Supplement

Control Experiments

To allay recent concerns about the data quality on Amazon's Mechanical Turk, we conducted a direct replication of a previous MEL study (Marzilli Ericson et al., 2015) on three platforms: Amazon's Mechanical Turk, Prolific (Palan & Schitter, 2018), and a nationally representative sample from CloudResearch's Prime Panels (Chandler, Rosenzweig, Moss, Robinson, & Litman, 2019). 25 decisions each from 1,000 participants were collected and analyzed. While there were some statistical variation in the fitted (log transformed) hyperbolic discount rates (Mechanical Turk mean: -3.98, SEM: 0.11; Prolific mean: -4.25, SEM: 0.11; Prime Panel mean: -3.46, SEM: 0.12), the qualitative patterns in the three datasets remained the same. A histogram of the distribution is plotted below:

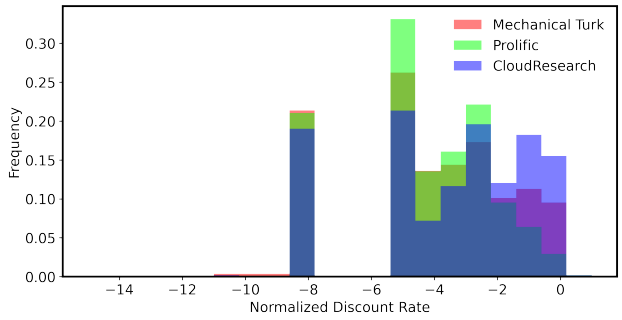

Figure 3. Distribution of hyperbolic discount rates across three crowdsourcing platforms.

Second, to allay concerns about the lack of incentives in our experiments, we conducted a study examining the role of incentives in ITC behavior. Ten fixed questions were chosen:

1. $0.03 in 0 days vs. $0.13 in 2 days
2. $0.10 in 1 day vs. $0.20 in 8 days
3. $0.20 in 1 day vs. $0.30 in 8 days
4. $0.33 in 0 days vs. $1.33 in 1 day

5. $0.40 in 0 days vs. $0.50 in 4 days
6. $1.00 in 7 days vs. $1.50 in 8 days
7. $1.00 in 1 day vs. $3.00 in 3 days
8. $2.00 in 0 days vs. $2.10 in 7 days
9. $2.00 in 2 days vs. $2.50 in 4 days
10. $5.00 in 0 days vs. $5.50 in 7 days

200 participants were recruited for the experiment. Half were put in the no incentive condition, and half were put in the incentive condition. Those in the incentive condition were told that one of their choices would be randomly chosen and the money would be bonused to them after the time delay. All ten Chi-squared analyses between the decisions in the no incentive vs. incentive condition were not statistically significant at the $\alpha = 0.05$ level.

Demographics

In Tables 2 to 5, we report the demographic data of the participants after exclusion criteria were applied.

Table 2

Sex

	Mar	**Apr**	**Jun**	**Nov**
Male	52.0%	51.7%	50.8%	50.3%
Female	47.8%	48.0%	48.9%	49.4%
Other	0.2%	0.3%	0.3%	0.3%

Table 3

Education

	Mar	Apr	Jun	Nov
Graduate	15.7%	16.3%	16.6%	16.1%
Completed College	46.0%	46.9%	46.3%	46.6%
Some College	26.8%	27.2%	26.8%	26.3%
Secondary	11.2%	9.4%	10.0%	10.6%
Primary	0.4%	0.1%	0.2%	0.2%
None	0.0%	0.0%	0.1%	0.0%

Table 4

Age

	Mar	Apr	Jun	Nov
18 to 20	6.0%	7.0%	8.1%	6.3%
21 to 44	66.6%	65.0%	62.9%	62.8%
45 to 64	28.1%	28.9%	30.2%	30.4%
65 and over	4.7%	5.2%	6.0%	6.1%

Table 5

State

State	Mar	Apr	Jun	Nov	U.S. Census
AK	0.1%	0.0%	0.1%	0.1%	0.2%
AL	1.7%	1.7%	1.1%	1.3%	1.5%
AR	0.6%	0.7%	0.7%	0.7%	0.9%
AZ	2.1%	1.9%	2.1%	1.9%	2.2%
CA	10.4%	10.5%	9.5%	9.4%	12.0%

