

FOR ONLINE PUBLICATION ONLY

Supplemental Information for:

**Voting Behavior Unaffected by Subtle Linguistic Cues:
Evidence from a Psychologically Authentic Replication**

September 30, 2020

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A Noun Treatment Script

Note: In the treatment script shown below, [DAY] is “tomorrow’s”

How important is it to you to be a voter in [DAY] election?

1. Not at all important
2. Not too important
3. Neither important nor unimportant
4. Somewhat important
5. Extremely important

How much do you care about being a voter in [DAY] election?

1. Care not at all
2. Care not too much
3. Neither care nor don't care
4. Care somewhat
5. Care very much

How much do you want to be a voter in [DAY] election?

1. Don't want at all
2. Don't want too much
3. Neither want nor don't want
4. Want somewhat
5. Want very much

How personally relevant is it to you to be a voter in [DAY] election?

1. Not at all relevant
2. Not too relevant
3. Neither relevant nor irrelevant
4. Somewhat relevant
5. Extremely relevant

How easy do you think it is to be a voter in [DAY] election?

1. Very difficult
2. Somewhat difficult
3. Neither difficult nor easy
4. Somewhat easy
5. Very easy

How convenient do you think it is to be a voter in [DAY] election?

1. Not at all convenient
2. Not too convenient
3. Neither convenient nor inconvenient
4. Somewhat convenient
5. Extremely convenient

How consistent are your thoughts and feelings about being a voter in [DAY] election?

1. Not at all consistent
2. Not too consistent
3. Neither consistent nor inconsistent
4. Somewhat consistent
5. Extremely consistent

How clear are your thoughts and feelings about being a voter in [DAY] election?

1. Not at all clear
2. Not too clear
3. Neither clear nor unclear
4. Somewhat clear
5. Extremely clear

To what extent are your thoughts about being a voter in [DAY] election the same as your feelings about being a voter?

1. Not at all the same
2. Not too similar
3. Neither the same nor different
4. Somewhat similar
5. Very much the same

To what extent are your thoughts about being a voter in [DAY] election different from your feelings about being a voter?

1. Not at all different
2. Not too different
3. Neither different nor the same
4. Somewhat different
5. Very different

B Verb Treatment Script

Note: In the treatment script shown below, [DAY] is “tomorrow’s”

How important is it to you to vote in [DAY] election?

1. Not at all important
2. Not too important
3. Neither important nor unimportant
4. Somewhat important
5. Extremely important

How much do you care about voting in [DAY] election?

1. Care not at all
2. Care not too much
3. Neither care nor don’t care

4. Care somewhat
5. Care very much

How much do you want to vote in [DAY] election?

1. Don't want at all
2. Don't want too much
3. Neither want nor don't want
4. Want somewhat
5. Want very much

How personally relevant is it to you to vote in [DAY] election?

1. Not at all relevant
2. Not too relevant
3. Neither relevant nor irrelevant
4. Somewhat relevant
5. Extremely relevant

How easy do you think it is to vote in [DAY] election?

1. Very difficult
2. Somewhat difficult
3. Neither difficult nor easy
4. Somewhat easy
5. Very easy

How convenient do you think it is to vote in [DAY] election?

1. Not at all convenient
2. Not too convenient
3. Neither convenient nor inconvenient
4. Somewhat convenient
5. Extremely convenient

How consistent are your thoughts and feelings about voting in [DAY] election?

1. Not at all consistent
2. Not too consistent
3. Neither consistent nor inconsistent
4. Somewhat consistent
5. Extremely consistent

How clear are your thoughts and feelings about voting in [DAY] election?

1. Not at all clear
2. Not too clear
3. Neither clear nor unclear
4. Somewhat clear
5. Extremely clear

To what extent are your thoughts about voting in [DAY] election the same as your feelings about voting?

1. Not at all the same
2. Not too similar
3. Neither the same nor different
4. Somewhat similar
5. Very much the same

To what extent are your thoughts about voting in [DAY] election different from your feelings about voting?

1. Not at all different
2. Not too different
3. Neither different nor the same
4. Somewhat different
5. Very different

C Placebo Script

In the last week, how many times have you been to:

[GRID, with response options 0/Not at all, 1 time, 2 times, 3-5 times, More than 5 times]

The grocery store

Gas station

Out for dinner at a sit-down restaurant

A movie theatre

D Randomization Check and Balance Tables

We verified the randomization was valid using randomization inference where we shuffled the treatment assignment vector 1000 times. The probability of obtaining a log-likelihood statistic from a multinomial logistic regression of treatment assignment on pre-treatment covariates (age, age squared divided by 100, survey date, female, past turnout in the 2016 primary, past turnout in the 2016 presidential primary, race, education, party ID, ideology, state, marital status, employment status, family income level, religion, born again, religiosity, and state electoral competitiveness) at least as large as the observed test statistic is $p=0.52$. Balance tables are presented below in Tables S1 (continuous pre-treatment variables) and S2 (categorical pre-treatment variables).

