APPENDIX S.B

SEM results predicting humor appreciation and comprehension using self-reported conservatism

Figure S.B.1. *Ironic Joke Subsample SEM Results for Humor Appreciation When Using Alternative Conservative Measure*
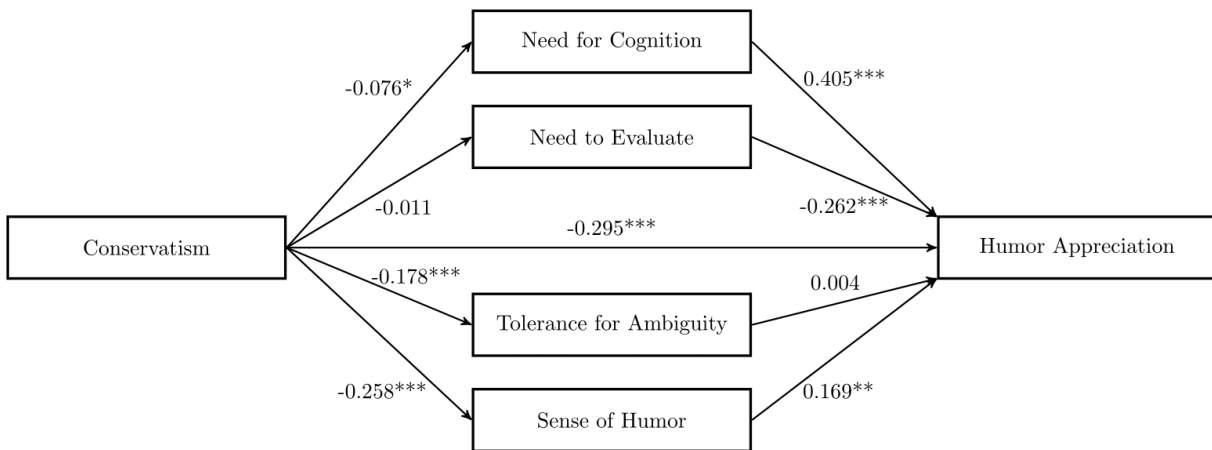
