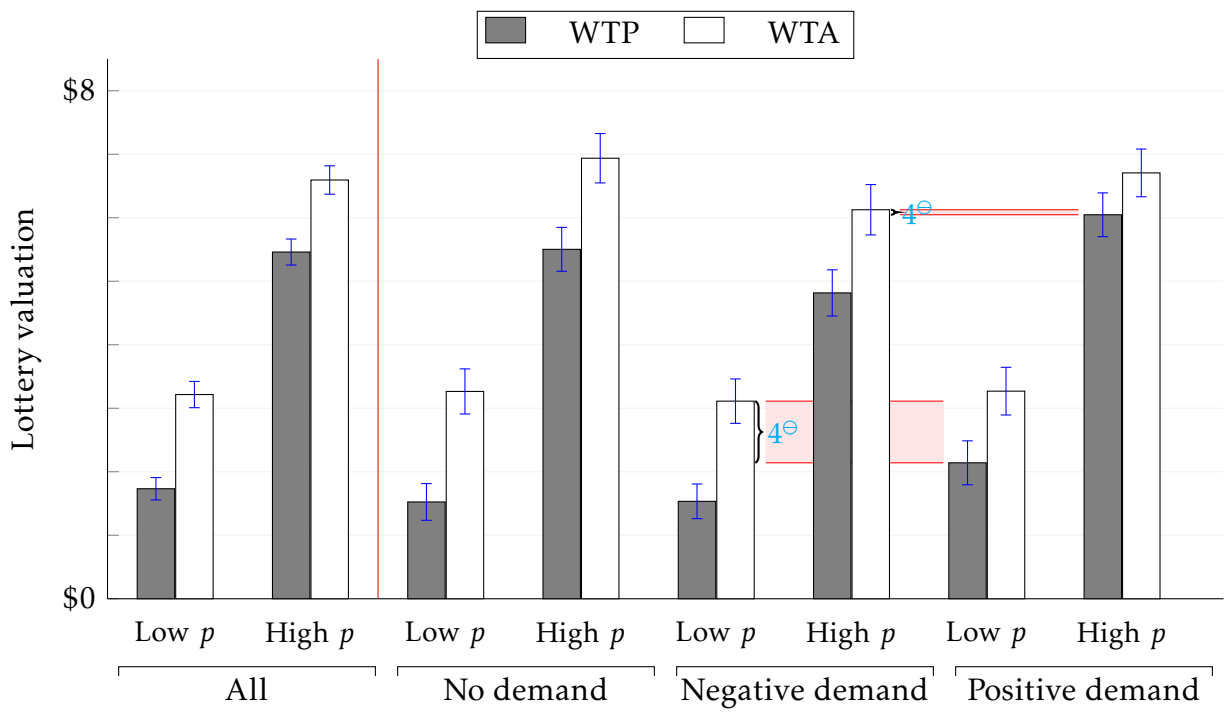
Figure A.4: Endowment Effect – MTurk Results

Note: This figure uses data from Amazon MTurk sessions. It presents mean decisions and 95 percent confidence intervals. Decision values are scaled up by 5x to compare to laboratory sample.
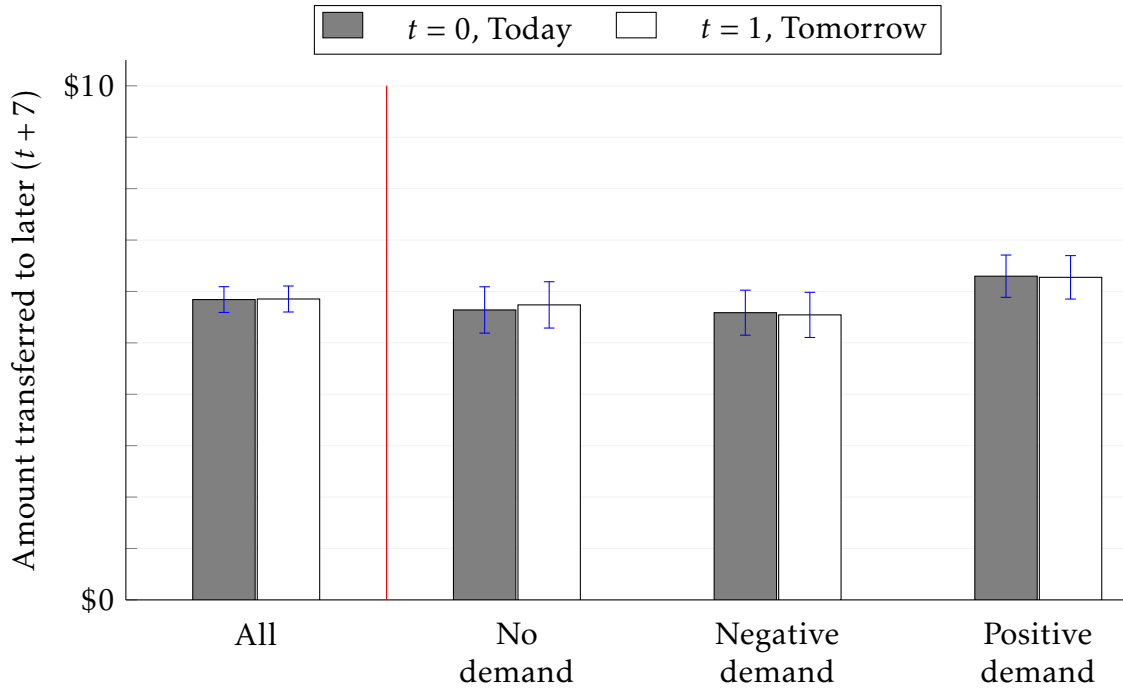
Figure A.5: Time Inconsistent Preferences – MTurk Results

Note: This figure uses data from Amazon MTurk sessions. It presents mean decisions and 95 percent confidence intervals. Decision values are scaled up by 5x to compare to laboratory sample.
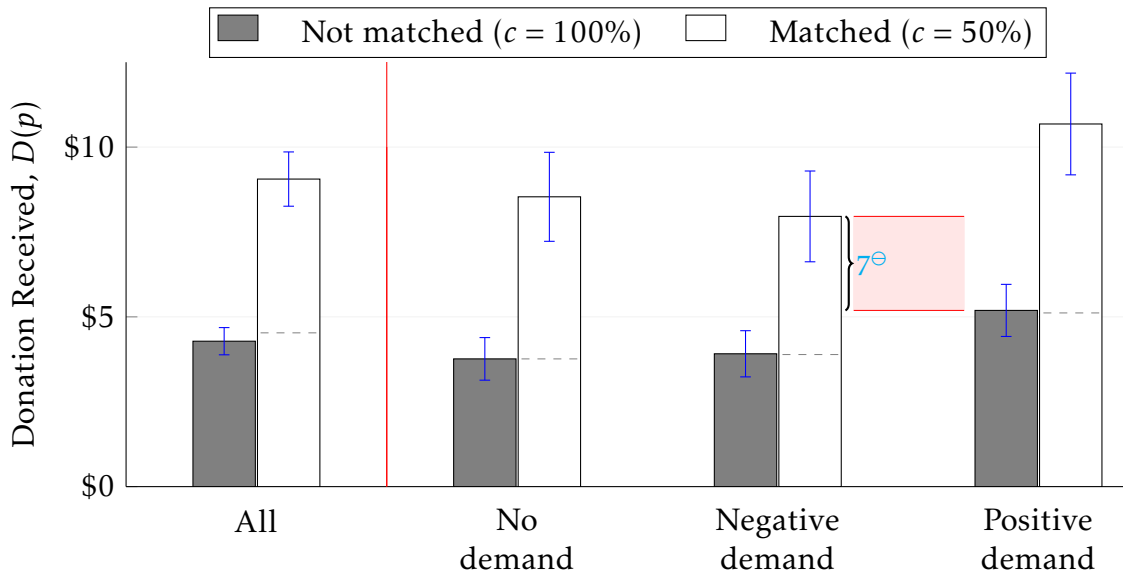
Figure A.6: Charitable Giving – MTurk Results