Table S1: Balance Table: Continuous Pre-Treatment Covariates, by Treatment Arm

Variable	Placebo			Noun			Verb		
	Mean	(SD)	[N]	Mean	(SD)	[N]	Mean	(SD)	[N]
Age	61.21	(13.14)	[541]	61.37	(12.66)	[850]	61.15	(12.85)	[828]

Table S2: Balance Table: Categorical Pre-Treatment Covariates, by Treatment Arm

Variable	Placebo		Noun		Verb	
	N	(%)	N	(%)	N	(%)
Survey Date == Nov 8	34	(6.28)	52	(6.12)	55	(6.64)
Survey Date == Nov 7	507	(93.72)	798	(93.88)	773	(93.36)
Female (1=Yes) == 0	311	(57.49)	485	(57.06)	477	(57.61)
Female (1=Yes) == 1	230	(42.51)	365	(42.94)	351	(42.39)
Voted in 2016 primary (1=Yes) == 0	291	(53.79)	475	(55.88)	462	(55.80)
Voted in 2016 primary (1=Yes) == 1	250	(46.21)	375	(44.12)	366	(44.20)
Voted in 2016 presidential primary (1=Yes) == 0	416	(76.89)	685	(80.59)	654	(78.99)
Voted in 2016 presidential primary (1=Yes) == 1	125	(23.11)	165	(19.41)	174	(21.01)
Race/Ethnicity == Asian	9	(1.66)	7	(0.82)	7	(0.85)
Race/Ethnicity == Black	19	(3.51)	30	(3.53)	36	(4.35)
Race/Ethnicity == Hispanic	13	(2.40)	18	(2.12)	22	(2.66)
Race/Ethnicity == Middle Eastern	0	(0.00)	1	(0.12)	2	(0.24)
Race/Ethnicity == Mixed	10	(1.85)	10	(1.18)	14	(1.69)
Race/Ethnicity == Native American	5	(0.92)	4	(0.47)	7	(0.85)
Race/Ethnicity == Other	3	(0.55)	24	(2.82)	14	(1.69)
Race/Ethnicity == White	482	(89.09)	756	(88.94)	726	(87.68)
Highest Education == 2-year	43	(7.95)	77	(9.06)	90	(10.87)
Highest Education == 4-year	154	(28.47)	213	(25.06)	227	(27.42)

(continued)

Table S2: Balance Table: Categorical Pre-Treatment Covariates, by Treatment Arm (continued)

