

Supplementary Files for Lupton, Danielle L. “The External Validity of College Student Subject Pools in Experimental Research: A Cross-Sample Comparison of Treatment Effect Heterogeneity”

Table A.1 Demographic Factor and Participants’ World View Across Subject Populations

	Student Sample A	Student Sample B	Student Sample C	MTurk Sample
Partisanship				
% Democrat	50.00	44.62	25.46	42.51
% Republican	18.18	22.31	42.59	15.21
% Female	53.21	44.09	43.98	43.24
Political Affiliation				
% Conservative	25.92	11.54	31.84	21.60
% Liberal	62.04	65.39	49.26	58.76
Age (Mean)	20.07	21.52	23.78	34.33
% Somewhat or Very Interested in International Politics	89.90	21.54	67.60	60.23
% Somewhat or Very Closely Follow International Events	70.91	28.46	46.05	47.99
Attention to News in Past Week				
% Once a day or more	13.64	43.85	24.08	23.01
% 3-5 Times a week	32.73	31.54	34.72	34.34
% Once a week	26.36	15.38	22.22	21.78
% Not at all	27.27	9.23	18.98	20.88
Views on the Role of Leaders				
%Strongly or somewhat agree leaders are important and have large impact on international events	88.18	18.11	87.50	86.58
%Strongly or somewhat disagree a country would end up with same policies regardless of person in office	81.82	74.61	79.53	64.86
Views on the Use of Force				
%Strongly or somewhat agree sometimes only way to solve a problem is through force	58.18	31.50	36.11	39.73
%Strongly or somewhat agree the use of military force only makes things worse	42.72	33.85	20.37	23.81
% Drop Out Survey	34.13	9.70	10.74	12.92
N (completed)	110	130	216	2,117

As an additional check of the representativeness of each student subject pool, I compared these demographics to each school’s admission profile and find that these demographics are largely

comparable to each school's broader student body. For example, institution A reported in 2016 that 55.1% of its incoming class was female, while institutions B and C were 48% female.

Table A.2 Aggregate Treatment Effects by Subject Group

	All Samples	Student Sample A	Student Sample B	Student Sample C	MTurk Sample
Regime Type	0.009 (0.023)	-0.048 (0.088)	-0.257* (0.121)	0.187** (0.067)	0.006 (0.025)
State Interest	-0.058* (0.024)	0.098 (0.133)	-0.141 (0.151)	-0.038 (0.076)	-0.067** (0.026)
Past State Behavior	-0.085*** (0.023)	-0.074 (0.131)	-0.029 (0.120)	-0.082 (0.077)	-0.090*** (0.025)
Past Leader Behavior	0.102*** (0.018)	0.199* (0.091)	-0.022 (0.100)	0.168** (0.055)	0.098*** (0.019)
Subject Pool	0.043* (0.019)				
Constant	1.953*** (0.078)	1.896*** (0.150)	2.168** (0.192)	2.027*** (0.110)	2.131*** (0.034)
Participants (N)	2,566	110	123	216	2,117
R ²	0.0189	0.0584	0.0325	0.0759	0.0178

Robust standard errors in parentheses. ***p < 0.001; **p < 0.01; *p < 0.05.

Table A.3 Detailed Treatment Effects by Subject Group

	All Samples	Student Sample A	Student Sample B	Student Sample C	MTurk Sample
<i>Regime Type</i>					
Non-Democracy	0.175*** (0.043)	0.416* (0.182)	0.034 (0.208)	0.185 (0.173)	0.188*** (0.045)
Democracy	-0.158*** (0.042)	-0.217 (0.155)	-0.855*** (0.215)	0.097 (0.127)	-0.158** (0.046)
<i>State Interest</i>					
Low	-0.343*** (0.047)	-0.115 (0.169)	-0.413 (0.241)	-0.330* (0.144)	-0.359*** (0.053)
High	-0.032 (0.044)	0.604* (0.295)	0.182 (0.311)	-0.065 (0.133)	-0.068 (0.048)
<i>Past State Behavior</i>					
Backed Down	-0.568*** (0.046)	-0.538 (0.280)	0.086 (0.224)	-0.584*** (0.144)	-0.635*** (0.048)
Stood Firm	-0.007 (0.042)	-0.027 (0.217)	-0.080 (0.255)	-0.166 (0.137)	0.023 (0.045)
<i>Past Leader Behavior</i>					
Backed Down	-0.565*** (0.035)	-0.492** (0.173)	0.221 (0.254)	-0.531*** (0.113)	-0.607*** (0.037)
Stood Firm	0.071* (0.031)	0.252 (0.169)	0.157 (0.243)	0.225* (0.091)	0.061 (0.034)
Subject Pool	0.023 (0.018)				
Constant	2.392*** (0.075)	2.246*** (0.156)	1.932*** (0.244)	2.476*** (0.093)	2.508*** (0.031)
Participants (N)	2,566	110	123	216	2,117
R ²	0.2495	0.3258	0.1166	0.3464	0.2794

Robust standard errors in parentheses. ***p < 0.001; **p < 0.01; *p < 0.05.

