Appendix to Life-or-Death Framing of Public-Health Policy in a Pandemic

April 2, 2025

Difference Tests

Figure 1 in the article shows weighted proportions. Unweighted *Ns* and proportions selecting each response option are reported in Table A1 below.

	certain	probabilistic	Ν
gains	0.59	0.41	307
both	0.64	0.36	342
losses	0.54	0.46	331

Table A1: Unweighted Responses by Frame

A test of equality between the proportions in the gains and both frames, employing a Yates continuity correction, yields a χ^2 statistic of 2.34 with 1 degree of freedom, and an associated p value of 0.13. The same statistics for comparison of both and losses are $\chi^2 = 12.16$ and p = 0, respectively. Testing for equality between gains and losses yields $\chi^2 = 3.25$ and p = 0.07.

Weighted counterparts, depicted in the article's Figure 1, are as shown in Table A2 below.

	certain	probabilistic	Ν
gains	0.57	0.43	311
both	0.66	0.34	341
losses	0.52	0.48	330

Table A2: Weighted Responses by Frame

A test of equality between the proportions in the gains and both frames, again employing a Yates continuity correction, yields a χ^2 statistic of 4.92 with an associated p value of 0.03. The same statistics for comparison of both and losses are $\chi^2 = 12.66$ and p = 0, respectively. Testing for equality between gains and losses yields $\chi^2 = 1.44$. and p = 0.23.

System Justification

Respondents were completing the CES and were, accordingly, exposed to a large number of questions. Within this module, an experiment distinct from the "Asian Disease" replication exposed the respondents to one of three distinct openings, to place them in a mindset of system-threat, system-affirmation, or neither (as a control). Mindful that survey experiments can interfere with one another (e.g., Gaines et al. 2007, Transue et al. 2009), I checked whether these treatments appeared to affect the ADE responses.

The "threat" item was the following.

These days, many people in the United States feel disappointed with the nation's condition. Many citizens feel that the country has reached a low point in terms of social, economic, and political factors. It seems that many countries are enjoying better social, economic, and political conditions than the U.S. More and more Americans express a willingness to leave the United States and immigrate to other nations.

The "affirming" introduction read as follows.

These days, despite the difficulties the nation is facing, many people in the United States feel safer and more secure relative to the past. Many citizens feel that the country is relatively stable in terms of social, economic, and political factors. It seems that compared with many countries in the world the social, economic, and political conditions in the U.S. are relatively good. Very few Americans express a willingness to leave the United States and immigrate to other nations.

A chi-squared test on distributions of the chosen mitigation programs across these frames supports independence, with $\chi^2(2) = 1.137$ with a *p*-value of 0.57.

If we, instead, examine the overall average treatment effects separately for each systems frame, differences are slight, as Figure A1 demonstrates.

Figure A1: Choices By Frames



ADE frame

Framing Effects By Personal Experience with Covid

Program choices were very similar for those who reported knowing someone (friend, co-worker or family member) who had had COVID or having had it themselves and for those who did not. Weighted proportions are shown in Tables A3 and A4 below. Tables A5 and A6 show weighted proportions according to subjects' self-reported experience of knowing someone who died of COVID.

	certain	probabilistic	Ν
gains	0.59	0.41	159
both	0.68	0.32	179
losses	0.50	0.50	150

Table A3: Weighted Responses by Frame, with COVID-positive Acquaintances

	certain	probabilistic	Ν
gains	0.56	0.44	152
both	0.64	0.36	162
losses	0.54	0.46	180

Table A4: Weighted Responses by Frame, w/o COVID-pos. Acquaintances

		un ala ala ili ati a	NT
	certain	probabilistic	IN
gains	0.66	0.34	44
both	0.52	0.48	42
losses	0.46	0.54	33

Table A5: Weighted Responses by Frame, Acquaintances died from COVID

	certain	probabilistic	Ν
gains	0.54	0.46	106
both	0.68	0.32	114
losses	0.48	0.52	105

Table A6: Weighted Responses by Frame, No Acquaintances died from COVID

Results by Partisanship

Figure A2 shows ATEs for the subsets of self-identified Democrats, Republicans, and independents separately. This figure uses only the first question from the standard "partisan identification" battery, pooling together pure independents and "leaners."

