

Supplementary Materials: Replication data, additional analyses for project showing political partisanship alters the causality implicit in verb meaning

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Section 1: Study 1 Models Including Key Demographic Variables

Table S1

Study 1 Steps 1-2 of the Model Containing Political Affiliation (1=Trump Supporter, 0=Clinton Supporter), Event Type (1=Negative, 0=Positive), Education, Gender (1=Female, 0=Male), Liberalism, Religiosity, and Political Affiliation x Event Type Predicting Causal Attributions (1=Object, 0=Subject) for Trump-As-Object Sentences

Model	Effect	B	SE	Z	P	95% CI
1	Constant	-0.43	0.43	-1.00	0.320	-1.27, 0.42
	Political Affiliation	-0.13	0.10	-1.32	0.186	-0.32, 0.06
	Event Type	0.03	0.47	0.07	0.945	-0.89, 0.96
	Education	0.01	0.03	0.29	0.772	-0.05, 0.07
	Gender	-0.19	0.07	-2.93	0.003	-0.32, -0.06
	Liberalism	0.02	0.03	0.58	0.156	-0.04, 0.07
	Religiosity	0.05	0.02	3.25	0.001	0.02, 0.08
2	Constant	-0.74	0.44	-1.69	0.09	-1.61, 0.12
	Political Affiliation	0.76	0.13	5.94	<0.001	0.51, 1.00
	Event Type	0.50	0.48	1.03	0.301	-0.45, 1.45
	Education	0.01	0.03	0.26	0.797	-0.05, 0.07
	Gender	-0.20	0.07	-2.97	0.003	-0.32, -0.07
	Liberalism	0.02	0.03	0.57	0.568	-0.04, 0.07
	Religiosity	0.05	0.02	3.24	0.001	0.02, 0.09
	Political Affiliation x Event Type	-1.32	0.12	-11.11	<0.001	-1.55, -1.09

Table S2

Study 1 Simple Effects of Political Affiliation (1=Trump Supporter, 0=Clinton Supporter) and Event Type (1=Negative, 0=Positive) from the Model Containing Political Affiliation, Event Type, Gender, Religiosity, and Political Affiliation x Event Type Predicting Causal Attributions for Trump-As-Object Sentences

Effect	B	SE	Z	P	95% CI
Trump Supporter: Negative vs Positive Event	-0.83	0.49	-1.70	0.088	-1.77, 0.13
Clinton Supporter: Negative vs Positive Event	0.51	0.48	1.06	0.292	-0.45, 1.44
Negative Event: Trump vs Clinton Supporter	-0.61	0.08	-7.42	<0.001	-0.77, -0.44
Positive Event: Trump vs Clinton Supporter	0.73	0.11	6.79	<0.001	0.50, 0.93

Note. Liberalism and education were excluded when breaking down this interaction because neither variable was statistically significant in the main model

Table S3

Study 1 Steps 1-2 of the Model Containing Political Affiliation (1=Trump Supporter, 0=Clinton Supporter), Event Type (1=Negative, 0=Positive), Education, Gender (1=Female, 0=Male), Liberalism, Religiosity, and Political Affiliation x Event Type Predicting Causal Attributions (1=Object, 0=Subject) for Clinton-As-Object Sentences

Model	Effect	B	SE	Z	P	95% CI
1	Constant	0.42	0.38	1.12	0.264	-0.32, 1.17
	Political Affiliation	0.19	0.09	2.03	0.043	0.01, 0.37
	Event Type	-0.72	0.41	-1.78	0.075	-1.52, 0.07
	Education	-0.02	0.03	-0.77	0.444	-0.08, 0.03
	Gender	-0.25	0.06	-3.99	<.0001	-0.37, -0.12
	Liberalism	-0.04	0.02	-1.43	0.154	-0.08, 0.01
	Religiosity	0.01	0.02	0.62	0.535	-0.02, 0.04
2	Constant	0.74	0.39	1.91	0.056	-0.02, 1.50
	Political Affiliation	-0.68	0.12	-5.64	<0.001	-0.92, -0.45
	Event Type	-1.20	0.42	-2.88	0.004	-2.01, -0.38
	Education	-0.02	0.03	-0.77	0.442	-0.08, 0.03
	Gender	-0.25	0.06	-4.01	<0.001	-0.37, -0.13
	Liberalism	-0.04	0.03	-1.44	0.149	-0.09, 0.01
	Religiosity	0.01	0.02	0.62	0.533	-0.02, 0.04
	Political Affiliation x Event Type	1.30	0.11	11.38	<0.001	1.08, 1.52