Figure S.B.2. *Exaggeration Joke Subsample SEM Results for Appreciation When Using Alternative Conservative Measure*
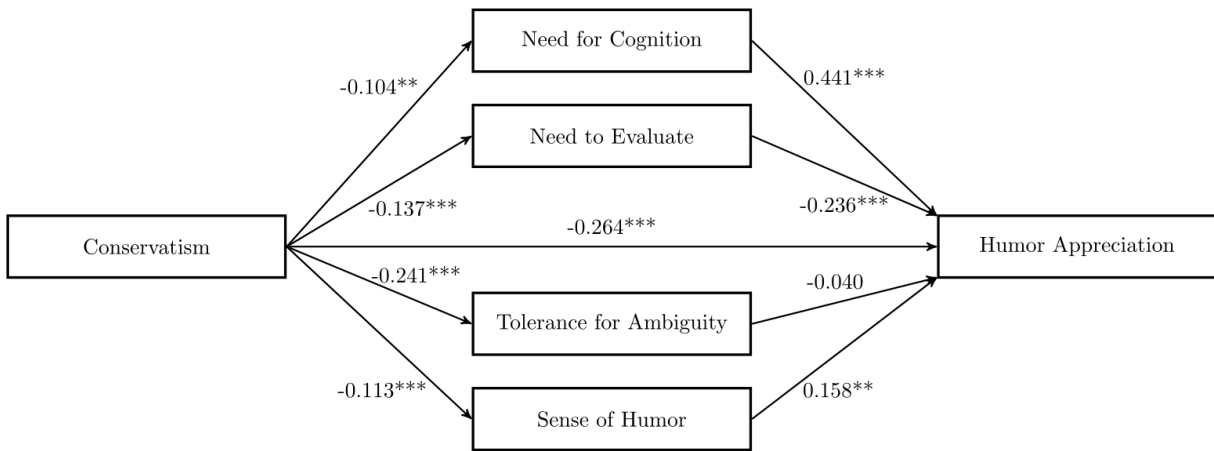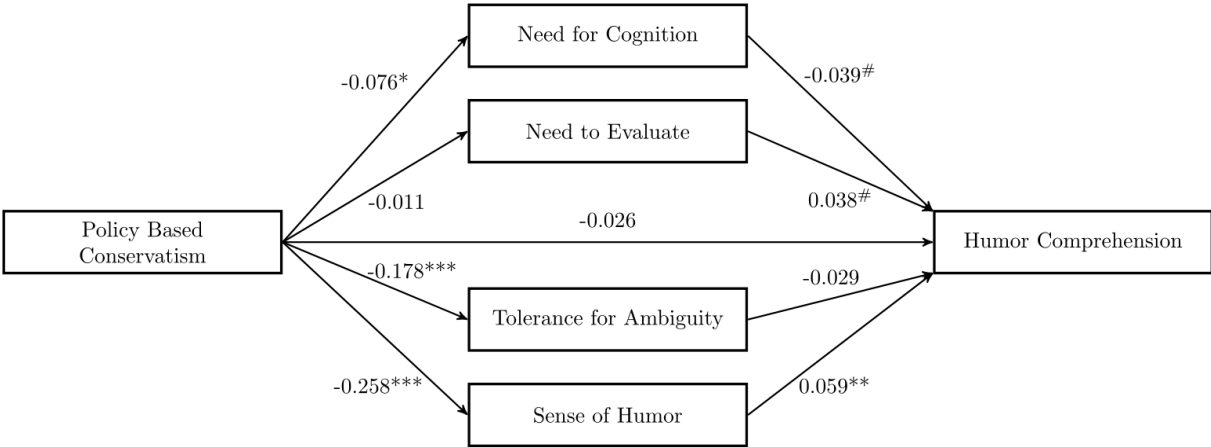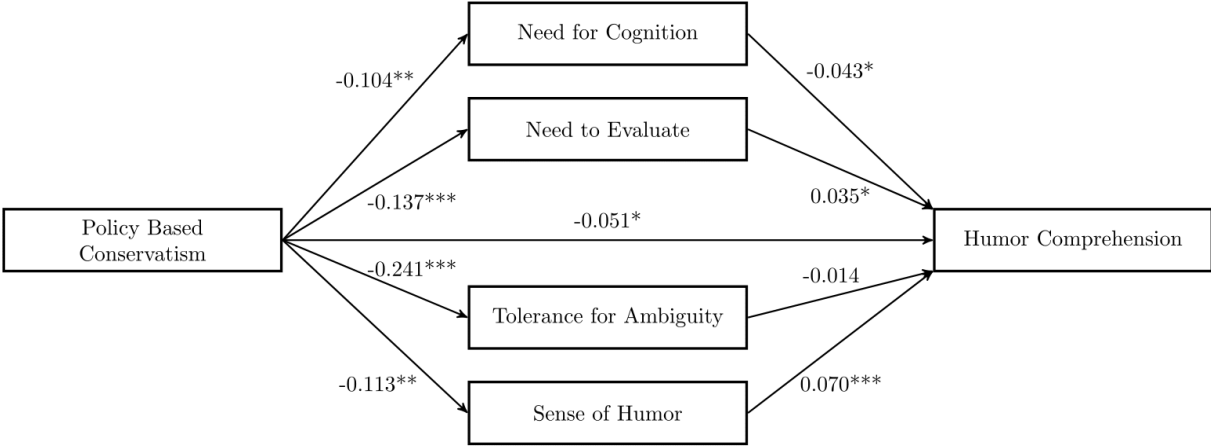