CO	1.9%	1.7%	1.7%	2.0%	1.8%
CT	1.3%	1.3%	1.3%	1.6%	1.1%
DC	0.2%	0.3%	0.2%	0.1%	0.2%
DE	0.2%	0.3%	0.3%	0.2%	0.3%
FL	7.6%	7.7%	7.9%	7.8%	6.5%
GA	2.8%	3.1%	3.1%	4.0%	3.2%
HI	0.5%	0.8%	0.7%	0.4%	0.4%
IA	1.2%	1.0%	1.0%	0.8%	1.0%
ID	0.4%	0.3%	0.5%	0.5%	0.5%
IL	4.3%	4.2%	3.8%	3.8%	3.9%
IN	1.9%	1.6%	1.8%	1.6%	2.0%
KS	0.8%	0.4%	0.8%	0.9%	0.9%
KY	1.8%	1.4%	1.5%	2.0%	1.4%
LA	0.9%	0.9%	1.0%	0.9%	1.4%
MA	2.0%	1.9%	2.1%	2.8%	2.1%
MD	1.8%	2.0%	1.8%	2.1%	1.8%
ME	0.5%	0.7%	0.4%	0.5%	0.4%
MI	3.5%	3.3%	2.9%	2.9%	3.0%
MN	1.3%	1.7%	1.7%	1.5%	1.7%
MO	1.8%	2.6%	1.7%	2.0%	1.9%
MS	0.7%	0.6%	0.5%	1.0%	0.9%
MT	0.4%	0.3%	0.3%	0.2%	0.3%
NC	3.5%	4.4%	4.6%	3.8%	3.2%
ND	0.0%	0.1%	0.0%	0.1%	0.2%
NE	0.6%	0.7%	0.4%	0.8%	0.6%
NH	0.6%	0.6%	0.3%	0.4%	0.4%
NJ	3.0%	3.0%	2.9%	2.5%	2.7%

NM	0.7%	0.5%	0.8%	0.4%	0.6%
NV	1.3%	0.9%	1.5%	0.9%	0.9%
NY	6.1%	5.7%	6.3%	6.0%	5.9%
OH	4.2%	3.7%	4.2%	4.8%	3.6%
OK	0.8%	1.4%	0.8%	0.6%	1.2%
OR	1.6%	1.5%	1.6%	1.7%	1.3%
PA	5.2%	5.7%	5.7%	5.5%	3.9%
RI	0.3%	0.4%	0.5%	0.3%	0.3%
SC	1.5%	1.3%	1.3%	1.1%	1.6%
SD	0.1%	0.3%	0.3%	0.4%	0.3%
TN	2.1%	1.3%	1.8%	2.4%	2.1%
TX	6.9%	5.9%	6.8%	6.0%	8.8%
UT	0.8%	0.8%	0.7%	0.7%	1.0%
VA	2.2%	2.7%	3.0%	2.9%	2.6%
VT	0.2%	0.1%	0.1%	0.2%	0.2%
WA	2.6%	2.3%	3.0%	2.8%	2.3%
WI	2.3%	2.3%	2.3%	2.1%	1.8%
WV	0.6%	0.7%	0.6%	0.4%	0.6%
WY	0.0%	0.1%	0.3%	0.1%	0.2%

Participant Overlap and Potential Selection Effects

The total N of $12,906$ corresponds to each time point being thought of as a separate experiment, though all analyses in the main text take into account repeat participants. Below, we address a concern that the Mechanical Turk population potentially changed throughout the course of our experiment due to secondary effects from the pandemic. Table 6 reports the overlap in participants between each pairwise dataset.

All N are reported after exclusion criteria were applied. Furthermore, of all unique

Table 6

Participant Overlap Between Datasets

Month	N	Month	N	Overlap
March	2174	April	2014	1017
March	2174	June	1971	818
March	2174	November	2050	713
April	2014	June	1971	821
April	2014	November	2050	696
June	1971	November	2050	783

participants, 55.7% partook in one wave, 25.0% in two waves, 13.6% in three waves, and 5.7% in all four waves.