Note: This figure uses data from Amazon MTurk sessions. It presents mean decisions and 95 percent confidence intervals. Dashed lines represent the average donation given $c \cdot D(c)$ for cost of giving c. Decision values are scaled up by 5x to compare to laboratory sample.
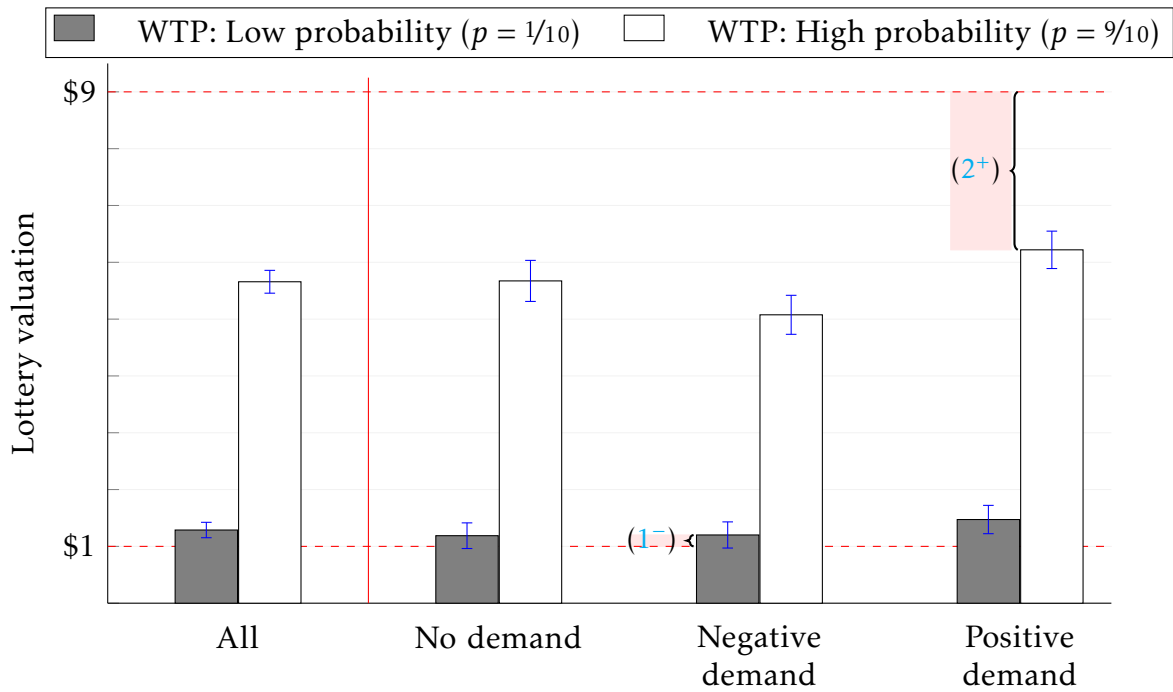
Figure A.7: Probability Weighting – Prolific Results

Note: This figure uses data from Prolific sessions. It presents mean decisions and 95 percent confidence intervals. Decision values are scaled up by 5x to compare to laboratory sample.
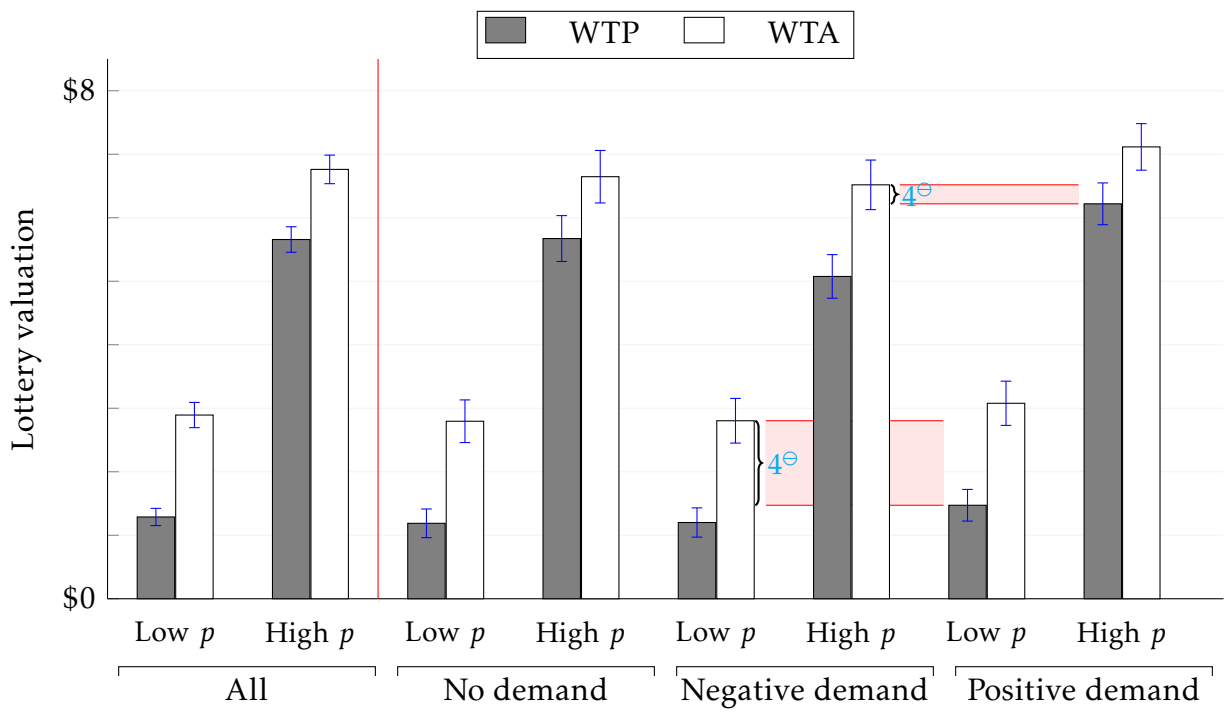
Figure A.8: Endowment Effect – Prolific Results

Note: This figure uses data from Prolific sessions. It presents mean decisions and 95 percent confidence intervals. Decision values are scaled up by 5x to compare to laboratory sample.
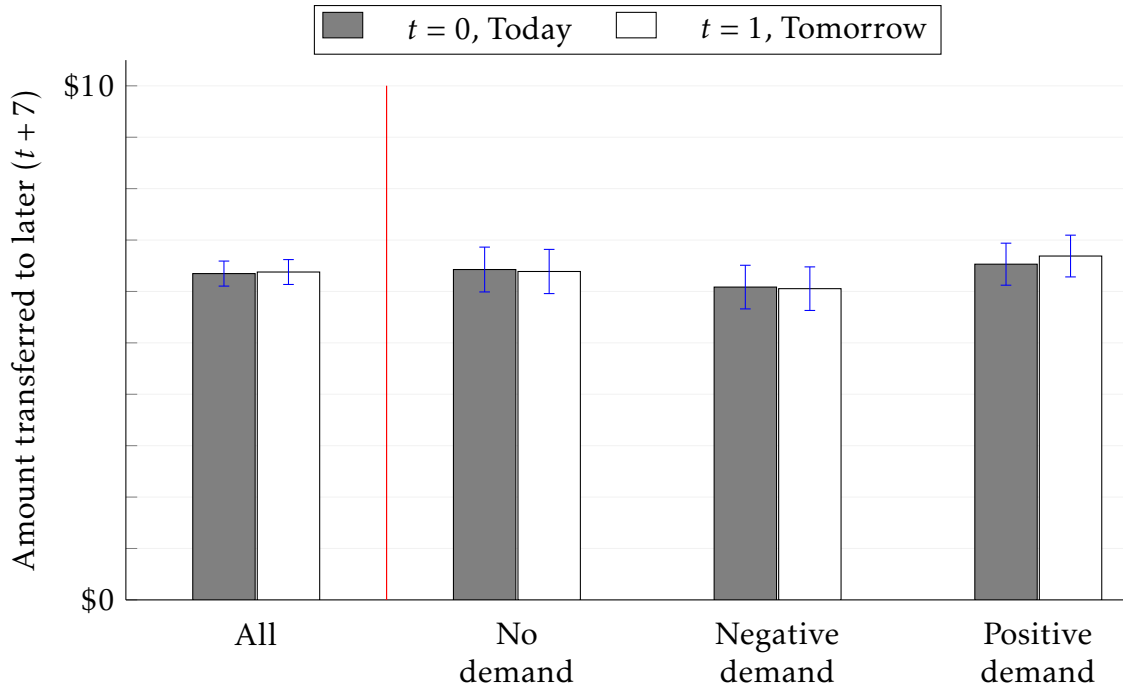
Figure A.9: Time Inconsistent Preferences – Prolific Results