Table A.4 Cross-Sample Comparisons of Difference by Treatment Group

	A vs. B	A vs. C	B vs. C	A vs. MTurk	B vs. MTurk	C vs. MTurk
Regime Type	F = 1.30 p = 0.259	F = 6.64 p = 0.012	F = 15.27 p = 0.000	F = 1.71 p = 0.191	F = 9.98 p = 0.002	F = 3.53 p = 0.061
State Interest	F = 3.26 p = 0.078	F = 0.37 p = 0.543	F = 2.40 p = 0.125	F = 0.91 p = 0.339	F = 2.51 p = 0.114	F = 0.20 p = 0.658
Past State Behavior	F = 1.01 p = 0.319	F = 0.28 p = 0.600	F = 0.80 p = 0.374	F = 0.41 p = 0.523	F = 1.15 p = 0.284	F = 0.01 p = 0.920
Past Leader Behavior	F = 0.68 p = 0.409	F = 0.75 p = 0.388	F = 3.36 p = 0.068	F = 0.21 p = 0.645	F = 2.99 p = 0.084	F = 0.61 p = 0.433

**Table A.5 Cross-Sample Comparisons of Difference:
Demographics and World View**

	A vs. B	A vs. C	B vs. C	A vs. MTurk	B vs. MTurk	C vs. MTurk
Partisanship	F = 0.54 p = 0.464	F = 4.55 p = 0.034	F = 2.27 p = 0.133	F = 1.44 p = 0.230	F = 5.67 p = 0.017	F = 30.37 p = 0.000
Political Affiliation	F = 8.50 p = 0.004	F = 8.80 p = 0.003	F = 32.63 p = 0.000	F = 0.04 p = 0.835	F = 16.34 p = 0.000	F = 27.53 p = 0.000
Gender	F = 1.95 p = 0.164	F = 2.48 p = 0.116	F = 0.00 p = 0.984	F = 4.20 p = 0.041	F = 0.04 p = 0.850	F = 0.04 p = 0.833
Interest in Int'l Politics	F = 193.41 p = 0.000	F = 34.81 p = 0.000	F = 157.90 p = 0.000	F = 76.19 p = 0.000	F = 134.65 p = 0.000	F = 18.41 p = 0.000
Attention to Int'l Events	F = 80.42 p = 0.000	F = 23.34 p = 0.000	F = 28.95 p = 0.000	F = 36.01 p = 0.000	F = 42.01 p = 0.000	F = 0.14 p = 0.712
Impact of Int'l Leaders (mean)	F = 118.73 p = 0.000	F = 0.29 p = 0.591	F = 188.39 p = 0.000	F = 8.22 p = 0.004	F = 132.21 p = 0.000	F = 22.48 p = 0.000
Acceptability of Use of Force (mean)	F = 3.60 p = 0.059	F = 32.73 p = 0.000	F = 12.25 p = 0.001	F = 23.81 p = 0.000	F = 6.66 p = 0.010	F = 1.50 p = 0.221

Table A.6 Cohen's D Comparisons

	A vs. B	A vs. C	B vs. C	A vs. MTurk	B vs. MTurk	C vs. MTurk
Regime Type	$d = 0.306$ (-0.224; 0.834)	$d = -0.657$ (-1.166; -1.423)	$d = -0.904$ (-1.378; -0.425)	$d = -0.275$ (-0.686; 0.137)	$d = -0.570$ (-0.926; -0.214)	$d = 0.301$ (-0.013; 0.614)
State Interest	$d = 0.532$ (-0.059; 1.118)	$d = 0.158$ (-0.349; 0.664)	$d = -0.358$ (-0.815; 0.100)	$d = 0.218$ (-0.230; 0.666)	$d = -0.314$ (-0.703; 0.075)	$d = 0.060$ (-0.210; 0.330)
Past State Behavior	$d = -0.297$ (-0.876; 0.285)	$d = -0.148$ (-0.701; 0.405)	$d = 0.182$ (-0.218; 0.581)	$d = -0.162$ (-0.661; 0.337)	$d = 0.176$ (-0.145; 0.496)	$d = -0.014$ (-0.286; 0.258)
Past Leader Behavior	$d = 0.118$ (-0.161; 0.397)	$d = -0.113$ (-0.371; 0.144)	$d = -0.227$ (-0.471; 0.017)	$d = -0.050$ (-0.262; 0.162)	$d = -0.171$ (-0.365; 0.023)	$d = 0.064$ (-0.097; 0.226)

95% Confidence Interval in parentheses.