Average Metrics

Table 7 reports the mean and median AUC for the hyperbolic discounting models across the four collected datasets.

Table 7

Discounting Model Fit Metrics

	Mar	Apr	Jun	Nov
Mean AUC	0.848	0.851	0.849	0.853
Median AUC	0.861	0.867	0.863	0.865

Individual Dataset Analyses

Tables 8 to 11 outline the main text analyses, but for each individual dataset (as opposed to combining the datasets and using time of collection as a random variable). Unlike the main text analyses, individual-level effects were omitted to facilitate model convergence.

Table 8

March

	Social Distancing			Mask Use		
Variables	**Coefficient**	**95% CI**	**LOO**	**Coefficient**	**95% CI**	**LOO**
Discount Rate	-0.03	[-0.07, 0.02]	4208	N/A	[N/A, N/A]	N/A
Inverse Temperature	-0.02	[-0.05, 0.00]	4206	N/A	[N/A, N/A]	N/A
Health Stress	0.20	[0.16, 0.23]	4083	N/A	[N/A, N/A]	N/A
Financial Stress	0.07	[0.04, 0.11]	4190	N/A	[N/A, N/A]	N/A
Discount Rate	-0.03	[-0.08, 0.01]	4083	N/A	[N/A, N/A]	N/A
Health Stress	0.20	[0.16, 0.24]		N/A	[N/A, N/A]	
Inverse Temperature	-0.03	[-0.05, 0.00]	4081	N/A	[N/A, N/A]	N/A
Health Stress	0.20	[0.16, 0.23]		N/A	[N/A, N/A]	
Discount Rate	-0.03	[-0.08, 0.01]	4190	N/A	[N/A, N/A]	N/A
Financial Stress	0.08	[0.04, 0.11]		N/A	[N/A, N/A]	
Inverse Temperature	-0.02	[-0.05, 0.00]	4189	N/A	[N/A, N/A]	N/A
Financial Stress	0.07	[0.04, 0.11]		N/A	[N/A, N/A]	
Health Stress	0.21	[0.17, 0.25]	4084	N/A	[N/A, N/A]	N/A
Financial Stress	-0.02	[-0.06, 0.02]		N/A	[N/A, N/A]	
Discount Rate	-0.03	[-0.08, 0.01]	4084	N/A	[N/A, N/A]	N/A
Health Stress	0.21	[0.17, 0.25]		N/A	[N/A, N/A]	
Financial Stress	-0.02	[-0.05, 0.02]		N/A	[N/A, N/A]	
Inverse Temperature	-0.03	[-0.05, 0.00]	4083	N/A	[N/A, N/A]	N/A
Health Stress	0.21	[0.17, 0.25]		N/A	[N/A, N/A]	
Financial Stress	-0.02	[-0.06, 0.02]		N/A	[N/A, N/A]	

Table 9

April

	Social Distancing			Mask Use		
Variables	**Coefficient**	**95% CI**	**LOO**	**Coefficient**	**95% CI**	**LOO**
Discount Rate	-0.06	[-0.11, -0.02]	3721	N/A	[N/A, N/A]	N/A
Inverse Temperature	-0.03	[-0.06, -0.00]	3724	N/A	[N/A, N/A]	N/A
Health Stress	0.17	[0.13, 0.20]	3642	N/A	[N/A, N/A]	N/A
Financial Stress	0.11	[0.07, 0.14]	3690	N/A	[N/A, N/A]	N/A
Discount Rate	-0.07	[-0.11, -0.02]	3636	N/A	[N/A, N/A]	N/A
Health Stress	0.17	[0.13, 0.21]		N/A	[N/A, N/A]	
Inverse Temperature	-0.03	[-0.06, -0.00]	3638	N/A	[N/A, N/A]	N/A
Health Stress	0.17	[0.14, 0.20]		N/A	[N/A, N/A]	
Discount Rate	-0.07	[-0.12, -0.02]	3683	N/A	[N/A, N/A]	N/A
Financial Stress	0.11	[0.08, 0.14]		N/A	[N/A, N/A]	
Inverse Temperature	-0.03	[-0.06, -0.00]	3687	N/A	[N/A, N/A]	N/A
Financial Stress	0.11	[0.07, 0.14]		N/A	[N/A, N/A]	
Health Stress	0.15	[0.11, 0.19]	3641	N/A	[N/A, N/A]	N/A
Financial Stress	0.03	[-0.01, 0.07]		N/A	[N/A, N/A]	
Discount Rate	-0.07	[-0.12, -0.02]	3635	N/A	[N/A, N/A]	N/A
Health Stress	0.15	[0.11, 0.19]		N/A	[N/A, N/A]	
Financial Stress	0.04	[-0.00, 0.07]		N/A	[N/A, N/A]	
Inverse Temperature	-0.03	[-0.06, -0.00]	3638	N/A	[N/A, N/A]	N/A
Health Stress	0.15	[0.11, 0.19]		N/A	[N/A, N/A]	
Financial Stress	0.03	[-0.01, 0.07]		N/A	[N/A, N/A]	