Note: This figure uses data from Prolific sessions. It presents mean decisions and 95 percent confidence intervals. Decision values are scaled up by 5x to compare to laboratory sample.
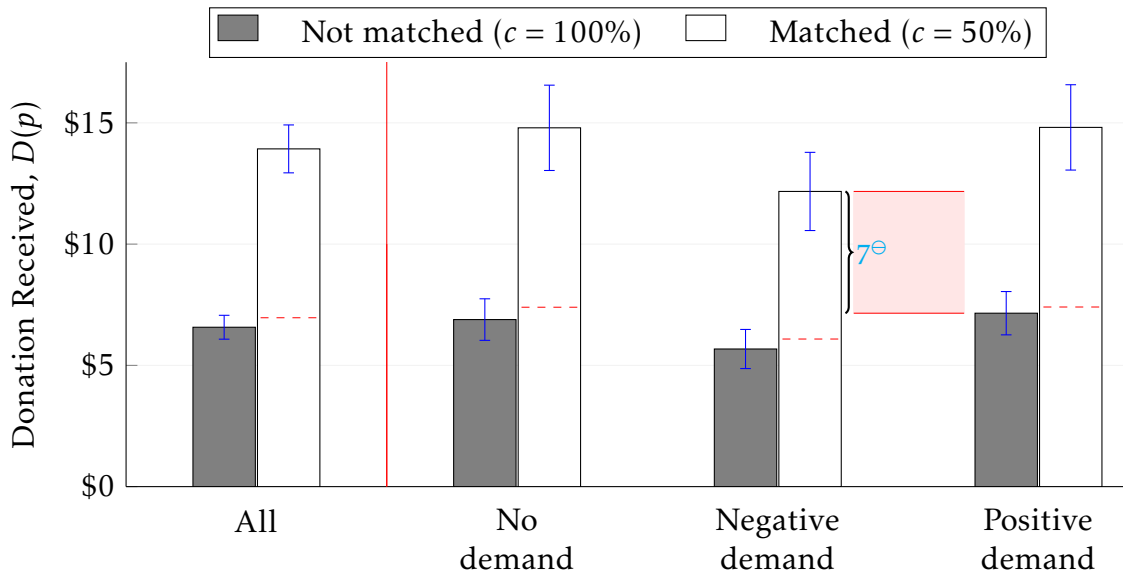
Figure A.10: Charitable Giving – Prolific Results

Note: This figure uses data from Prolific sessions. It presents mean decisions and 95 percent confidence intervals. Red dashed lines represent the average donation given $c \cdot D(c)$ for cost of giving c. Decision values are scaled up by 5x to compare to laboratory sample.

B Online Appendix: Power Calculations

Method

We use Monte Carlo simulations to complete power calculations for the study. For each comparative static, we iterate through sample sizes $n = j \in [1, N]$ and generate 1,000 different samples per j.[1] We record the p-value derived from the corresponding unpaired two-sided t-test for all 1,000 simulated samples and calculate the effective power for our study sample, defined as the proportion of p-values below the significance level of interest for $p \in \{0.01, 0.05, 0.1\}$.

We simulate choices using functional forms, shown in Equation (1) - (4) below, and parameters, listed in Table A.8, taken from the literature. We draw parameters for each "individual" $i \forall i \in j$ from a normal distribution using the mean and standard distribution from the literature. These are used to generate two "choices" per individual, one for each task in the pair. Each choice is calculated as $c_i(d) = f(\mathbf{x}, d)$, where d is the characteristics of the task, such as lottery probability, and $\mathbf{x}$ is a vector of simulated parameters.

$$\text{WTP}_i(p) = \frac{p^{\gamma_i}}{[p^{\gamma_i} + (1 - p^{\gamma_i})^{\frac{1}{\gamma_i}}]} \cdot \$10 + \epsilon_i \tag{1}$$

$$\text{WTA}_i(p) = p \cdot [\$10 + (\$10 - p \cdot \$10)] + (1 - p) \cdot [\$0 + \lambda_i \cdot (\$0 - p \cdot \$10)] \tag{2}$$

$$c_i(t) = \frac{ln\beta_i}{-\rho_i} \frac{\mathbf{1}(t = 0)}{2 + 0.2} + \frac{ln\delta_i}{-\rho_i} \frac{7}{2 + 0.2} + \frac{1}{-\rho_i} \frac{ln(1 + 0.2)}{2 + 0.2} + \frac{\$10}{2 + 0.2} \tag{3}$$

$$D_i(c) = exp(-0.987 + 0.820 \cdot \log(\$20) - 1.140 \cdot \log(c) + \epsilon_i) - 0.1 \tag{4}$$

Table A.8: Simulation Parameters

γ	Utility Curvature	$\mu = 0.71$	sd= 0.10
λ	Loss Aversion	$\mu = 3.41$	sd= 0.34
δ	Annual Discount Rate	$\mu = 0.335$	sd= 0.136
β	Present Bias	$\mu = 1.017$	sd= 0.008
ρ	CARA	$\mu = 0.007$	sd= 0.001

Our probability weighting simulation uses Equation 1, which assumes risk neutrality

---

[1]The value for N varies by task. Due to the large predicted sample size for detecting present bias and differences in donations given with and without a match, we iterate over a sequence of sample sizes evenly spaced on a logarithmic scale instead of every possible j.

and uses a structural form and parameterization of the probability weighting function from Wu and Gonzalez (1996). These estimates also act as the willingness-to-pay estimate used to test the endowment effect. The willingness-to-accept choice estimates come from Equation 2, where the functional form and parameterization come from Equation 2 in Sprenger (2015). Both WTP and WTA are simulated for lotteries with a probability $p \in \{0.1, 0.9\}$ of winning \$10 and \$0 otherwise. The potential winnings act as the reference points for the WTA estimates.

We simulate time-dated choices for allocating \$10 between a sooner date and a later date 7 days thereafter with a $r = 0.2$ interest rate using Equation 3, derived from Equation 5 and Table 2 Column 8 of Andreoni and Sprenger (2012). Finally, for charitable giving, we use Table 4 from Eckel and Grossman (2003) to estimate donations received by a charity (and donations given) from a \$20 endowment with and without a match. Specifically, we draw donation amounts from a log-normal distribution centered around the mean calculated using Equation 4, which include parameters for the responsiveness of donation amounts to endowment and donation price.

Sample Sizes

The results of our simulation are reported below. Figure A.11 shows, for each task, the effective power to determine effects at a 1% significance level for each sample size n in our loop. Table A.9 reports the minimum sample size required for 80% and 90% power for $p \in \{0.01, 0.05, 0.1\}$ as well as the effective power for our sample size, both in the No Demand treatment as well as pooled across all three demand treatments.[2]

---

[2]For charitable giving, we report minimum samples and effective power for *Donation-given* in Table A.9 but do not include a figure, as our primary focus is on testing the clear prediction for *Donation-received*.