Conservatism

Need for Cognition

Need to Evaluate

Tolerance for Ambiguity

Sense of Humor

Humor Appreciation

-0.104**

-0.137***

-0.264***

-0.241***

-0.113***

0.441***

-0.236***

-0.040

0.158**

Figure S.B.3. *Ironic Joke Subsample SEM Results for Comprehension When Using Alternative Measure*

	Need for Cognition	
Policy Based Conservatism	-0.076*	-0.039#
	Need to Evaluate	
	-0.011	0.038#
	-0.026	Humor Comprehension
	-0.178***	-0.029
	Tolerance for Ambiguity	
	-0.258***	0.059**
	Sense of Humor	

Figure S.B.4 *Exaggeration Joke Subsample SEM Results When Using Alternative Conservative Measure*

	Need for Cognition	
Policy Based Conservatism	-0.104**	-0.043*
	Need to Evaluate	
	-0.137***	0.035*
	-0.051*	Humor Comprehension
	-0.241***	-0.014
	Tolerance for Ambiguity	
	-0.113**	0.070***
	Sense of Humor	

APPENDIX S.C

Methods and Results of Post hoc Test of Order Effects

METHODS

To test the alternative hypothesis that the jokes may have cued a liberal ideology, hence leading to lower appreciation among conservatives, and subsequently lower sense of humor scores among conservatives, a separate post-hoc study was run on a sample of 184 undergraduates from introductory courses in Communication at a large mid-Atlantic university. An online survey was administered through Qualtrics survey software in exchange for extra credit points on a class assignment.

Participants were randomized such they the either started the survey with our nine-item "Sense of Humor" battery OR with exposure to four randomly ordered video joke stimuli (each followed by the four joke appreciation measures—"Thinking about the clip you just watched, please indicate how well the following terms and phrases describe your feelings. The joke was [funny, smart, enjoyable, interesting]" measured on a 5-point scale from *Strongly disagree* (1) to *Strongly agree* (5).

Joke stimuli used for this test included the following four randomly selected videos from our original study:

- Dunkin Donuts (exaggerated)
- Snapchat (irony)
- Finest Tree in England (irony)
- Bear selfie (exaggerated)

Participants were then administered the policy-based conservatism items (10 items) and the traditional self-reported 7-point political ideology measure.

RESULTS

Below, we evaluate whether sense of humor was influenced by our decision to administer the sense of humor scale *after* exposing respondents to our various joke conditions (i.e., stimuli). Using the responses obtained from our follow up study, we first explore a series of t-tests comparing the average levels of sense of humor and joke appreciation among respondents who received our sense of humor questions either prior to, or after, watching our joke stimuli. Note that, to implement these t-tests, we have created a binary "grouping" variable equal to one if a respondent (in our follow up study) received the sense of humor questionnaire after watching our joke stimuli, and equal to zero if the respondent instead received these questions prior to being exposed to our stimuli (hereafter labeled "post-stimuli sense of

humor"). After implementing these t-tests, we then further evaluate the potential ordering effects of our sense of humor scale within a series of multivariate regressions.

Our t-tests first compare the mean levels of sense of humor among respondents that received our sense of humor questions either prior to (N=88), or after (N=96), viewing our follow-up study's four joke stimuli. These t-test results are depicted in Figure C.5 and indicate that respondents in our follow-up study exhibited no significant differences in their reported levels of sense of humor based upon the timing of this scale's corresponding composite questions ($t = 1.22$, $df = 182$). Figure C.6 similarly reports a series of post-stimuli sense of humor-based t-test comparisons of humor appreciation, separately (i) for each of our four jokes evaluated and (ii) for the average level of humor appreciation across all four jokes evaluated. We find that the timing of our sense of humor scale's administration is not significantly associated with differences in joke appreciation within *any* of the five cases evaluated in Figure C.6 ($df = 182$). Taken together, the t-tests presented in Figures C.5 and C.6 thus indicate that our main study's choice of administering the sense of humor scale after exposing subjects to our joke conditions likely did not significantly influence respondents' reported levels on this composite humor scale.

The above results are informative. However, they do not fully evaluate the potential pathway(s) by which the timing of our sense of humor scale may have influenced respondents' reported levels of sense of humor. As discussed above, several of our joke stimuli may arguably be associated with more liberal (vs. more conservative) themes. If this is indeed the case, then our administering the sense of humor scale to respondents *following* their exposure to the joke stimuli (i.e., within our primary study) could have resulted in lower sense of humor scores among conservatives as they, not appreciating these particular jokes as much, could use their thoughts about the previously administered stimuli to inform their subsequent answers to the general sense of humor scale. In light of these potential issues, we next evaluate these concerns more explicitly within our follow up study's responses.