Table S4

Study 1 Simple Effects of Political Affiliation (1=Trump Supporter, 0=Clinton Supporter) and Event Type (1=Negative, 0=Positive) from the Model Containing Political Affiliation, Event Type, Gender and Political Affiliation x Event Type Predicting Causal Attributions for Clinton-As-Object Sentences

Effect	B	SE	Z	P	95% CI
Trump Supporter: Negative vs Positive Event	0.08	0.42	0.20	0.844	-0.72, 0.93
Clinton Supporter: Negative vs Positive Event	-1.19	0.41	-2.89	0.004	-2.01, -0.38
Negative Event: Trump vs Clinton Supporter	0.74	0.07	9.86	<0.001	0.59, 0.89
Positive Event: Trump vs Clinton Supporter	-0.54	0.10	-5.45	<0.001	-0.75, -0.36

Note. Liberalism, religiosity, and education were excluded when breaking down this interaction because none of these variables were statistically significant in the main model

Section 2: Replication Dataset

The goal of this study was to replicate the findings from Study 1 (primary study before the election).

Method

Participants. Mechanical Turk workers over the age of 18 and with United States IP addresses were recruited in the days following the 2016 US Presidential Election on November 6th (November 9th through November 14th). After exclusions¹, the final sample was 607. Of the 607 participants, 60% indicated voting for Hillary Clinton and 40% indicated voting for Donald Trump, 54% were female, 86% were White or Caucasian, and 62% had a Bachelor's degree or higher. Average age was 38 years (SD=12 years).

Procedure and Materials. The procedure was identical to that of Study 1. The same measures and materials from Study 1 were also used, with one unrelated measure added at the end, *see Supplemental Materials (SM) Section 4*.

Results

As in Study 1, all statistical analyses were completed using R software version 3.4.3 (R Core Team, 2017). When demographic variables are included in the model, the results do not change, *see SM Section 3* for details. Analyses were conducted as in Study 1.

Trump-as-Object. At Step 1 of the model, there were no main effects of either event type, $b = .01$, $SE = .44$, $Z = 0.02$, $p = .982$, 95% CI = $[-.86, .88]$, or political affiliation, $b = -.01$, $SE = .07$, $Z = -0.14$, $p = .889$, 95% CI = $[-.15, .13]$. Replicating Study 1, the interaction between the two variables at Step 2 was significant, $b = -1.00$, $SE = .12$, $Z = -8.27$, $p < .001$, 95% CI = $[-1.24, -.76]$. In keeping with Study 1, we first broke down the interaction by event type. Once again, for positive events, Trump (vs. Clinton) supporters were more likely to indicate Trump as the causal factor, $b = .65$, $SE = .12$, $Z = 6.03$, $p < .001$, 95% CI = $[.44, .86]$. For negative events, Trump (vs. Clinton) supporters were less likely to

¹ Excluded participants reported they had not voted for either Hillary Clinton or Donald Trump (N=107), did not complete the primary measures of interest (N=83), or indicated disagreement or only somewhat agreement with the statement "The United States is geographically north of Central America" (N=87),

indicate Trump as the causal factor, $b = -0.35$, $SE = .08$, $Z = -4.26$, $p < .001$, 95% CI = $[-.52, -.19]$, see Top Right Panel of Figure 1 in the main text.

Comparing across event types, negative vs. positive events did not elicit significantly different attributions among either Clinton supporters, $b = .41$, $SE = .45$, $Z = 0.92$, $p = .358$, 95% CI = $[-.47, 1.30]$, or Trump supporters, $b = -0.59$, $SE = .45$, $Z = -1.29$, $p = .196$, 95% CI = $[-1.47, .30]$. These findings replicate Study 1.

