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Replication of Changing Hearts and Minds? Why Media Messages Designed to Foster Empathy Often Fail (Gubler et al., 2022)

Jakub Prochazka / Masaryk University, Faculty of Economics and Administration, Department of Business Management, Brno, Czech Republic
Shubham Pandey / Indian Institute of Technology Bombay, Mumbai
Ondrej Castek / Masaryk University, Faculty of Economics and Administration, Department of Business Management, Brno, Czech Republic
Mojtaba Firouzjaeiangalougah / Masaryk University, Faculty of Economics and Administration, Brno, Czech Republic

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Masaryk University
Faculty of Economics and Administration

Authors:
Jakub Prochazka / Masaryk University, Faculty of Economics and Administration, Department of Business Management, Brno, Czech Republic
Shubham Pandey / Indian Institute of Technology Bombay, Mumbai
Ondrej Castek / Masaryk University, Faculty of Economics and Administration, Department of Business Management, Brno, Czech Republic
Mojtaba Firouzjaeiangalougah / Masaryk University, Faculty of Economics and Administration, Brno, Czech Republic

Contact: castek@econ.muni.cz

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Jakub Prochazka[1]
Shubham Pandey[2]
Ondrej Castek[1,3]
Mojtaba Firouzjaeiangalougah[1]

Abstract

This paper focuses on computational reproducibility and robustness replicability of Gubler et al.'s (2022) studies which examine the effect of media messages on empathic concern, dissonance, and out-group policy attitudes. The original paper tests four hypotheses using two online experiments with large samples from one US state (N1=5,800; N2=2,200). Regarding the first experiment, we successfully reproduced the effect that initial antipathy weakens the effect of humanizing treatment on empathic concern (H1). However, we show that the moderating effect is negligible and has little practical significance. Moreover, the individual effect estimates in our analyses slightly differed from the original paper due to different procedure of data cleaning and minor coding errors in the original paper. The most relevant difference was the opposite effect of gender than reported in the original paper. We also show that empathic concern might mediate the effect of humanizing treatment on attitudes toward immigrants (H3). The original study rejected the mediation hypothesis due to not finding a total effect of humanizing treatment on attitudes. In contrast, we found that humanization treatment has a positive indirect effect on attitudes through empathic concern. At the same time, it also has a direct negative effect on attitudes. For the second experiment (H1, H2a, H2b, H3), we attempted to reproduce the results using a different software. We partially succeeded once receiving support from the authors of the original study. We note throughout the report issues we have encountered.

[1] Masaryk University, Faculty of Economics and Administration, Department of Business Management, Lipova 41a, 602 00 Brno, Czech Republic, jak.prochazka@mail.muni.cz.
[2] Indian Institute of Technology Bombay, Mumbai, shubham.cogsci@gmail.com.
[3] Corresponding author. Masaryk University, Faculty of Economics and Administration, Department of Business Management, Lipova 41a, 602 00 Brno, Czech Republic, castek@econ.muni.cz.

1. Introduction

Gubler et al. (2022) examine the effect of media messages on empathic concern, dissonance, and out-group policy attitudes. They run two separate large-scale experiments with subjects being Anglos from a conservative western US state with a high prevalence of republicans (N = 5,800; N = 2,200). The samples were drawn from citizens of a particular US state described by authors as Western, very conservative. The name of the state was not disclosed in the paper. Data was collected in January 2012 (study 1) and September 2015 (study 2). Responses were obtained from subjects described as Anglos or white/Caucasian. Questionnaires were disseminated via e-mail to several subpopulations with response rates from 9% to 19%. We completed computational reproduction using the original dataset obtained from Harvard Dataverse[4] and other materials (supplemental material, log file with R syntax) that are available on the webpage[5] of one of the authors.

Below is a summary of the hypotheses formulated by Gubler et al. (2022, p. 2160) and the support these hypotheses received in the original study.

H1. Individuals with high pretreatment out-group antipathy – often the targets of humanizing media messages – will exhibit low levels of empathic concern as a result of humanizing information about the out-group, while individuals with low pretreatment antipathy toward the out-group will exhibit high levels of empathic concern.

H1 assumes a moderation effect of pretreatment out-group antipathy on the relationship between humanizing message and empathic concern. The analytical method was multiple regression with OLS estimator.

In Study 1, Gubler et al. (2022) found strong support for this hypothesis: “a stark difference between those two groups [low vs. high pretreatment antipathy] emerges”, “low antipathy respondents reported dramatically higher levels of empathy in the humanization and combined conditions compared to high antipathy respondents (pp. 2163-4)”.

Support for these claims is given in Figure 2 (Gubler et al. 2022, p. 2164) and in Supplemental material of the original paper, Table G.9. The moderating effects of pretreatment antipathy on the effects of both treatments Humanization and Combined on empathic concern was significantly

4 https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/FUCDTT
5 https://davidaromney.com/publication/

negative (both cases: β = -0.40, $p < .001$). The moderating effect holds exactly the same after including all control variables.