	Placebo		Noun		Verb	
	N	(%)	N	(%)	N	(%)
Highest Education == High school graduate	68	(12.57)	131	(15.41)	113	(13.65)
Highest Education == No HS	5	(0.92)	9	(1.06)	2	(0.24)
Highest Education == Post-grad	157	(29.02)	248	(29.18)	224	(27.05)
Highest Education == Some college	114	(21.07)	172	(20.24)	172	(20.77)
Party ID == Independent	63	(11.65)	114	(13.41)	94	(11.35)
Party ID == Lean Democrat	42	(7.76)	70	(8.24)	79	(9.54)
Party ID == Lean Republican	62	(11.46)	95	(11.18)	104	(12.56)
Party ID == Not sure	4	(0.74)	9	(1.06)	5	(0.60)
Party ID == Not very strong Democrat	45	(8.32)	89	(10.47)	83	(10.02)
Party ID == Not very strong Republican	61	(11.28)	90	(10.59)	88	(10.63)
Party ID == Strong Democrat	171	(31.61)	235	(27.65)	245	(29.59)
Party ID == Strong Republican	93	(17.19)	148	(17.41)	130	(15.70)
Ideology == Conservative	136	(25.14)	213	(25.06)	189	(22.83)
Ideology == Liberal	113	(20.89)	166	(19.53)	173	(20.89)
Ideology == Moderate	139	(25.69)	255	(30.00)	237	(28.62)
Ideology == Unknown	11	(2.03)	18	(2.12)	13	(1.57)
Ideology == Very conservative	72	(13.31)	97	(11.41)	112	(13.53)
Ideology == Very liberal	70	(12.94)	101	(11.88)	104	(12.56)
State == California	92	(17.01)	151	(17.76)	139	(16.79)
State == Connecticut	29	(5.36)	36	(4.24)	42	(5.07)
State == Michigan	63	(11.65)	102	(12.00)	92	(11.11)
State == New Jersey	52	(9.61)	100	(11.76)	95	(11.47)
State == New York	119	(22.00)	196	(23.06)	179	(21.62)
State == Ohio	71	(13.12)	105	(12.35)	118	(14.25)
State == Pennsylvania	115	(21.26)	160	(18.82)	163	(19.69)
Marital Status == Divorced	42	(7.76)	89	(10.47)	104	(12.56)
Marital Status == Domestic partnership	20	(3.70)	21	(2.47)	20	(2.42)
Marital Status == Married	365	(67.47)	559	(65.76)	540	(65.22)
Marital Status == Separated	6	(1.11)	12	(1.41)	10	(1.21)
Marital Status == Single	76	(14.05)	100	(11.76)	113	(13.65)
Marital Status == Widowed	32	(5.91)	69	(8.12)	41	(4.95)
Employment Status == Full-time	178	(32.90)	307	(36.12)	320	(38.65)
Employment Status == Homemaker	23	(4.25)	37	(4.35)	30	(3.62)
Employment Status == Other	10	(1.85)	17	(2.00)	8	(0.97)
Employment Status == Part-time	43	(7.95)	77	(9.06)	71	(8.57)
Employment Status == Permanently disabled	23	(4.25)	32	(3.76)	32	(3.86)
Employment Status == Retired	242	(44.73)	351	(41.29)	339	(40.94)
Employment Status == Student	3	(0.55)	7	(0.82)	3	(0.36)

(continued)

Table S2: Balance Table: Categorical Pre-Treatment Covariates, by Treatment Arm (continued)

	Placebo		Noun		Verb	
	N	(%)	N	(%)	N	(%)
Employment Status == Temporarily laid off	0	(0.00)	3	(0.35)	3	(0.36)
Employment Status == Unemployed	19	(3.51)	19	(2.24)	22	(2.66)
Family Income == \$10,000 - \$19,999	20	(3.70)	40	(4.71)	39	(4.71)
Family Income == \$100,000 - \$119,999	52	(9.61)	74	(8.71)	57	(6.88)
Family Income == \$120,000 - \$149,999	55	(10.17)	80	(9.41)	68	(8.21)
Family Income == \$150,000 - \$199,999	40	(7.39)	42	(4.94)	40	(4.83)
Family Income == \$150,000 or more	0	(0.00)	5	(0.59)	6	(0.72)
Family Income == \$20,000 - \$29,999	29	(5.36)	65	(7.65)	41	(4.95)
Family Income == \$200,000 - \$249,999	11	(2.03)	19	(2.24)	23	(2.78)
Family Income == \$250,000 - \$349,999	4	(0.74)	15	(1.76)	12	(1.45)
Family Income == \$30,000 - \$39,999	37	(6.84)	62	(7.29)	60	(7.25)
Family Income == \$350,000 - \$499,999	1	(0.18)	3	(0.35)	2	(0.24)
Family Income == \$40,000 - \$49,999	26	(4.81)	52	(6.12)	53	(6.40)
Family Income == \$50,000 - \$59,999	34	(6.28)	58	(6.82)	62	(7.49)
Family Income == \$500,000 or more	2	(0.37)	1	(0.12)	1	(0.12)
Family Income == \$60,000 - \$69,999	40	(7.39)	53	(6.24)	53	(6.40)
Family Income == \$70,000 - \$79,999	39	(7.21)	45	(5.29)	66	(7.97)
Family Income == \$80,000 - \$99,999	50	(9.24)	88	(10.35)	89	(10.75)
Family Income == Less than \$10,000	7	(1.29)	18	(2.12)	13	(1.57)
Family Income == Prefer not to say	94	(17.38)	130	(15.29)	143	(17.27)
Religion (Pew) == Agnostic	31	(5.73)	55	(6.47)	61	(7.37)
Religion (Pew) == Atheist	47	(8.69)	58	(6.82)	60	(7.25)
Religion (Pew) == Buddhist	5	(0.92)	6	(0.71)	7	(0.85)
Religion (Pew) == Eastern or Greek Orthodox	4	(0.74)	9	(1.06)	7	(0.85)
Religion (Pew) == Hindu	1	(0.18)	1	(0.12)	3	(0.36)
Religion (Pew) == Jewish	38	(7.02)	60	(7.06)	57	(6.88)
Religion (Pew) == Mormon	3	(0.55)	10	(1.18)	3	(0.36)
Religion (Pew) == Muslim	1	(0.18)	3	(0.35)	2	(0.24)
Religion (Pew) == Nothing in particular	66	(12.20)	115	(13.53)	87	(10.51)
Religion (Pew) == Protestant	170	(31.42)	255	(30.00)	271	(32.73)
Religion (Pew) == Roman Catholic	157	(29.02)	244	(28.71)	225	(27.17)
Religion (Pew) == Something else	18	(3.33)	34	(4.00)	45	(5.43)
Born Again (Pew) == No	453	(83.73)	701	(82.47)	667	(80.56)
Born Again (Pew) == Yes	88	(16.27)	149	(17.53)	161	(19.44)
Religiosity (Pew) == A few times a year	75	(13.86)	129	(15.18)	109	(13.16)
Religiosity (Pew) == Don't know	1	(0.18)	10	(1.18)	2	(0.24)
Religiosity (Pew) == More than once a week	44	(8.13)	65	(7.65)	64	(7.73)
Religiosity (Pew) == Never	163	(30.13)	245	(28.82)	261	(31.52)
Religiosity (Pew) == Once a week	116	(21.44)	164	(19.29)	157	(18.96)