Clinton-as-Object. At Step 1 of the model, there was a main effect of political affiliation such that, regardless of event type, Trump (vs. Clinton) supporters were more likely to choose Clinton as the cause of the event, $b = .45$, $SE = .08$, $Z = 5.99$, $p < .001$, 95% CI = $[.31, .60]$. There was a marginally significant main effect of event type such that, regardless of political affiliation, Clinton was somewhat less likely to be chosen as the cause when the event was negative (vs. positive), $b = -0.75$, $SE = .39$, $Z = -1.92$, $p = .055$, 95% CI = $[-1.51, .02]$. These main effects were qualified by an interaction, also seen in Study 1, between event type and political affiliation at Step 2, $b = 1.22$, $SE = .12$, $Z = 10.09$, $p < .001$, 95% CI = $[.98, 1.45]$, which we again broke down by event type. Replicating Study 1, for positive events, Trump (vs. Clinton) supporters were less likely to indicate Clinton as the causal factor, $b = -0.35$, $SE = .11$, $Z = -3.14$, $p = .002$, 95% CI = $[-.56, -.13]$; for negative events, Trump (vs. Clinton) supporters were more likely to indicate Clinton as the causal factor, $b = .87$, $SE = .09$, $Z = 9.88$, $p < .001$, 95% CI = $[.70, 1.04]$, see Bottom Right Panel in Figure 1 in the main text.

As in Study 1, negative vs. positive events did not elicit significantly different attributions among Trump supporters, $b = -0.04$, $SE = .40$, $Z = -0.90$, $p = .928$, 95% CI = $[-.82, .75]$. However, among Clinton supporters, Clinton was less likely to be chosen as the causal factor for negative (vs. positive) events, $b = -1.25$, $SE = .40$, $Z = -3.13$, $p = .002$, 95% CI = $[-2.63, -.47]$.

Section 3: Replication Dataset Models Including Key Demographic Variables

Table S5

Replication Dataset Steps 1-2 of the Model Containing Political Affiliation (1=Trump Supporter, 0=Clinton Supporter), Event Type (1=Negative, 0=Positive), Education, Gender (1=Female, 0=Male), Liberalism, Religiosity, and Political Affiliation x Event Type Predicting Causal Attributions (1=Object, 0=Subject) for Trump-As-Object Sentences

Model	Effect	B	SE	Z	P	95% CI
1	Constant	-0.61	0.43	-1.43	0.154	-1.44, 0.23
	Political Affiliation	0.05	0.11	0.47	0.642	-0.17, 0.28
	Event Type	0.01	0.44	0.03	0.978	-0.85, 0.88
	Education	-0.12	0.03	-0.34	0.731	-0.08, 0.06
	Gender	-0.15	0.07	-2.10	0.036	-0.29, -0.01
	Liberalism	-0.04	0.03	1.28	0.201	-0.02, 0.10
	Religiosity	0.03	0.02	1.46	0.144	-0.01, 0.06
2	Constant	-0.88	0.43	-2.04	0.041	-1.73, -0.04
	Political Affiliation	0.71	0.14	5.07	<0.001	0.44, 0.99
	Event type	0.41	0.45	0.92	0.358	-0.47, 1.29
	Education	-0.01	0.04	-0.33	0.745	-0.08, 0.06
	Gender	-0.15	0.07	-2.11	0.035	-0.29, -0.01
	Liberalism	-0.04	0.03	1.29	0.197	-0.02, 0.10
	Religiosity	0.03	0.02	1.48	0.140	-0.01, 0.06
	Political Affiliation x Event Type	-1.00	0.12	-8.23	<0.001	-1.24, -0.76

Table S6

Replication Dataset Simple Effects of Political Affiliation (1=Trump Supporter, 0=Clinton Supporter) and Event Type (1=Negative, 0=Positive) from the Model Containing Political Affiliation, Event Type, Gender, and Political Affiliation x Event Type Predicting Causal Attributions for Trump-As-Object Sentences

Effect	B	SE	Z	P	95% CI
Trump Supporter: Negative vs Positive Event	-0.59	0.45	-1.30	0.195	-1.47, 0.30
Clinton Supporter: Negative vs Positive Event	0.41	0.45	0.92	0.359	-0.47, 1.29
Negative Event: Trump vs Clinton Supporter	-0.36	0.08	-4.36	<0.001	-0.53, -0.20
Positive Event: Trump vs Clinton Supporter	0.64	0.11	5.95	<0.001	0.43, 0.85