Table 10

June

	Social Distancing			Mask Use		
Variables	**Coefficient**	**95% CI**	**LOO**	**Coefficient**	**95% CI**	**LOO**
Discount Rate	-0.02	[-0.06, 0.03]	4163	0.03	[-0.01, 0.07]	4196
Inverse Temperature	0.00	[-0.03, 0.03]	4163	-0.01	[-0.04, 0.02]	4197
Health Stress	0.24	[0.21, 0.28]	3959	0.25	[0.22, 0.29]	3980
Financial Stress	0.11	[0.08, 0.14]	4114	0.08	[0.05, 0.12]	4169
Discount Rate	-0.03	[-0.07, 0.01]	3959	0.01	[-0.03, 0.06]	3982
Health Stress	0.24	[0.21, 0.28]		0.25	[0.22, 0.28]	
Inverse Temperature	-0.01	[-0.03, 0.02]	3961	-0.02	[-0.05, 0.01]	3980
Health Stress	0.24	[0.21, 0.28]		0.25	[0.22, 0.29]	
Discount Rate	-0.03	[-0.07, 0.01]	4115	0.02	[-0.02, 0.06]	4170
Financial Stress	0.11	[0.08, 0.14]		0.08	[0.05, 0.12]	
Inverse Temperature	-0.00	[-0.03, 0.02]	4116	-0.01	[-0.04, 0.02]	4170
Financial Stress	0.11	[0.08, 0.14]		0.08	[0.05, 0.11]	
Health Stress	0.25	[0.21, 0.29]	3961	0.28	[0.24, 0.33]	3973
Financial Stress	-0.01	[-0.05, 0.03]		-0.06	[-0.10, -0.02]	
Discount Rate	-0.03	[-0.07, 0.01]		0.02	[-0.02, 0.06]	
Health Stress	0.25	[0.21, 0.29]	3961	0.28	[0.24, 0.32]	3974
Financial Stress	-0.01	[-0.04, 0.03]		-0.06	[-0.10, -0.02]	
Inverse Temperature	-0.01	[-0.04, 0.02]		-0.02	[-0.05, 0.01]	
Health Stress	0.25	[0.21, 0.29]	3963	0.29	[0.24, 0.33]	3973
Financial Stress	-0.01	[-0.05, 0.03]		-0.06	[-0.10, -0.02]	