(continued)

Table S2: Balance Table: Categorical Pre-Treatment Covariates, by Treatment Arm (continued)

	Placebo		Noun		Verb	
	N	(%)	N	(%)	N	(%)
Religiosity (Pew) == Once or twice a month	43	(7.95)	53	(6.24)	52	(6.28)
Religiosity (Pew) == Seldom	99	(18.30)	184	(21.65)	183	(22.10)
State Electoral Competitiveness == High	249	(46.03)	367	(43.18)	373	(45.05)
State Electoral Competitiveness == Low	292	(53.97)	483	(56.82)	455	(54.95)

E Robustness Checks: By State and by Electoral Competitiveness

Table S3: Regression Estimates of the Effect of Noun and Verb Treatments on Turnout in the 2016 General Election, by State

	CA	CA	CT	CT	MI	MI	NJ	NJ	NY	NY	OH	OH	PA	PA
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Voter (Noun) Treatment (1=Yes, 0=No)	-0.060 (0.061)	0.010 (0.047)	0.047 (0.109)	0.081 (0.109)	-0.128** (0.064)	-0.013 (0.054)	-0.037 (0.069)	-0.054 (0.065)	-0.037 (0.050)	-0.024 (0.045)	0.092 (0.058)	0.020 (0.045)	0.030 (0.048)	-0.015 (0.037)
Voting (Verb) Treatment (1=Yes, 0=No)	0.038 (0.062)	0.043 (0.048)	-0.068 (0.106)	0.045 (0.110)	-0.058 (0.065)	-0.005 (0.055)	-0.037 (0.070)	-0.077 (0.064)	0.037 (0.051)	0.027 (0.045)	-0.015 (0.056)	-0.030 (0.044)	0.039 (0.048)	0.015 (0.037)
Constant	0.696*** (0.048)	0.251 (0.300)	0.759*** (0.081)	-0.457 (0.806)	0.873*** (0.050)	0.652* (0.332)	0.827*** (0.056)	0.934** (0.367)	0.756*** (0.039)	0.275 (0.300)	0.803*** (0.044)	-0.074 (0.401)	0.783*** (0.037)	0.427 (0.410)
Difference: Noun-Verb	-0.098 (0.055)	-0.033 (0.041)	0.115 (0.099)	0.036 (0.096)	-0.070 (0.057)	-0.009 (0.048)	0.001 (0.058)	0.023 (0.053)	-0.074 (0.044)	-0.051 (0.040)	0.107 (0.050)	0.049 (0.040)	-0.010 (0.044)	-0.030 (0.034)
p-value, one-tailed t-test, H_0 : Noun-Verb=0; H_A : Noun-Verb>0	0.963	0.787	0.125	0.353	0.889	0.571	0.496	0.331	0.951	0.895	0.017	0.109	0.586	0.808
p-value, one-tailed t-test, H_0 : Noun-Placebo=0; H_A : Noun-Placebo>0	0.835	0.414	0.334	0.229	0.977	0.597	0.703	0.799	0.770	0.700	0.055	0.333	0.268	0.653
p-value, one-tailed t-test, H_0 : Verb-Placebo=0; H_A : Verb-Placebo>0	0.270	0.184	0.740	0.342	0.812	0.533	0.704	0.887	0.234	0.273	0.603	0.749	0.206	0.343
With covariates?	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	382	382	107	107	257	257	247	247	494	494	294	294	438	438

*p<0.1; **p<0.05; ***p<0.01, two-tailed t-tests unless otherwise specified.