To do so, we turn to multivariate regression and create a series of interaction terms to evaluate the potential moderating effects of our sense of humor scale's timing (i.e., of post-stimuli sense of humor) and *either* (i) respondents reported average levels of joke appreciation *or* (ii) respondents' levels of

policy-based conservatism *on* sense of humor. In doing so, we follow best practices for assessing interaction effects within multivariate regressions by including not only the interactive term, but also both corresponding composite terms, within each model evaluated; and then also evaluate graphical depictions of our interactive results (Brambor et al. 2006). For each interaction of interest, we present both a primary model evaluating the potential moderating effects of the timing of our sense of humor scale, and an expanded control model that re-evaluates this interaction while including a series of additional control variables.

Table S.C.4 presents our moderation results, first for our "post-stimuli sense of humor X humor appreciation" interaction and then for our "post-stimuli sense of humor X conservatism" interaction. Turning first to the post-stimuli sense of humor X humor appreciation interactions reported in Models 1-2, we find in Table A.4 that our interaction term is not statistically significant in either model. This is also the case for the interaction's separate post-stimuli sense of humor and appreciation composite terms. To more fully evaluate this interaction's potentially significant effects, we then also calculate the marginal effect of a change in post-stimuli sense of humor from 0 to 1 (i.e., of pre to post-stimuli administration) across the entire observed range of humor appreciation. The results from this evaluation, reported in Figure C.7, suggest that receiving our sense of humor scale after (versus prior to) our joke stimuli has no discernable effect on one's reported sense of humor, no matter the levels of (prior) joke appreciation. Though not reported here in the interest of space, we also find post-stimuli sense of humor to have insignificant direct and moderating effects when we re-estimate these interactive specifications separately for each of our four joke-appreciation measures, as opposed to the average joke appreciation measure used in the interactions above.

Even if the interaction between post-stimuli sense of humor and humor appreciation is insignificant, the timing of our sense of humor scale's administration may still affect sense of humor differentially through conservatism.[1] Models 3-4 and Figure S.C.8 evaluate this potential differential

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[1] For this to be the case, conservatives would need to adjust their responses to sense of humor based on the politicization of our joke stimuli, but not their responses to humor appreciation – given our findings above.

effect via a post-stimuli sense of humor X conservatism interaction. We find in this case that the policy-based conservatism composite term is negative and statistically significant, implying that when post-stimuli sense of humor equals zero (i.e., when the sense of humor scale is administered prior to our joke stimuli), conservatives exhibit a lower sense of humor. Though not reported here, this is consistent with a series of non-interactive model specifications that we examined for our follow up study's data, which find that conservatism is negatively and significantly associated with sense of humor when omitting our post-stimuli sense of humor X conservatism interaction entirely. These findings notwithstanding, we also find in Table S.C.4 and Figure S.C.8 that the post-stimuli sense of humor composite term, and the interaction term for post-stimuli sense of humor X conservatism interaction term, are each not statistically significant. **This implies that our post-stimuli administration of the sense of humor scale had no effect on our follow up study's subjects either (i) independently or (ii) differentially for our sample's more conservative respondents.**