Note. Liberalism, religiosity, and education were excluded when breaking down this interaction because none of these variables were statistically significant in the main model

Table S7

Replication Dataset Steps 1-2 of the Model Containing Political Affiliation (1=Trump Supporter, 0=Clinton Supporter), Event Type (1=Negative, 0=Positive), Education, Gender (1=Female, 0=Male), Liberalism, Religiosity, and Political Affiliation x Event Type Predicting Causal Attributions (1=Object, 0=Subject) for Clinton-As-Object Sentences

Model	Effect	B	SE	Z	P	95% CI
1	Constant	0.29	0.40	0.72	0.471	-0.49, 1.07
	Political Affiliation	0.40	0.12	3.39	<0.001	0.17, 0.64
	Event Type	-0.74	0.39	-1.90	0.057	-1.51, 0.02
	Education	-0.02	0.04	-0.63	0.529	-0.09, 0.05
	Gender	-0.35	0.07	-4.68	<.0001	-0.49, -0.20
	Liberalism	-0.01	0.03	-0.42	0.672	-0.07, 0.05
	Religiosity	0.01	0.02	-0.47	0.637	-0.04, 0.03
2	Constant	0.62	0.41	1.52	0.128	-0.18, 1.42
	Political Affiliation	-0.40	0.15	-2.76	<0.001	-0.69, -0.12
	Event Type	-1.24	0.40	-3.10	0.002	-2.03, -0.46
	Education	-0.02	0.04	-0.65	0.519	-0.10, 0.05
	Gender	-0.36	0.08	-4.69	<0.001	-0.50, -0.21
	Liberalism	-0.01	0.03	-0.44	0.660	-0.08, 0.05
	Religiosity	-0.01	0.02	-0.48	0.630	-0.04, 0.03
	Political Affiliation x Event Type	1.22	0.12	10.05	<0.001	0.98, 1.45

Table S8

Replication Dataset Simple Effects of Political Affiliation (1=Trump Supporter, 0=Clinton Supporter) and Event Type (1=Negative, 0=Positive) from the Model Containing Political Affiliation, Event Type, Gender, and Political Affiliation x Event Type Predicting Causal Attributions for Clinton-As-Object Sentences

Effect	B	SE	Z	P	95% CI
Trump Supporter: Negative vs Positive Event	-0.04	0.40	-0.09	0.929	-0.82, 0.77
Clinton Supporter: Negative vs Positive Event	-1.25	0.40	-3.13	0.002	-2.03, -0.46
Negative Event: Trump vs Clinton Supporter	0.84	0.09	9.75	<0.001	0.68, 1.02
Positive Event: Trump vs Clinton Supporter	-0.37	0.11	-3.38	<0.001	-0.58, -0.15

Note. Liberalism, religiosity, and education were excluded when breaking down this interaction because none of these variables were statistically significant in the main model

Section 4: Additional Measures

In both Study 1 and in the replication dataset, participants also did a sentence completion task after completing the implicit causality task and before completing the demographics. Participants were presented with a subset of the study prompts again (specifically, the verbs 'outdid' and 'beat'). Half of participants were randomly assigned to read “Clinton outdid Trump” and then “Trump beat Clinton;” the other half read “Trump outdid Clinton” and then “Clinton beat Trump.” For each prompt, they were given a text box in which to complete the sentence.

In replication dataset only, after the sentence completion task and before the demographics, participants completed a version of the implicit causality task meant to measure gender bias (Niemi, Hartshorne, Gerstenberg, & Young, 2016). Participants were presented with 24 prompts in the form of “[Male name/Female name] [verb]ed [Female name/Male name] because...”; for each prompt, participants were asked to predict the next word in the sentence, with the options being “he” or “she.” Names were randomly inputted from a list of 12 generic male names (e.g., Max, George, Ben) and a list of 12 generic female names (e.g., Melissa, Julie, Carol).

The 24 verbs were divided into two groups, Set A and Set B, as described in the main manuscript (see Table 1). Participants viewed one set of verbs (either Set A or Set B) either in the format “Male name [verb]ed Female Name,” or in the format “Female name [verb]ed Male name because.” The second set of verbs viewed (the unseen set) utilized the prompt format not presented with the first set of verbs. Prompt format order and verb set order were randomly assigned. Within each set, the individual verbs were presented in randomized order.