16
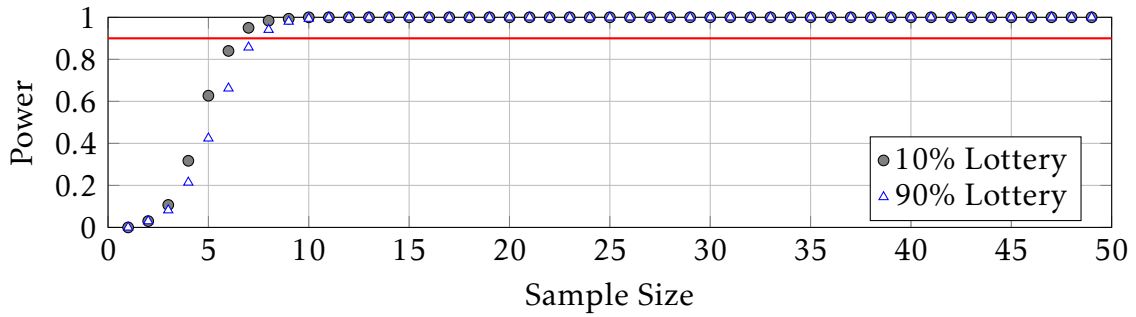
(a) Probability Weighting
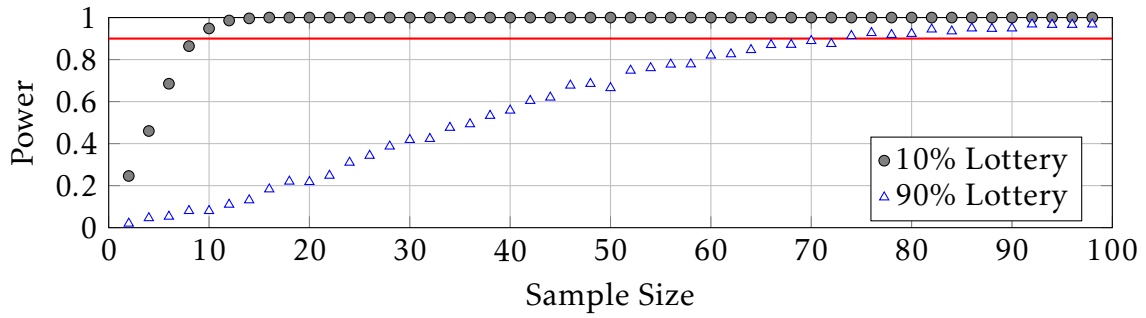
(b) Endowment Effect
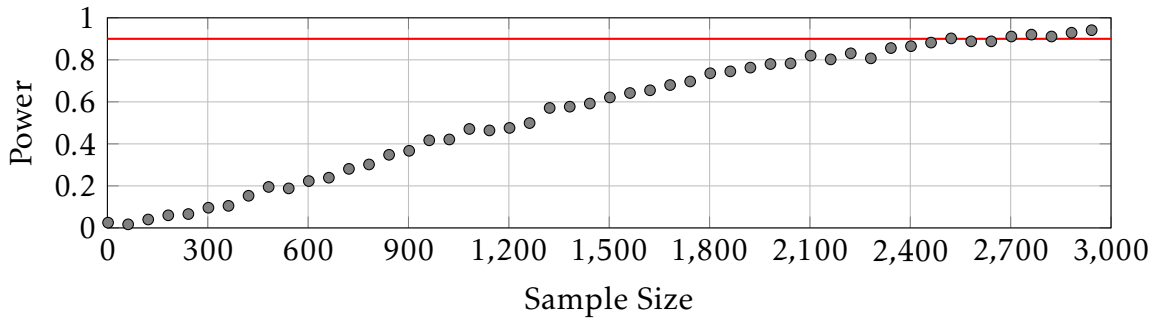
(c) Present Bias
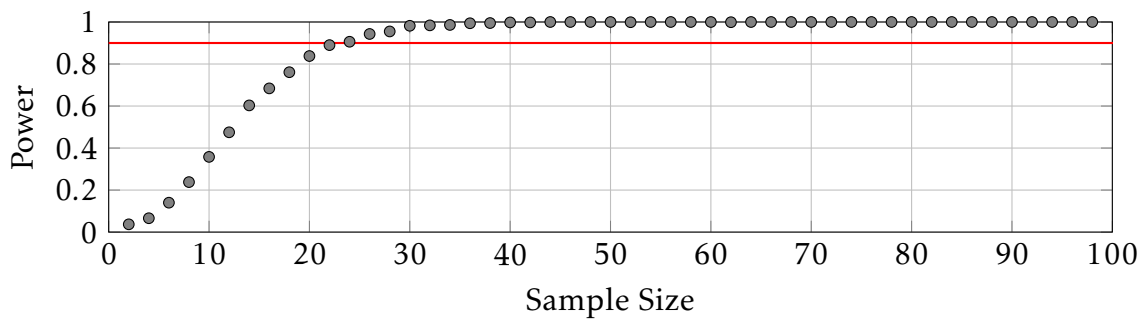
(d) Charitable Giving

Figure A.11: Power Simulations: 1% Significance

Note: For each sample size *n*, the power level is calculated as the the proportion of simulations (out of 1,000) where the t-test of interest was significant at the 1% level. The red line shows 90% power.

Table A.9: Power (Lowest Required Group Size) — Literature

Comparative Static	Power	
	80%	90%
Probability Weighting (p=.10)		
1% significance	(5,6]	(6,7]
5% significance	(4,5]	(4,5]
10% significance	(3,4]	(4,5]
Probability Weighting (p=.90)		
1% significance	(6,7]	(7,8]
5% significance	(4,5]	(5,6]
10% significance	(3,4]	(4,5]
Endowment Effect (p=.10)		
1% significance	(7,8]	(8,9]
5% significance	(5,6]	(6,7]
10% significance	(4,5]	(5,6]
Endowment Effect (p=.90)		
1% significance	(54,55]	(72,73]
5% significance	(39,40]	(49,50]
10% significance	(29,30]	(40,41]
Present Bias		
1% significance	(1802, 2018]	(2261, 2532]
5% significance	(1145,1282]	(1609,1802]
10% significance	(1022,1145]	(1436,1609]
Charitable Giving - Donation Received		
1% significance	(19,20]	(23,24]
5% significance	(11,12]	(14,15]
10% significance	(9,10]	(12,13]
Charitable Giving - Donation Given		
1% significance	(988,1138]	(1138,1310]
5% significance	(647,746]	(858,988]
10% significance	(488,562]	(647,746]

Note: For each task, the Power columns report the smallest sample n to reach 80% and 90% power, where 80% and 90%, respectively, of the 1,000 simulations of that sample size were significant at significant level $p \in \{0.01, 0.05, 0.1\}$.

Table A.10: Effective Power: Ex-Ante and Resampling Calculations

Comparative Static	Ex Ante		Resampling		
	No Demand	Pooled	No Demand	Pooled	Online
Probability Weighting ($p=.10$)					
1% significance	100%	97.8%	100%	100%	99.1%
5% significance	100%	99.9%	100%	100%	99.9%
10% significance	100%	100%	100%	100%	100%
Probability Weighting ($p=.90$)					
1% significance	100%	100%	100%	100%	100%
5% significance	100%	100%	100%	100%	100%
10% significance	100%	100%	100%	100%	100%
Endowment Effect ($p=.10$)					
1% significance	100%	100%	83.2%	100%	100%
5% significance	100%	100%	95.2%	100%	100%
10% significance	100%	100%	97.7%	100%	100%
Endowment Effect ($p=.90$)					
1% significance	92.7%	100%	10.9%	37.1%	98.5%
5% significance	97.9%	100%	26.4%	60.5%	99.8%
10% significance	98.9%	100%	37.5%	71.8%	100%
Present Bias					
1% significance	1.5%	5.3%	0%	0.1%	0%
5% significance	4.9%	17.6%	0.4%	2.8%	0%
10% significance	14%	27.7%	1.7%	8.7%	0%
Charitable Giving - Donation Received					
1% significance	100%	100%	100%	100%	100%
5% significance	100%	100%	100%	100%	100%
10% significance	100%	100%	100%	100%	100%
Charitable Giving - Donation Given					
1% significance	5.4%	20.6%	0%	0%	0%
5% significance	15.2%	38.9%	0%	0%	0%
10% significance	24.5%	48.7%	0%	0%	0%

Note: For each task, the Ex Ante Effective Power columns report the percent of 1,000 simulations that were significant at significant level $p \in \{0.01, 0.05, 0.1\}$ run with $n = 80$, the size of our No Demand treatment, and $n = 236$, the size of our sample from pooling across all three demand treatments using functional forms and parameters from the literature. Resampling Effective Power columns report the percent of 10,000 simulations that were significant at significant level $p \in \{0.01, 0.05, 0.1\}$ when resampling from our pooled-treatment lab sample at the No demand ($N = 80$) and pooled lab sample sizes ($N = 236$), and resampling from our pooled-treatment mTurk sample at (approximately) our smallest individual treatment sample size ($N = 250$), respectively.

C Online Appendix: Preregistration Details

Our initial pre-registration for the lab-study was at the the AEA RCT registry, and was entered by one of the coauthors. However, in a mistake, the entered sample-sizes reflected the maximum possible sample that we entered into our IRB application, instead of the sample calculated to generate acceptable power. The initial pre-registration was made on the AEA registry on December 3rd, 2020. Two lab sessions (of 12 planned) were completed before the sample-size mistake was caught.

Given there was no way to annotate the pre-registration at the AEA, we chose to move to *AsPredicted*, for the pre-registration. Our lab-sample pre-registration (with the corrected sample size) was entered on December 9th, 2020 (#53869, where we corrected the AEA mistake, acknowledged that two sessions had been carried out at this point, and reference the AEA pre-registration).

After this, we created two further pre-registrations at *AsPredicted*, one for MTurk (#54625) on December 18, 2020, and one for Prolific (#99884) on June 13th, 2022.

We link to all of these pre-registrations here for complete transparency, and to make clear that all hypotheses were documented before data collection began.