Table 11

November

	Social Distancing			Mask Use		
Variables	**Coefficient**	**95% CI**	**LOO**	**Coefficient**	**95% CI**	**LOO**
Discount Rate	-0.03	[-0.07, 0.01]	4108	0.03	[-0.01, 0.07]	3638
Inverse Temperature	0.02	[-0.00, 0.04]	4108	0.00	[-0.02, 0.03]	3640
Health Stress	0.28	[0.24, 0.31]	3851	0.25	[0.21, 0.28]	3440
Financial Stress	0.13	[0.10, 0.16]	4040	0.09	[0.06, 0.12]	3607
Discount Rate	-0.05	[-0.09, -0.01]	3848	0.02	[-0.02, 0.07]	3441
Health Stress	0.28	[0.24, 0.31]		0.24	[0.21, 0.28]	
Inverse Temperature	0.02	[-0.01, 0.04]	3851	-0.00	[-0.03, 0.03]	3442
Health Stress	0.28	[0.24, 0.31]		0.25	[0.21, 0.28]	
Discount Rate	-0.05	[-0.09, -0.00]	4037	0.02	[-0.02, 0.06]	3609
Financial Stress	0.14	[0.10, 0.17]		0.09	[0.06, 0.12]	
Inverse Temperature	0.02	[-0.01, 0.04]	4040	0.00	[-0.03, 0.03]	3609
Financial Stress	0.13	[0.10, 0.16]		0.09	[0.06, 0.12]	
Health Stress	0.27	[0.23, 0.31]	3852	0.26	[0.22, 0.30]	3440
Financial Stress	0.01	[-0.02, 0.05]		-0.03	[-0.07, 0.01]	
Discount Rate	-0.05	[-0.10, -0.01]	3849	0.02	[-0.02, 0.07]	3441
Health Stress	0.27	[0.23, 0.31]		0.26	[0.22, 0.30]	
Financial Stress	0.02	[-0.02, 0.05]		-0.03	[-0.07, 0.01]	
Inverse Temperature	0.02	[-0.01, 0.04]	3853	0.00	[-0.03, 0.03]	3442
Health Stress	0.27	[0.23, 0.31]		0.26	[0.22, 0.30]	
Financial Stress	0.01	[-0.02, 0.05]		-0.03	[-0.06, 0.01]	

Distribution of Parameters

Figure 4 compares the (log-transformed) discount rates and inverse temperatures between our study and the most comparable study (Marzilli Ericson et al., 2015). Key differences between our studies that may account for distributional differences are time of collection (COVID-19 stressor in 2020 as well as changed Mechanical Turk Population), number of questions to participant (25 versus 200), and the specific parameters generating the questions.

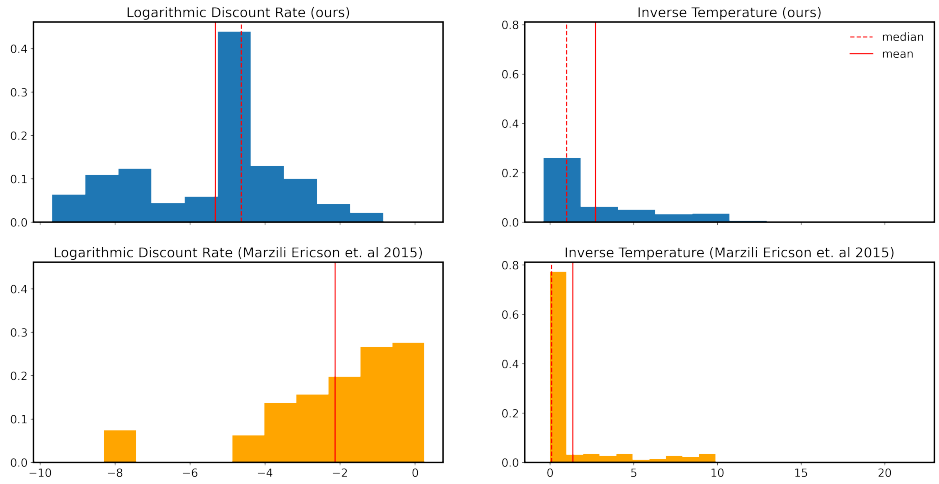

Figure 4. Comparison of hyperbolic discount rates and inverse temperatures across two studies.

Framing Conditions

Table 12 reports the (log-transformed) discount rates and inverse temperature for the five framing conditions across all collected data.

Table 12

Framing Condition Parameters

	Discount Rate		Inverse Temperature	
Framing Condition	**Mean**	**SEM**	**Mean**	**SEM**
Absolute Difference, Delay Framing	-6.15	0.054	2.33	0.078
Relative Difference, Delay Framing	-5.30	0.054	2.59	0.085
Standard Money Earlier or Later (MEL)	-5.35	0.049	2.64	0.078
Absolute Difference, Speedup Framing	-5.09	0.045	3.32	0.087
Relative Difference, Speedup Framing	-4.79	0.043	2.68	0.083