Table A.7 Conditional Average Treatment Effects by Subgroup

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Regime Type	0.008 (0.023)	0.010 (0.023)	-0.011 (0.034)	0.155 (0.029)	-0.016 (0.036)	0.006 (0.023)	0.003 (0.024)
State Interest	-0.058* (0.024)	-0.060* (0.024)	-0.042 (0.034)	-0.046 (0.028)	-0.038 (0.042)	-0.058* (0.024)	-0.051* (0.024)
Past State Behavior	-0.085*** (0.023)	-0.088*** (0.023)	-0.084* (0.034)	-0.076** (0.029)	-0.038 (0.036)	-0.087*** (0.023)	-0.079** (0.024)
Past Leader Behavior	0.100*** (0.018)	0.099*** (0.018)	0.102*** (0.026)	0.105*** (0.022)	0.064* (0.029)	0.106*** (0.018)	-0.099*** (0.018)
Male		0.0001 (0.031)					
Male x Regime Type		0.002 (0.023)					
Male x State Interest		0.013 (0.024)					
Male x State Behavior		0.031 (0.023)					
Male x Leader Behavior		0.003 (0.018)					
Republican			-0.047 (0.046)				
Republican x Regime Type			-0.024 (0.034)				
Republican x State Interest			0.002 (0.034)				
Republican x State Behavior			-0.020 (0.034)				
Republican x Leader Behavior			0.013 (0.027)				
High Political Interest				-0.067 (0.039)			
High Interest x Regime Type				0.013 (0.029)			
High Interest x State Interest				0.023 (0.028)			
High Interest x State Behavior				0.018 (0.029)			
High Interest x Leader Behavior				0.005 (0.022)			
Age: Less than 23					-0.030 (0.036)		
Age x Regime Type					-0.033 (0.036)		
Age x State Interest					0.029 (0.042)		
Age x State Behavior					0.064 (0.036)		
Age x Leader Behavior					-0.048 (0.029)		
Dislike Use of Force						0.084** (0.032)	
Dislike Force x Regime Type						0.017 (0.023)	

Dislike Force x State Interest						0.014 (0.024)	
Dislike Force x State Behavior						0.016 (0.023)	
Dislike Force x Leader Behavior						-0.037* (0.018)	
Dislike Force x State Interest							0.066* (0.032)
Dislike Force x State Behavior							-0.004 (0.024)
Dislike Force x Leader Behavior							-0.024 (0.024)
Dislike Force x State Interest							-0.013 (0.024)
Dislike Force x State Behavior							-0.037* (0.018)
Constant	2.114*** (0.031)	2.113*** (0.031)	2.085*** (0.046)	2.076*** (0.039)	2.091*** (0.054)	2.102*** (0.032)	2.108*** (0.032)
N of individuals	2,566	2,562	1,527	2,565	2,566	2,566	2,476
R ²	0.0170	0.0182	0.0169	0.0198	0.0238	0.0242	0.0168

Robust standard errors in parentheses; ***p<0.001; **p<0.01; p<0.05

A.8 Means and Standard Deviations by Subject Population

	Student Sample A	Student Sample B	Student Sample C	MTurk Sample
Regime Type	2.125 (0.612)	1.909 (0.765)	2.535 (0.631)	2.321 (0.719)
State Interest	2.250 (0.639)	1.852 (0.818)	2.133 (0.769)	2.088 (0.747)
Past State Behavior	1.875 (0.806)	2.122 (0.842)	1.983 (0.707)	1.993 (0.724)
Past Leader Behavior	2.100 (0.735)	2.009 (0.799)	2.185 (0.758)	2.137 (0.744)

Means presented (3 = Escalate; 2 = Stand Firm; 1 = Back Down); Standard Deviation in ().

Text of Survey Experiment

Pre-Survey Control Questions:

Q1. How interested are you in international politics?

- Extremely uninterested
- Somewhat uninterested
- Neither interested/nor disinterested
- Somewhat interested
- Extremely interested

Q2. How closely do you follow international events?