References

Andreoni, J. and Sprenger, C. (2012). Estimating time preferences from convex budgets. *American Economic Review*, 102(7):3333–3356.

de Quidt, J., Haushofer, J., and Roth, C. (2018). Measuring and bouding experimenter demand. *American Economic Review*, 108(11):3266–3302.

Eckel, C. C. and Grossman, P. J. (2003). Rebate versus matching: does how we subsidize charitable contributions matter? *Journal of Public Economics*, 87(3-4):681–701.

Sprenger, C. (2015). An endowment effect for risk: Experimental tests of stochastic reference points. *Journal of Political Economy*, 123(6):1456–1499.

Wu, G. and Gonzalez, R. (1996). Curvature of the probability weighting function. *Management science*, 42(12):1676–1690.

D   Online Appendix: Instructions

General Introduction Screens

Full Attention Pledge

Welcome and thank you for participating in our experiment. It is important that you fully complete the study and devote your full attention to it.

During the session, I pledge to
☐ be available for the full time of the experiment,
☐ devote my full attention to the experiment and will not engage in other activities, such as browsing the internet,
☐ put my mobile devices in silent mode and not use them during the experiment.

You will receive your payment via Venmo. Please confirm below that you either have an account or will create one before the session begins. Please also take a moment to locate your Venmo username. You can find this by clicking in the far left or far right corner of the Venmo app.
○ I have a Venmo account and know my Venmo username.

○ I did not have a Venmo account, but I created one now.

Next

Today's study

The study is conducted by researchers at the University of Pittsburgh, and it has been approved by the University of Pittsburgh Institutional Review Board. The other people in this Zoom session are also participating in the study. You must not talk to them or communicate with them in any way.

We ask that you give us your full attention throughout the study. You must remain on Zoom and keep your video on. Please refrain from all other activities, including using your phone or browsing the internet. If we find that you are not paying attention or are violating any rules you will be dismissed from the study.

Purpose and payments

The purpose of the study is to understand individual decision making.

In the study you will be asked to complete **four** tasks, with two decisions in each task, and a brief survey. You will get a $6.00 show-up payment, a $4.00 completion payment, and payment for one of your eight decisions. All payments will be made using Venmo. An additional $0.25 will be added to payments to cover Venmo's instant transfer fee, so that you can transfer the Venmo payment to your bank account immediately.

Your total earnings will depend on your individual decisions and on chance.

Your participation is voluntary. You may discontinue participation at any time during the study. If you choose to withdraw, you will receive your show-up payment of $6.00.

Your current and future status with the University of Pittsburgh and any other benefits for which you qualify will be the same whether you participate in this study or not.

Your privacy

At the end of the study, we will ask you to fill out a secure form with your name and total payment in an online payment receipt. To ensure anonymity and to minimize any potential risk of breach of confidentiality, your name will only be used to document expenditures towards the University of Pittsburgh. Your name will never be associated with your decisions or with your answers on the survey. Neither the assistants nor the other participants will be able to link you to any of the responses you make.

We ask that you do not discuss the procedures of the study with anyone else. If you wish to lodge a complaint or concern, please contact us at alistair@pitt.edu

If you have a question, please send the researcher a private chat message over Zoom and we will answer you in private. When your questions have been answered and you are ready to proceed, please click **"Next"** to agree to participate.

Next

Introduction

🔊 Please ensure your speakers are on for the entirety of the session and the volume is turned up 🔊

You will be asked to make eight decisions in today's study.

One of these eight decisions will be randomly selected for payment.

For each decision you will be given an amount of money to begin with, and you may use that amount to make your decision. The precise instructions will be given to you prior to making each decision.

Next

Control- No Demand Treatment

Task 1 WTA - instructions

Task 1

For each decision in this task you have **$10.00 and a lottery** to begin with. You may **sell** the lottery. If you sell the lottery, you earn the $10.00 plus the price. If you do not sell the lottery, you earn $10.00 plus the outcome of the lottery.

You will first see the details for the lottery you begin with. You will then indicate the lowest amount you are willing to sell the lottery for. A price is then randomly selected. If this price is greater than or equal to your lowest-acceptable amount you will sell the lottery at that price. If the price is less than your lowest-acceptable amount, then you will not sell the lottery.

You will not know the price when you indicate the lowest amount you are willing to sell the lottery for. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the lowest amount you are willing to sell the lottery for. This secures that you sell the lottery when the price is greater than or equal to the amount you are willing to sell for, and that you do not sell the lottery otherwise.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1 WTA – Decision Screens

Task 1: Decision 1

To begin, you have **$10.00** and a lottery with a **10% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

$6.20 is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $6.20: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $6.20: You sell the lottery and earn $10.00 plus the price.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1: Decision 1

To begin, you have **$10.00** and a lottery with a **10% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

$6.20 is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $6.20: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $6.20: You sell the lottery and earn $10.00 plus the price.

Next

Task 1: Decision 2

To begin, you have **$10.00** and a lottery with a **90% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

$4.25 is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $4.25: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $4.25: You sell the lottery and earn $10.00 plus the price.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1: Decision 2

To begin, you have **$10.00** and a lottery with a **90% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

———————————————○———————————— **$4.25** is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $4.25: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $4.25: You sell the lottery and earn $10.00 plus the price.

Next

Task 2 WTA- Instructions

Task 2

For each decision in this task you have **$10.00** to begin with. You may use the $10.00 to **buy** a lottery. If you do not buy the lottery, you earn the $10.00. If you do buy the lottery, you earn $10.00 minus the price plus the outcome of the lottery.

You will first see the details for the lottery that is being offered. You will then indicate the highest amount you are willing to pay for the lottery. A price is then randomly selected. If this price is greater than the highest amount you are willing to pay, then you will not buy the lottery. If the price is less than or equal to the highest amount you are willing to pay, then you will buy the lottery.

You will not know the price when you indicate the highest amount you are willing to pay. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the highest amount you are willing to pay for the lottery. This secures that you buy the lottery when the price is less than or equal to the amount you are willing to pay, and that you do not buy the lottery otherwise.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2

For each decision in this task you have **$10.00** to begin with. You may use the $10.00 to **buy** a lottery. If you do not buy the lottery, you earn the $10.00. If you do buy the lottery, you earn $10.00 minus the price plus the outcome of the lottery.

You will first see the details for the lottery that is being offered. You will then indicate the highest amount you are willing to pay for the lottery. A price is then randomly selected. If this price is greater than the highest amount you are willing to pay, then you will not buy the lottery. If the price is less than or equal to the highest amount you are willing to pay, then you will buy the lottery.

You will not know the price when you indicate the highest amount you are willing to pay. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the highest amount you are willing to pay for the lottery. This secures that you buy the lottery when the price is less than or equal to the amount you are willing to pay, and that you do not buy the lottery otherwise.

Next

Task 2 WTP – Decision Screens

Task 2: Decision 1

To begin, you have **$10.00**. The lottery that is being offered is a **10% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

$5.10 is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $5.10: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $5.10: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2: Decision 2

To begin, you have **$10.00**. The lottery that is being offered is a **90% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

$6.95 is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $6.95: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $6.95: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2: Decision 2

To begin, you have **$10.00**. The lottery that is being offered is a **90% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

━━━━━━━━━━━━━━━━━━━●━━━━━━━ **$6.95** is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $6.95: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $6.95: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

Next

Task 3 Time Preferences Instructions

Task 3

For this task you will choose how much money you want to receive at two different points in time. You will get one payment sooner and one payment later. To begin, you have **$10.00 sooner** and **$1.00 later**. You will then choose how much money to receive sooner and later by delaying some of your sooner payment to later. Any payment you delay to later earns interest.

You will receive an additional $0.25 to cover Venmo's instant transfer fee for both the sooner and the later payment, such that you can transfer your payments from Venmo to your bank account immediately after you receive each payment.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 3

Next

Task 3 Time Preferences- Decision Screens

Task 3: Decision 1

To begin, you have **$10.00 today** and **$1.00 a week from today**. You can choose how much money to receive today and a week from today by delaying payment. Any payment you move from today to a week from today earns 20% interest. That is, for every $1 you give up today, you will receive $1.20 a week from today. You may delay at most $9.00.

Please use the slider below to choose your payment today and your payment in a week from today.

Payment **today**: **$4.05** [=========●   ] Payment **a week from today**: **$8.14**

(The "Next" button will appear after the instructions are finished being read aloud.)