Patterns for Republicans and independents do not match those from the original ADE. Democrats do exhibit monotonic decrease in risk-averse proportions, comparing gains to both to losses, but the gaps are modest.

Bayes factors for the primary comparison, of the gains and losses frames, for the Democrats, independents, and Republicans, respectively, are: 18.67, 0.42, and 0.31. Democrats thus provided strong evidence for a much-diminished original effect, whereas the data for the other respondents better support the opposite conclusion. Partisanship not being randomly assigned, below we show models of the framing effect for partisans net of various possible confounders.

Figure A3 shows responses by frames for all seven of the standard NES party-identification categories, none of which match the original Tversky and Kahneman pattern very well.





Frame

null device 1

Data points are proportions selecting the certain option for the given frame and party identification, with a 95-percent-confidence interval. Republicans (left) are circles, others (middle) are squares, and Democrats (right) are diamonds.

Figure A3: Treatment Effects by Respondent's Party



The partisan groups compared in Figure A2 are, of course, observed, not formed by random assignment. And the proportions are not adjusted for any covariates. Probit models shown below confirm that the gains-versus-losses differences for Republicans and independents are not statistically significant, whereas those for Democrats are, even when permitting distinct sex, race, and education effects.

	Dependent variable:
	pick certain
gains	0.262 (0.212)
both	0.805*** (0.220)
white	0.098 (0.276)
black	-0.062 (0.760)
male	-0.043 (0.183)
educHigh school graduate	0.078 (0.411)
educSome college	0.036 (0.423)
educ2-year	-0.061 (0.441)
educ4-year	0.050 (0.429)
educPost-grad	0.262 (0.518)
Constant	0.083 (0.479)
Observations Log Likelihood Akaike Inf. Crit.	239 138.295 298.589
Note:	*p<0.1; **p<0.05; ***p<0.01

Table A7: Republicans

	Dependent variable:	
	pick certain	
gains	0.432**	
•	(0.172)	
both	0.312*	
	(0.165)	
white	0.096	
	(0.203)	
black	-0.066	
	(0.239)	
male	0.016	
	(0.139)	
educHigh school graduate	0.761*	
0 0	(0.434)	
educSome college	0.629	
Ŭ	(0.434)	
educ2-year	0.546	
2	(0.461)	
educ4-year	0.763*	
, ,	(0.426)	
educPost-grad	0.824^{*}	
0	(0.448)	
Constant	-0.893**	
	(0.441)	
Observations	352	
Log Likelihood	-236.627	
Akaike Inf. Crit.	495.253	
Note:	*p<0.1; **p<0.05; ***p<0.01	

Table A8: Democrats

	Dependent variable:
	pick certain
gains	-0.177
-	(0.159)
both	-0.041
	(0.162)
white	-0.381^{**}
	(0.187)
black	-0.413
	(0.264)
male	0.071
	(0.132)
educHigh school graduate	0.167
	(0.376)
educSome college	0.165
	(0.378)
educ2-year	0.071
	(0.408)
educ4-year	0.129
	(0.384)
educPost-grad	0.761*
-	(0.408)
Constant	0.322
	(0.408)
Observations	389
Log Likelihood	-258.235
Akaike Inf. Crit.	538.470
Note:	*p<0.1; **p<0.05; ***p<0.01

Table A9: others

Sources

- Gaines, Brian J., James H. Kuklinski, & Paul J. Quirk. 2007. The Logic of the Survey Experiment Reexamined. *Political Analysis* 15,1: 1-20.
- Transue, John E., Daniel J. Lee, & John H. Aldrich. 2009. Treatment Spillover Effects Across Survey Experiments. *Political Analysis* 17,2: 143-161.