Figure S.C.5. *Difference in Means (T-Tests) Of Sense of Humor Scale Among Respondents That Received Sense of Humor Questions Before Vs. After Joke Exposure*
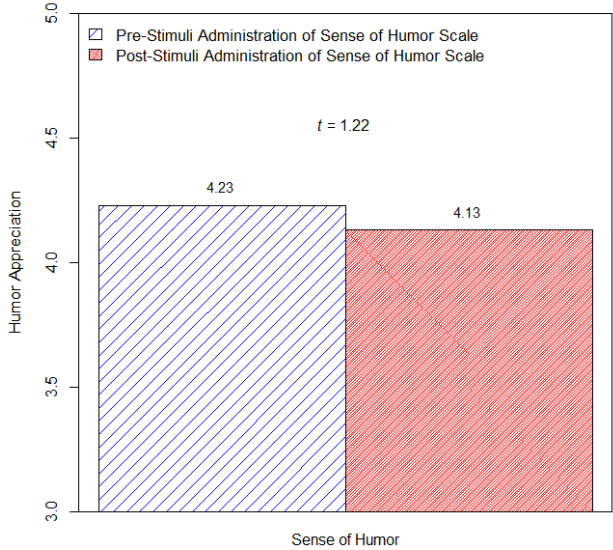

Figure S.C.6. *Difference In Means (T-Tests) Of Joke Appreciation Among Respondents That Received Sense Of Humor Questions Before Vs. After Joke Exposure*
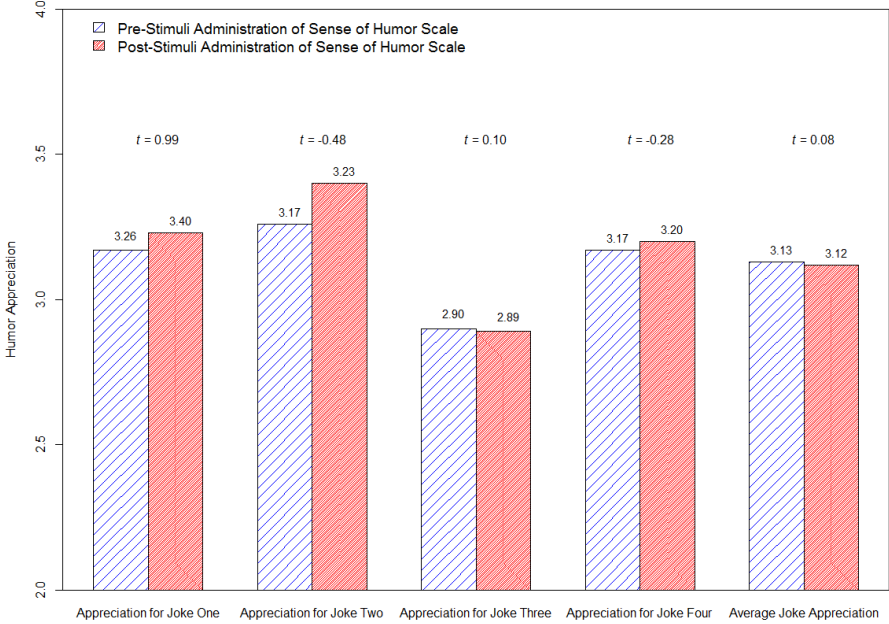
Table S.C.4. *OLS Regressions of Sense of Humor (Follow-Up Study)*

	Appreciation Interactions		Conservatism Interactions	
	Model 1	Model 2	Model 3	Model 4
Constant	3.97***	4.74***	4.88***	4.71***
	(3.51↔4.42)	(4.23↔5.24)	(4.50↔5.26)	(4.21↔5.21)
Post-Stimuli Sense of Humor	-0.06	-0.04	-0.01	-0.00
	(-0.70↔ 0.57)	(-0.63↔ 0.55)	(-0.51↔0.50)	(-0.51↔0.51)
Humor Appreciation	0.08	0.05	.	0.05
	(-0.06↔0.23)	(-0.08↔ 0.18)		(-0.05↔ 0.14)
Post-Stimuli Sense of Humor X Humor Appreciation	-0.01	-0.01	.	.
	(-0.21↔0.19)	(-0.19↔0.18)		
Conservative Policy Preferences	.	-0.33***	-0.32**	-0.32**
		(-0.45↔-0.21)	(-0.51↔-0.14)	(-0.50↔-0.13)
Conservative Policy Preferences X Humor Appreciation	.	.	-0.02	-0.03
			(-0.26↔0.21)	(-0.27↔0.21)
R^2	0.02	0.16	0.16	0.16
N	184	184	184	184