[Next]

Task 3: Decision 2

To begin, you have **$10.00 tomorrow** and **$1.00 a week from tomorrow**. You can choose how much money to receive tomorrow and a week from tomorrow by delaying payment. Any payment you move from tomorrow to a week from tomorrow earns 20% interest. That is, for every $1 you give up tomorrow, you will receive $1.20 a week from tomorrow. You may delay at most $9.00.

Please use the slider below to choose your payment tomorrow and your payment in a week from tomorrow.

Payment **tomorrow**: **$6.60** [======●   ] Payment **a week from tomorrow**: **$5.08**

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 3: Decision 2

To begin, you have **$10.00 tomorrow** and **$1.00 a week from tomorrow**. You can choose how much money to receive tomorrow and a week from tomorrow by delaying payment. Any payment you move from tomorrow to a week from tomorrow earns 20% interest. That is, for every $1 you give up tomorrow, you will receive $1.20 a week from tomorrow. You may delay at most $9.00.

Please use the slider below to choose your payment tomorrow and your payment in a week from tomorrow.

Payment **tomorrow**: **$6.60**   [====================●--------------------]   Payment **a week from tomorrow**: **$5.08**

Next

Task 4 Charitable Giving – Instructions

Task 4

For each decision in this task you will have **$20.00** to begin with. You may use the $20.00 to make a donation to the **Greater Pittsburgh Community Food Bank**. You earn any portion of the $20.00 that you do not donate.

The Greater Pittsburgh Community Food Bank feeds people in need and mobilizes our community to eliminate hunger. Your donation helps provide nutritious meals to our neighbors who struggle to put food on their tables each day.

To see the donation receipt from the Greater Pittsburgh Community Food Bank, please email to alistair@pitt.edu to see the total amount donated during this study. Details for getting an individual donation receipt will be provided at the end of the study.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4: Decision 1

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. **For every dollar you donate, the food bank receives one dollar.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

Donation: **$8.10**

Outcome:

You donate	$8.10
The Greater Pittsburgh Community Food Bank receives	$8.10
You earn	$11.90

(The "Next" button will appear after the instructions are finished being read aloud.)

Next

Task 4: Decision 2

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. We will match dollar for dollar any amount you donate. **For every dollar you donate, the food bank receives two dollars.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

Donation: **$16.65**

Outcome:

You donate	$16.65
The Greater Pittsburgh Community Food Bank receives	$33.30
You earn	$3.35

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4: Decision 2

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. We will match dollar for dollar any amount you donate. **For every dollar you donate, the food bank receives two dollars.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

Donation: **$16.65**

Outcome:

You donate	$16.65
The Greater Pittsburgh Community Food Bank receives	$33.30
You earn	$3.35

(The "Next" button will appear after the instructions are finished being read aloud.)

Positive Demand Treatment

Task 1 WTA Instructions

Task 1

For each decision in this task you have **$10.00 and a lottery** to begin with. You may **sell** the lottery. If you sell the lottery, you earn the $10.00 plus the price. If you do not sell the lottery, you earn $10.00 plus the outcome of the lottery.

You will first see the details for the lottery you begin with. You will then indicate the lowest amount you are willing to sell the lottery for. A price is then randomly selected. If this price is greater than or equal to your lowest-acceptable amount you will sell the lottery at that price. If the price is less than your lowest-acceptable amount, then you will not sell the lottery.

You will not know the price when you indicate the lowest amount you are willing to sell the lottery for. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the lowest amount you are willing to sell the lottery for. This secures that you sell the lottery when the price is greater than or equal to the amount you are willing to sell for, and that you do not sell the lottery otherwise.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1

For each decision in this task you have **$10.00 and a lottery** to begin with. You may **sell** the lottery. If you sell the lottery, you earn the $10.00 plus the price. If you do not sell the lottery, you earn $10.00 plus the outcome of the lottery.

You will first see the details for the lottery you begin with. You will then indicate the lowest amount you are willing to sell the lottery for. A price is then randomly selected. If this price is greater than or equal to your lowest-acceptable amount you will sell the lottery at that price. If the price is less than your lowest-acceptable amount, then you will not sell the lottery.

You will not know the price when you indicate the lowest amount you are willing to sell the lottery for. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the lowest amount you are willing to sell the lottery for. This secures that you sell the lottery when the price is greater than or equal to the amount you are willing to sell for, and that you do not sell the lottery otherwise.

Next

Task 1 Decision Screens

Task 1: Decision 1

To begin, you have **$10.00** and a lottery with a **10% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a higher willingness to sell than you normally would.

$7.10 is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $7.10: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $7.10: You sell the lottery and earn $10.00 plus the price.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1: Decision 1

To begin, you have **$10.00** and a lottery with a **10% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a higher willingness to sell than you normally would.

$7.10 is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $7.10: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $7.10: You sell the lottery and earn $10.00 plus the price.

Next

Task 1 WTA Decision Screens

Task 1: Decision 2

To begin, you have **$10.00** and a lottery with a **90% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a higher willingness to sell than you normally would.

$6.80 is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $6.80: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $6.80: You sell the lottery and earn $10.00 plus the price.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1: Decision 2

To begin, you have **$10.00** and a lottery with a **90% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a higher willingness to sell than you normally would.

────────●──────── **$6.80** is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $6.80: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $6.80: You sell the lottery and earn $10.00 plus the price.

Next

Task 2- WTP instructions

Task 2

For each decision in this task you have **$10.00** to begin with. You may use the $10.00 to **buy** a lottery. If you do not buy the lottery, you earn the $10.00. If you do buy the lottery, you earn $10.00 minus the price plus the outcome of the lottery.

You will first see the details for the lottery that is being offered. You will then indicate the highest amount you are willing to pay for the lottery. A price is then randomly selected. If this price is greater than the highest amount you are willing to pay, then you will not buy the lottery. If the price is less than or equal to the highest amount you are willing to pay, then you will buy the lottery.

You will not know the price when you indicate the highest amount you are willing to pay. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the highest amount you are willing to pay for the lottery. This secures that you buy the lottery when the price is less than or equal to the amount you are willing to pay, and that you do not buy the lottery otherwise.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2 WTP Decision Screens

Task 2: Decision 1

To begin, you have **$10.00**. The lottery that is being offered is a **10% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a higher willingness to buy than you normally would.

$3.05 is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $3.05: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $3.05: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

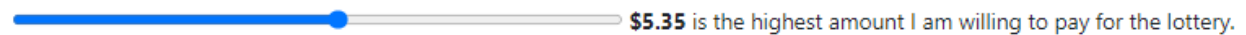(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2: Decision 2

To begin, you have **$10.00**. The lottery that is being offered is a **90% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a higher willingness to buy than you normally would.

$5.35 is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $5.35: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $5.35: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

(The "Next" button will appear after the instructions are finished being read aloud.)

Next

Task 3 Time Preferences Instructions

Task 3

For this task you will choose how much money you want to receive at two different points in time. You will get one payment sooner and one payment later. To begin, you have **$10.00 sooner** and **$1.00 later**. You will then choose how much money to receive sooner and later by delaying some of your sooner payment to later. Any payment you delay to later earns interest.

You will receive an additional $0.25 to cover Venmo's instant transfer fee for both the sooner and the later payment, such that you can transfer your payments from Venmo to your bank account immediately after you receive each payment.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 3

For this task you will choose how much money you want to receive at two different points in time. You will get one payment sooner and one payment later. To begin, you have **$10.00 sooner** and **$1.00 later**. You will then choose how much money to receive sooner and later by delaying some of your sooner payment to later. Any payment you delay to later earns interest.

You will receive an additional $0.25 to cover Venmo's instant transfer fee for both the sooner and the later payment, such that you can transfer your payments from Venmo to your bank account immediately after you receive each payment.

Next

Task 3 Time Preferences Decision Screens

Task 3: Decision 1

To begin, you have **$10.00 today** and **$1.00 a week from today**. You can choose how much money to receive today and a week from today by delaying payment. Any payment you move from today to a week from today earns 20% interest. That is, for every $1 you give up today, you will receive $1.20 a week from today. You may delay at most $9.00.

Please use the slider below to choose your payment today and your payment in a week from today.

You will do us a favor if you choose more payment in a week from today than you normally would.

Payment **today:** $4.90   [slider]   Payment **a week from today:** $7.12
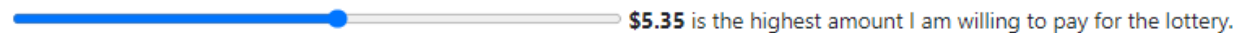
(The "Next" button will appear after the instructions are finished being read aloud.)