The outcome variables is turnout in the 2016 general election (1=Yes, 0=No). Covariates included in the covariate adjusted specification include age, age squared divided by 100, gender, race, education, survey date, party identification, ideology, and past turnout in the 2016 primary and presidential primary elections.

Table S4: Regression Estimates of the Effect of Noun and Verb Treatments on Turnout in the 2016 General Election, by Ex Ante Electoral Competitiveness

	High (1)	High (2)	Low (3)	Low (4)
Voter (Noun) Treatment (1=Yes, 0=No)	0.006 (0.032)	0.005 (0.026)	-0.036 (0.032)	-0.014 (0.028)
Voting (Verb) Treatment (1=Yes, 0=No)	-0.002 (0.032)	0.010 (0.025)	0.015 (0.033)	0.015 (0.028)
Constant	0.811*** (0.025)	0.320 (0.278)	0.750*** (0.026)	0.264 (0.179)
Difference: Noun-Verb	0.008 (0.029)	-0.005 (0.023)	-0.051 (0.029)	-0.030 (0.025)
p-value, one-tailed t-test, H_0 : Noun-Verb=0; H_A : Noun-Verb>0	0.393	0.584	0.961	0.886
p-value, one-tailed t-test, H_0 : Noun-Placebo=0; H_A : Noun-Placebo>0	0.423	0.423	0.864	0.694
p-value, one-tailed t-test, H_0 : Verb-Placebo=0; H_A : Verb-Placebo>0	0.520	0.349	0.326	0.292
With covariates?	No	Yes	No	Yes
Observations	989	989	1,230	1,230

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$, two-tailed t-tests unless otherwise specified.

The outcome variables is turnout in the 2016 general election (1=Yes, 0=No). Covariates included in the covariate adjusted specification include age, age squared divided by 100, gender, race, education, survey date, party identification, ideology, past turnout in the 2016 primary and presidential primary elections, and state fixed effects.

F Sensitivity Analysis: Restricting Sample to Subjects who Viewed and Completed All Survey Items for Assigned Treatment Arm

Table S5: Nonparametric Estimates of Turnout Rates in the 2016 General Election and Differences in Turnout Rates Between Treatment Arms, Among Subjects who Viewed and Completed All Survey Items for Assigned Treatment Arm

Sample	Turnout Rate in Placebo Condition			Turnout Rate in Noun Condition			Turnout Rate in Verb Condition			Difference in Proportions (Noun - Placebo)		Difference in Proportions (Verb - Placebo)		Difference in Proportions (Noun - Verb)	
	Prop	(SE)	N	Prop	(SE)	N	Prop	(SE)	N	Estimate	(SE)	Estimate	(SE)	Estimate	(SE)
Viewed and Completed Assigned Items	0.778	(0.018)	541	0.760	(0.015)	849	0.786	(0.014)	824	-0.018	(0.023)	0.008	(0.023)	-0.027	(0.020)

Table S6: Regression Estimates of the Effect of Noun and Verb Treatments on Turnout in the 2016 General Election, Among Subjects who Viewed and Completed All Survey Items for Assigned Treatment Arm

	(1)	(2)
Voter (Noun) Treatment (1=Yes, 0=No)	-0.018 (0.023)	-0.002 (0.019)
Voting (Verb) Treatment (1=Yes, 0=No)	0.008 (0.023)	0.016 (0.019)
Constant	0.778*** (0.018)	0.311** (0.134)
Difference: Noun-Verb	-0.027 (0.020)	-0.018 (0.017)
p-value, one-tailed t-test, H_0 : Noun-Verb=0; H_A : Noun-Verb>0	0.904	0.862
p-value, one-tailed t-test, H_0 : Noun-Placebo=0; H_A : Noun-Placebo>0	0.789	0.548
p-value, one-tailed t-test, H_0 : Verb-Placebo=0; H_A : Verb-Placebo>0	0.361	0.199
With covariates?	No	Yes
Observations	2,214	2,214

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$, two-tailed t-tests unless otherwise specified.

The outcome variables is turnout in the 2016 general election (1=Yes, 0=No). Covariates included in the covariate adjusted specification include age, age squared divided by 100, gender, race, education, survey date, party identification, ideology, past turnout in the 2016 primary and presidential primary elections, and state fixed effects.