Note. Cell values are coefficient estimates; 95% CIs appear in parentheses. #$p < .1$, *$p < .05$, ** $p < .01$, *** $p < .001$

Figure S.C.7. *Marginal Effect of Post-Stimuli Sense of Humor on Sense of Humor Across Respondents'*
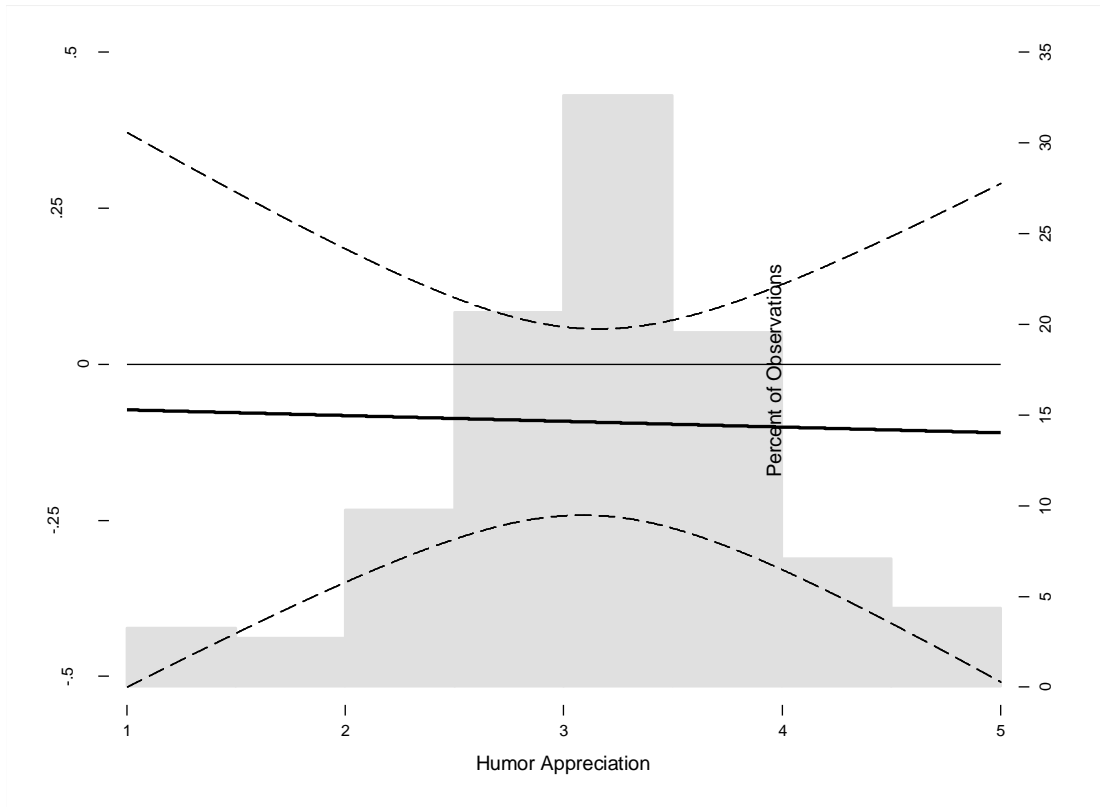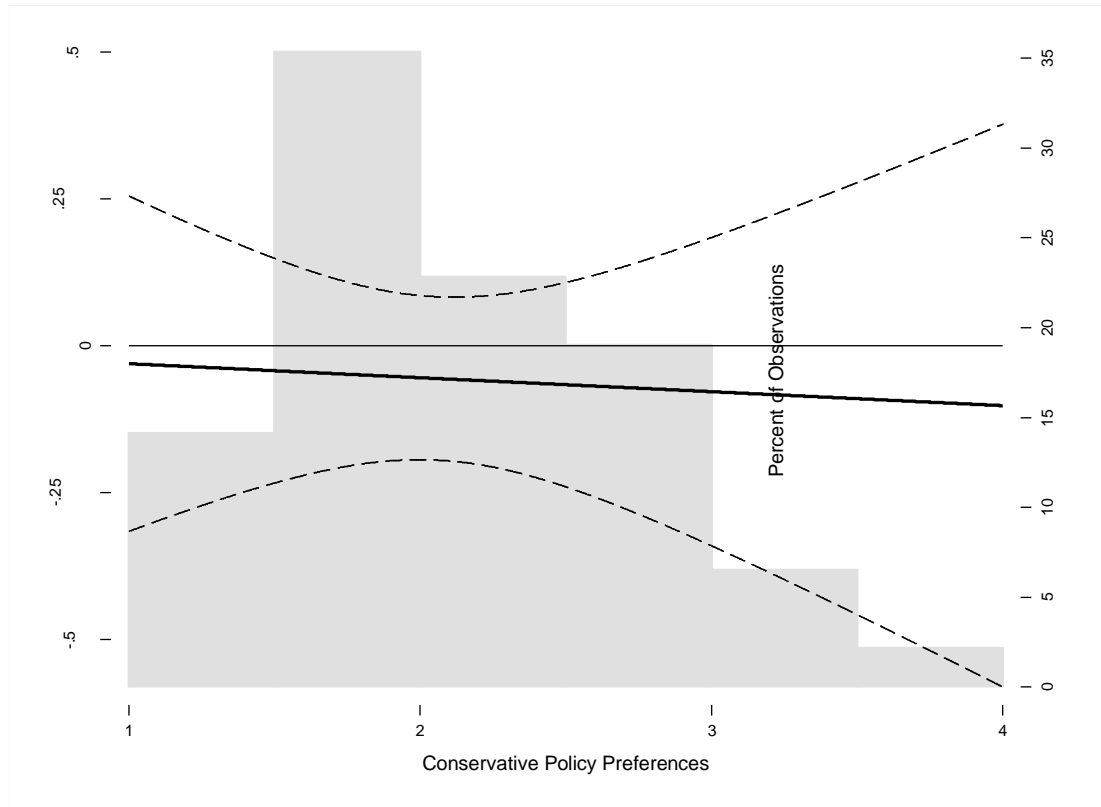*Reported Levels of Humor Appreciation (Model 1)*