Task 3: Decision 1

To begin, you have **$10.00 today** and **$1.00 a week from today**. You can choose how much money to receive today and a week from today by delaying payment. Any payment you move from today to a week from today earns 20% interest. That is, for every $1 you give up today, you will receive $1.20 a week from today. You may delay at most $9.00.

Please use the slider below to choose your payment today and your payment in a week from today.

You will do us a favor if you choose more payment in a week from today than you normally would.

Payment **today:** $4.90   [slider]   Payment **a week from today:** $7.12

Next

Task 3: Decision 2

To begin, you have **$10.00 tomorrow** and **$1.00 a week from tomorrow**. You can choose how much money to receive tomorrow and a week from tomorrow by delaying payment. Any payment you move from tomorrow to a week from tomorrow earns 20% interest. That is, for every $1 you give up tomorrow, you will receive $1.20 a week from tomorrow. You may delay at most $9.00.

Please use the slider below to choose your payment tomorrow and your payment in a week from tomorrow.

You will do us a favor if you choose more payment in a week from tomorrow than you normally would.

Payment **tomorrow**:   **$5.20** ●━━━━━━━━━━○━━━━━━ Payment **a week from tomorrow**:   **$6.76**

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4 Charitable Giving Instructions

Task 4

For each decision in this task you will have **$20.00** to begin with. You may use the $20.00 to make a donation to the **Greater Pittsburgh Community Food Bank**. You earn any portion of the $20.00 that you do not donate.

The Greater Pittsburgh Community Food Bank feeds people in need and mobilizes our community to eliminate hunger. Your donation helps provide nutritious meals to our neighbors who struggle to put food on their tables each day.

To see the donation receipt from the Greater Pittsburgh Community Food Bank, please email to alistair@pitt.edu to see the total amount donated during this study. Details for getting an individual donation receipt will be provided at the end of the study.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4

For each decision in this task you will have **$20.00** to begin with. You may use the $20.00 to make a donation to the **Greater Pittsburgh Community Food Bank**. You earn any portion of the $20.00 that you do not donate.

The Greater Pittsburgh Community Food Bank feeds people in need and mobilizes our community to eliminate hunger. Your donation helps provide nutritious meals to our neighbors who struggle to put food on their tables each day.

To see the donation receipt from the Greater Pittsburgh Community Food Bank, please email to alistair@pitt.edu to see the total amount donated during this study. Details for getting an individual donation receipt will be provided at the end of the study.

Next

Task 4 Charitable Giving Decision Screens

Task 4: Decision 1

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. **For every dollar you donate, the food bank receives one dollar.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate more than you normally would.

Donation: **$9.25**

Outcome:

You donate	$9.25
The Greater Pittsburgh Community Food Bank receives	$9.25
You earn	$10.75

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4: Decision 1

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. **For every dollar you donate, the food bank receives one dollar.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate more than you normally would.

Donation: **$9.25**

Outcome:

You donate	$9.25
The Greater Pittsburgh Community Food Bank receives	$9.25
You earn	$10.75

Next

Task 4: Decision 2

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. We will match dollar for dollar any amount you donate. **For every dollar you donate, the food bank receives two dollars.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate more than you normally would.

Donation: **$4.80**

Outcome:

You donate	$4.80
The Greater Pittsburgh Community Food Bank receives	$9.60
You earn	$15.20

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4: Decision 2

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. We will match dollar for dollar any amount you donate. **For every dollar you donate, the food bank receives two dollars.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate more than you normally would.

——————————————————————————————— Donation: **$4.80**

Outcome:

You donate	$4.80
The Greater Pittsburgh Community Food Bank receives	$9.60
You earn	$15.20

Next

Negative Demand Treatment

Task 1 WTA Instructions

Task 1

For each decision in this task you have **$10.00 and a lottery** to begin with. You may **sell** the lottery. If you sell the lottery, you earn the $10.00 plus the price. If you do not sell the lottery, you earn $10.00 plus the outcome of the lottery.

You will first see the details for the lottery you begin with. You will then indicate the lowest amount you are willing to sell the lottery for. A price is then randomly selected. If this price is greater than or equal to your lowest-acceptable amount you will sell the lottery at that price. If the price is less than your lowest-acceptable amount, then you will not sell the lottery.

You will not know the price when you indicate the lowest amount you are willing to sell the lottery for. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the lowest amount you are willing to sell the lottery for. This secures that you sell the lottery when the price is greater than or equal to the amount you are willing to sell for, and that you do not sell the lottery otherwise.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1

For each decision in this task you have **$10.00 and a lottery** to begin with. You may **sell** the lottery. If you sell the lottery, you earn the $10.00 plus the price. If you do not sell the lottery, you earn $10.00 plus the outcome of the lottery.

You will first see the details for the lottery you begin with. You will then indicate the lowest amount you are willing to sell the lottery for. A price is then randomly selected. If this price is greater than or equal to your lowest-acceptable amount you will sell the lottery at that price. If the price is less than your lowest-acceptable amount, then you will not sell the lottery.

You will not know the price when you indicate the lowest amount you are willing to sell the lottery for. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the lowest amount you are willing to sell the lottery for. This secures that you sell the lottery when the price is greater than or equal to the amount you are willing to sell for, and that you do not sell the lottery otherwise.

Next

Task 1 WTA Decision Screens

Task 1: Decision 1

To begin, you have **$10.00** and a lottery with a **10% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a lower willingness to sell than you normally would.

━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━●────── **$7.80** is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $7.80: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $7.80: You sell the lottery and earn $10.00 plus the price.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 1: Decision 1

To begin, you have **$10.00** and a lottery with a **10% chance of winning $10.00**. You may **sell** the lottery.

Please use the slider below to indicate the lowest amount you are willing to sell the lottery for. Remember the price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a lower willingness to sell than you normally would.

[=================================●==========] **$7.80** is the lowest amount I am willing to sell the lottery for.

Outcome:

If the price is less than $7.80: You do not sell the lottery and earn $10.00 plus the outcome of the lottery.
If the price is greater than or equal to $7.80: You sell the lottery and earn $10.00 plus the price.

[Next]

Task 2 WTP Instructions

Task 2

For each decision in this task you have **$10.00** to begin with. You may use the $10.00 to **buy** a lottery. If you do not buy the lottery, you earn the $10.00. If you do buy the lottery, you earn $10.00 minus the price plus the outcome of the lottery.

You will first see the details for the lottery that is being offered. You will then indicate the highest amount you are willing to pay for the lottery. A price is then randomly selected. If this price is greater than the highest amount you are willing to pay, then you will not buy the lottery. If the price is less than or equal to the highest amount you are willing to pay, then you will buy the lottery.

You will not know the price when you indicate the highest amount you are willing to pay. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the highest amount you are willing to pay for the lottery. This secures that you buy the lottery when the price is less than or equal to the amount you are willing to pay, and that you do not buy the lottery otherwise.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2

For each decision in this task you have **$10.00** to begin with. You may use the $10.00 to **buy** a lottery. If you do not buy the lottery, you earn the $10.00. If you do buy the lottery, you earn $10.00 minus the price plus the outcome of the lottery.

You will first see the details for the lottery that is being offered. You will then indicate the highest amount you are willing to pay for the lottery. A price is then randomly selected. If this price is greater than the highest amount you are willing to pay, then you will not buy the lottery. If the price is less than or equal to the highest amount you are willing to pay, then you will buy the lottery.

You will not know the price when you indicate the highest amount you are willing to pay. The price is randomly determined and can be as low as $0.01 and as high as $10.00, or any number in between.

It is in your interest to report the highest amount you are willing to pay for the lottery. This secures that you buy the lottery when the price is less than or equal to the amount you are willing to pay, and that you do not buy the lottery otherwise.

Next

Task 2 WTP Decision Screens

Task 2: Decision 1

To begin, you have **$10.00**. The lottery that is being offered is a **10% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a lower willingness to buy than you normally would.

$4.80 is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $4.80: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $4.80: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2: Decision 1

To begin, you have **$10.00**. The lottery that is being offered is a **10% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a lower willingness to buy than you normally would.

$4.80 is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $4.80: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $4.80: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

Next

Task 2: Decision 2

To begin, you have **$10.00**. The lottery that is being offered is a **90% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a lower willingness to buy than you normally would.