- Very closely
- Somewhat closely
- Not very closely
- I don't follow international events at all.

Q3. What is your primary source of information for international politics and events?

- Online news sources
- Blogs
- Television
- Friends and family
- Newspapers
- I do not follow international politics.

Q4. In the past week, how often would you say you paid attention to the news?

- Several times a day
- Once a day
- 3-5 times a week
- Once a week
- Once a month
- Not at all

Q5. Generally speaking, do you think of yourself as a...

- Republican
- Democrat
- Independent
- No preference
- Other - please specify

Q6. Generally speaking, do you think of yourself as a....

- Extremely Conservative
- Conservative
- Slightly Conservative
- Moderate; Middle of the Road
- Slightly Liberal
- Liberal
- Extremely Liberal
- Don't Know, I haven't thought about it much.

Please tell us how much you agree with the following statements:

Q7. It doesn't really matter who is in office. A country would end up with the same policies regardless.

Agree strongly
Agree
Neither agree nor disagree
Disagree
Disagree strongly

Q8. International leaders are important and have a large impact on international events.

Agree strongly
Agree
Neither agree nor disagree
Disagree
Disagree strongly

Q9. The use of military force only makes problems worse.

Agree strongly
Agree
Neither agree nor disagree
Disagree
Disagree strongly

Q10. States should be able to talk things out and reach a peaceful solution to their problems.

Agree strongly
Agree
Neither agree nor disagree
Disagree
Disagree strongly

Q11. Sometimes the only way to solve a problem between states is through military force.

Agree strongly
Agree
Neither agree nor disagree
Disagree
Disagree strongly

Demographic Questions:

Q1. In what year were you born?

Q2. Please indicate your gender:

Male
Female

Q3. Please indicate the highest level of study you have achieved:

Grade school or some high school
High school diploma
Some college
Associates degree
Bachelors degree
Masters or Professional degree (MA, MBA, JD)
Doctorate (Ph.D., MD)

Scenario Prompt:

In the next section, you will read a scenario and be asked to answer questions and make predictions based on what you read. Please take your time in reading the scenario and answer the questions as best you can.

You are the leader of the state. For the past year, you have been trying to negotiate with the leader of a neighboring state, {R1, R2} over who should control an area of land along your shared state border that is rich in mineral resources. Whoever controls this land will get both more power and resources. You have been unable to reach a compromise. Your advisors suggest issuing a threat to send military forces to the area to end the dispute. Before you decide to issue this threat, you need to correctly predict how the opposing leader would respond to this threat. {I1, I2}. {S1, S2}. During negotiations, the opposing leader {L1, L2}.

Q1. How much determination or lack of determination do you think the opposing leader will show in response to this threat?

- High determination
- Some determination
- Neutral
- Some lack of determination
- High lack of determination

Q2. How tough or weak do you think this leader will be in response to this threat?

- Very Tough
- Tough
- Neutral
- Weak
- Very Weak

Q3. How do you think the opposing leader would respond to this threat?

- Back down to your threat and agree to a settlement
- Stand firm and continue to try to negotiate
- Escalate the conflict by sending their military forces to the area

Q4. How confident are you in this belief?

- Very confident
- Confident
- Unconfident
- Very unconfident

Q3. Given how you believe this leader will react, would you issue the threat?

- Yes
- No

Q4. What additional information would you have liked to be more confident in your beliefs?

Q5. What were your state and the other state arguing over?

- A treaty
- An island
- An area of land along your border

Treatment Options:

- Leader Behavior
 - L1 (Resolute): has consistently stood firm and not backed down on his state's claims to the area.
 - L2: (Irresolute): said he would like to end the dispute quickly and may not be willing to risk war over the issue.
- State Government Type
 - R1 (Democracy): a democracy with an elected leader.
 - R2 (Non-Democracy): not a democracy and the current leader has taken power without being elected.
- Level of Interest
 - I1 (Very interested): The disputed area is a high priority for the opposing state.
 - I2 (Less interested): would like to control the area, but has indicated there are other foreign policy issues that are of a higher priority right now.
- State History
 - S1 (resolute): In the past, this state has stood firm in similar situations.
 - S2 (irresolute): In the past, this state has backed down in similar situations.

Debriefing:

Thank you for participating in this study. The purpose of this study was to examine how different factors affect your prediction of how a state will react in a crisis. The overall purpose of this study is to add to our knowledge about how leaders and states can develop reputations for resolve. Thank you again for your participation. Please do not share the details of this survey with other participants.