Figure S.C.8. *Marginal Effect of Post-Stimuli Sense of Humor on Sense of Humor Across Respondent's Reported Levels of Conservative Policy Preferences (Model 3)*

REFERENCES

Brambor, T., Clark, W. R. & Golder, M. (2006). Understanding interaction models: improving empirical analyses. *Political Analysis, 14*(1), 63-82.

Regressions with alternative measure of conservatism (self-reported)

Table S.D.1. *Mixed Effects Regressions of Humor Appreciation (Alt. Conservative Measure)*

	Irony Appreciation		Exaggeration Appreciation	
	Coefficient	*(95% CI)*	Coefficient	*(95% CI)*
Constant	2.12*	(0.67↔3.43)	2.16**	(0.90↔3.56)
Self-Reported Conservatism	-0.24*	(-0.47↔ -0.00)	-0.16	(-0.40↔0.07)
Need for Cognition	0.22#	(-0.01↔0.47)	0.24*	(0.02↔0.44)
Need to Evaluate	-0.20*	(-0.39↔-0.02)	-0.26***	(-0.43↔-0.09)
Tolerance for Ambiguity	-0.02	(-0.19↔0.19)	-0.05	(-0.23↔0.12)
Sense of Humor	0.13	(-0.06↔0.31)	0.21*	(0.01↔0.39)
Age	-0.02**	(-0.02↔-0.01)	-0.01*	(-0.02↔-0.00)
Education	-0.01	(-0.09↔0.10)	-0.04	(-0.13↔0.05)
Male	0.12	(-0.13↔0.38)	0.11	(-0.14↔0.37)
Non-white	0.12	(-0.19↔0.43)	0.21	(-0.10↔0.50)
Income	0.01	(-0.08↔0.08)	0.03	(-0.04↔0.09)
Political interest	0.37***	(0.22↔0.52)	0.39	(0.25↔0.54)
Joke 2	-0.04	(-0.26↔0.20)	0.19#	(-0.03↔0.39)
Joke 3	-0.05	(-0.25↔0.16)	-0.01	(-0.22↔0.20)
Joke 4	-0.31*	(-0.56↔-0.05)	-0.27*	(-0.50↔-0.05)
Joke 5	-0.09	(-0.30↔0.12)	0.07	(-0.14↔0.26)
Joke 6	-0.34**	(-0.60↔-0.10)	-0.31**	(-0.55↔-0.09)
Joke 7	-0.07	(-0.28↔0.15)	-0.18#	(-0.39↔0.03)
Joke 8	0.07	(-0.14↔0.30)	0.11	(-0.13↔0.34)
PID (Intercept)	1.45***	(1.25↔1.69)	1.46***	(1.27↔1.67)
N	1209		1207	