$6.60 is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $6.60: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $6.60: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 2: Decision 2

To begin, you have **$10.00**. The lottery that is being offered is a **90% chance of winning $10.00**. You may use your $10.00 to **buy** the lottery.

Please use the slider below to indicate the highest amount you are willing to pay for the lottery. Remember the lottery price is randomly determined between $0.01 and $10.00.

You will do us a favor if you indicate a lower willingness to buy than you normally would.

━━━━━━━━━━━━━━━━━━━●━━━━━━━━━━ **$6.60** is the highest amount I am willing to pay for the lottery.

Outcome:

If the price is greater than $6.60: You do not buy the lottery and earn the $10.00.
If the price is less than or equal to $6.60: You buy the lottery and earn $10.00 minus the price, plus the outcome of the lottery.

Next

Task 3 Time Preferences Instructions

Task 3

For this task you will choose how much money you want to receive at two different points in time. You will get one payment sooner and one payment later. To begin, you have **$10.00 sooner** and **$1.00 later**. You will then choose how much money to receive sooner and later by delaying some of your sooner payment to later. Any payment you delay to later earns interest.

You will receive an additional $0.25 to cover Venmo's instant transfer fee for both the sooner and the later payment, such that you can transfer your payments from Venmo to your bank account immediately after you receive each payment.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 3

For this task you will choose how much money you want to receive at two different points in time. You will get one payment sooner and one payment later. To begin, you have **$10.00 sooner** and **$1.00 later**. You will then choose how much money to receive sooner and later by delaying some of your sooner payment to later. Any payment you delay to later earns interest.

You will receive an additional $0.25 to cover Venmo's instant transfer fee for both the sooner and the later payment, such that you can transfer your payments from Venmo to your bank account immediately after you receive each payment.

Next

Task 3 Time Preferences Decision Screens

Task 3: Decision 1

To begin, you have **$10.00 today** and **$1.00 a week from today**. You can choose how much money to receive today and a week from today by delaying payment. Any payment you move from today to a week from today earns 20% interest. That is, for every $1 you give up today, you will receive $1.20 a week from today. You may delay at most $9.00.

Please use the slider below to choose your payment today and your payment in a week from today.

You will do us a favor if you choose less payment in a week from today than you normally would.

Payment **today:**   **$3.45**   [======●====]   Payment **a week from today:**   **$8.86**

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 3: Decision 2

To begin, you have **$10.00 tomorrow** and **$1.00 a week from tomorrow**. You can choose how much money to receive tomorrow and a week from tomorrow by delaying payment. Any payment you move from tomorrow to a week from tomorrow earns 20% interest. That is, for every $1 you give up tomorrow, you will receive $1.20 a week from tomorrow. You may delay at most $9.00.

Please use the slider below to choose your payment tomorrow and your payment in a week from tomorrow.

You will do us a favor if you choose less payment in a week from tomorrow than you normally would.

Payment **tomorrow:**   **$3.95**   [======●====]   Payment **a week from tomorrow:**   **$8.26**

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 3: Decision 2

To begin, you have **$10.00 tomorrow** and **$1.00 a week from tomorrow**. You can choose how much money to receive tomorrow and a week from tomorrow by delaying payment. Any payment you move from tomorrow to a week from tomorrow earns 20% interest. That is, for every $1 you give up tomorrow, you will receive $1.20 a week from tomorrow. You may delay at most $9.00.

Please use the slider below to choose your payment tomorrow and your payment in a week from tomorrow.

You will do us a favor if you choose less payment in a week from tomorrow than you normally would.

Payment **tomorrow**: **$3.95**   ●————————   Payment **a week from tomorrow**: **$8.26**

Next

Task 4 Charitable Giving Instruction

Task 4

For each decision in this task you will have **$20.00** to begin with. You may use the $20.00 to make a donation to the **Greater Pittsburgh Community Food Bank**. You earn any portion of the $20.00 that you do not donate.

The Greater Pittsburgh Community Food Bank feeds people in need and mobilizes our community to eliminate hunger. Your donation helps provide nutritious meals to our neighbors who struggle to put food on their tables each day.

To see the donation receipt from the Greater Pittsburgh Community Food Bank, please email to alistair@pitt.edu to see the total amount donated during this study. Details for getting an individual donation receipt will be provided at the end of the study.

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4

For each decision in this task you will have **$20.00** to begin with. You may use the $20.00 to make a donation to the **Greater Pittsburgh Community Food Bank**. You earn any portion of the $20.00 that you do not donate.

Greater Pittsburgh
community food bank

The Greater Pittsburgh Community Food Bank feeds people in need and mobilizes our community to eliminate hunger. Your donation helps provide nutritious meals to our neighbors who struggle to put food on their tables each day.

To see the donation receipt from the Greater Pittsburgh Community Food Bank, please email to alistair@pitt.edu to see the total amount donated during this study. Details for getting an individual donation receipt will be provided at the end of the study.

Next

Task 4 Charitable Giving Decision Screens

Task 4: Decision 1

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. **For every dollar you donate, the food bank receives one dollar.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate less than you normally would.

Donation: **$7.60**

Outcome:

You donate	$7.60
The Greater Pittsburgh Community Food Bank receives	$7.60
You earn	$12.40

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4: Decision 1

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. **For every dollar you donate, the food bank receives one dollar.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate less than you normally would.

——————————⬤———————————— Donation: **$7.60**

Outcome:

You donate	$7.60
The Greater Pittsburgh Community Food Bank receives	$7.60
You earn	$12.40

Next

Task 4: Decision 2

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. We will match dollar for dollar any amount you donate. **For every dollar you donate, the food bank receives two dollars.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate less than you normally would.

——————————————⬤—————————— Donation: **$12.50**

Outcome:

You donate	$12.50
The Greater Pittsburgh Community Food Bank receives	$25.00
You earn	$7.50

(The "Next" button will appear after the instructions are finished being read aloud.)

Task 4: Decision 2

To begin, you have **$20.00**. You may use your $20.00 to donate to the Greater Pittsburgh Community Food Bank. We will match dollar for dollar any amount you donate. **For every dollar you donate, the food bank receives two dollars.** You earn any portion of the $20.00 that you do not donate.

Please use the slider below to indicate how much you want to donate.

You will do us a favor if you donate less than you normally would.

Donation: **$12.50**

Outcome:

You donate	$12.50
The Greater Pittsburgh Community Food Bank receives	$25.00
You earn	$7.50

Next

End of the Experiment Screens

Questionnaire

Please fill out the following questionnaire.

What is your age?

[   ]

What gender do you identify with?

○ Female   ○ Male   ○ Other

What is your race/ethnicity?

○ Asian   ○ Black   ○ Caucasian   ○ Hispanic   ○ Other

What is the highest degree you've earned so far?

○ High School or GED   ○ Bachelor   ○ Masters   ○ Ph.D.   ○ None/Other

What year of study are you?

○ Freshman   ○ Sophomore   ○ Junior   ○ Senior   ○ Graduate Student
○ Other

What is your major?

○ Arts   ○ Business   ○ Humanities   ○ Natural Sciences   ○ Social Sciences
○ Physical Sciences   ○ Other

What is your native language?

○ English   ○ Other

When did you move to the US?

○ Born in the US   ○ Moved prior to age 5   ○ Age 5 - 10   ○ Age 11 - 15
○ Age 16-20   ○ After age 20

SUBMIT

Payment

Earnings from your decisions

Task 3, Decision 1 has been randomly selected for your payment.

For this decision, you had to choose how much money to receive today and a week from today.

You chose to receive $4.05 today and $8.14 a week from today.

Your payment schedule

Date	Payment	Note
Today (after the session)	$14.30	$4.05 + $6.00 show-up payment + $4.00 completion payment + $0.25 Venmo instant transfer fee coverage
A week from today (Mar. 02, 2022)	$8.39	$8.14 + $0.25 Venmo instant transfer fee coverage

Today's payment

Your payment code is **60069**.

Please follow THIS LINK to fill out your payment receipt with your name, the date, your 7-digit student ID, your e-mail address, and your Venmo ID. Please double-check your earnings and your payment code which are auto-populated into the form.
After you fill out the receipt, you are free to leave the session and exit the Zoom meeting.

You will be paid after the session. Please e-mail mal303@pitt.edu if you have not received your payment within the next two hours.

Payment in a week from today

We will transfer the $8.39 to your Venmo account in a week from today (Mar. 02, 2022).
You will receive a copy of your payment receipt via e-mail. Please contact mal303@pitt.edu if you do not receive your payments on those days.