Note. #$p < .1$, *$p < .05$, ** $p < .01$, *** $p < .001$

Table S.D.2. *Mixed Effects Logistic Regressions of Humor Comp (Alt. Conservative Measure)*

	Irony Comprehension		Exaggeration Comprehension	
	Coefficient	*(95% CI)*	Coefficient	*(95% CI)*
Constant	3.21#	(-0.17↔7.38)	3.84*	(0.82↔8.91)
Ideology	-0.29	(-0.89↔ 0.33)	-0.58#	(-1.27↔-0.02)
Need for Cognition	-0.49*	(-1.05↔-0.01)	-0.50*	(-1.10↔-0.02)
Need to Evaluate	0.42#	(-0.09↔0.90)	0.46#	(-0.05↔1.04)
Tolerance for Ambiguity	-0.20	(-0.62↔0.23)	-0.11	(-0.55↔0.34)
Sense of Humor	0.63**	(0.16↔1.17)	0.58*	(0.07↔1.09)
Age	0.00	(-0.02↔-0.03)	0.00	(-0.02↔0.03)
Education	-0.23	(-0.60↔0.05)	-0.24#	(-0.65↔0.05)
Male	-0.21	(-0.93↔0.42)	-0.16	(-0.82↔0.53)
Non-white	-0.29	(-1.10↔0.56)	-0.85*	(-1.73↔-0.11)
Income	0.15	(-0.07↔0.50)	0.16	(-0.11↔0.53)
Political interest	0.19	(-0.84↔1.32)	0.66	(-0.38↔1.95)
Joke 2	0.35	(-0.64↔1.39)	-0.53	(-1.60↔0.42)
Joke 3	0.25	(-0.77↔1.29)	0.54	(-0.52↔1.67)
Joke 4	0.31	(-0.77↔1.44)	0.68	(-0.32↔1.76)
Joke 5	-1.54**	(-2.71↔-0.59)	-0.90#	(-1.98↔0.13)
Joke 6	0.78	(-0.40↔1.94)	0.13	(-0.91↔1.18)
Joke 7	-2.91***	(-4.11↔1.94)	0.16	(-0.90↔1.29)
Joke 8	1.74***	(1.33↔2.21)	2.03***	(1.52↔2.95)
PID (Intercept)	3.21#	(-0.17↔7.38)	3.84*	(0.82↔8.91)
N	1209		1207	

Note. #$p < .1$, *$p < .05$, ** $p < .01$, *** $p < .001$.

Table S.D.3. *OLS Regressions Predicting Sense of Humor (Binary Conservative Measure)*

	Coefficient	SE
Constant	2.66***	(0.45)
Conservative Dummy	-0.18*	(0.07)
Need for Cognition	0.17**	(0.06)
Need to Evaluate	0.19**	(0.06)
Tolerance for Ambiguity	0.03	(0.05)
Age	-0.00	(0.00)
Education	0.04	(0.04)
Male	0.02	(0.08)
Non-white	-0.14	(0.09)
Income	-0.04	(0.03)
R^2	0.15	
N	302	

*Note. #$p < .1$, *$p < .05$, ** $p < .01$, *** $p < .001$.*