In Study 2, Gubler et al. (2022) found support for H1: "Low antipathy participants reported significantly more empathic concern than high antipathy participants no matter the experimental condition, and both groups decreased in empathy when they were assigned to the "illegal" condition. But the effect of the illegal condition was over twice as large for high antipathy participants, and the predicted point estimate for those with high levels of antipathy assigned to that condition fell below the scale midpoint (p. 2166)."

Support for these claims is given in Figure 5A, 5B (Gubler et al. 2022, p. 2166) and in Supplemental material of the original paper, Table G.11. The moderating effects of pretreatment antipathy on the effects of treatments Illegal condition on empathic concern was significantly negative (β = -0.05, $p < .01$ in sparse model (2), β = -0.05, $p < .05$ in full model including controls (3)). The moderating effect was notably weaker than in Study 1 (β = -0.40 vs β = -0.05).

H2a. Individuals with high levels of out-group antipathy before treatment will on average exhibit higher levels of dissonance posttreatment.

H2b. Individuals with low pretreatment antipathy will exhibit little or no change in dissonance levels.

Gubler et al. (2022) approached both H2 as a moderation effect of pretreatment antipathy on the relationship between the treatment and dissonance, i.e., on the level of dissonance caused by the treatment. The analytical method was multiple regression with OLS estimator.

H2 were tested in Study 2 only and Gubler et al. (2022) found support for both H2a and H2b. First, "participants with high levels of pretreatment outgroup antipathy were more likely than those with low antipathy to report dissonant affect regardless of treatment condition", second "the difference between high and low antipathy participants in self-reported dissonance was more than three times larger in the illegal condition", and finally "the difference in differences between high and low out-group antipathy is also significant ($p = .02$), representing key evidence of our hypothesized mechanism at work (p. 2167)".

Support is given for two claims in Supplemental material of the original paper, Table G.12. First, Illegal condition increases dissonance: β = 0.04, p < .001 in basic model (1), β = 0.02, $p < .1$ in sparse model with interaction term (2), and β = 0.02, p < .05 in full model including controls (3).

Second, the pretreatment antipathy is a significant moderator for Illegal condition $\beta = 0.05$, $p < .05$ in sparse model (2), and $\beta = 0.05$, $p < .05$ in full model including controls (3). All mentioned effects are weak.

H3. While posttreatment empathy levels will be correlated with posttreatment political attitudes, the unpleasant affect from dissonance will result in small or zero average effects of the media message treatments on attitudes.

Gubler et al. (2022) explain H3 followingly "in the presence of both empathy (pleasant affect) and dissonance (unpleasant affect), average experimental effects of humanization treatments on policy attitudes should be small or nonexistent (p. 2167)." H3 can be understood also as effect of humanization on attitude being mediated by empathic concern.

In Study 1, Gubler et al. (2022) found support for this hypothesis: "The key finding overall is that neither of the conditions with humanizing messages had any discernible effect on policy attitudes (pp. 2168)."

Support for this claim is given in Table 1 (Gubler et al. 2022, p. 2167) and in Supplemental material of the original paper, Tables G.13 and G.15. Treatment effects on support of harmful policies (i.e., negative attitude towards immigrants) are either statistically non-significant, or very weak: Humanization $\beta = -0.01$, n.s., Information $\beta = 0.01$, n.s., Combined $\beta = -0.01$, n.s., in basic model (1); Humanization $\beta = -0.00$, n.s., Information $\beta = 0.04$, $p < .05$, Combined $\beta = -0.00$, n.s., in sparse model with interaction terms (2); Humanization $\beta = -0.01$, n.s., Information $\beta = 0.04$, $p < .05$, Combined $\beta = -0.00$, n.s., in full model including controls (3).

The results change slightly based on antipathy being measured as continuous (Table G.13) or dichotomous (Table G.15).

In Study 2, Gubler et al. (2022) come to the same conclusion: "While there is some evidence that, relative to the legal condition, humanizing messages in the illegal condition decreased support for policy harm, the effect is quite small. Overall, as in study 1, support for policy harm is primarily a function of pretreatment antipathy toward immigrants, the effect of which is dramatically larger than the experimental conditions (p. 2168)."

Support for this claim is given in Table 2 (Gubler et al., 2022, p. 2168) and in Supplemental material of the original paper, Tables G.14 and G.16.

Treatment effect on support of harmful policies is statistically significant (unlike Study 1), but very weak: β = -0.03, $p < .01$ in basic model (1); β = -0.04, $p < .05$ both in sparse model with interaction terms (2) and in full model including controls (3).

The results change slightly based on antipathy being measured as continuous (Table G.14) or dichotomous (Table G.16).

In the present paper, we first tested the computational reproducibility using a new version of the same software (R ver. 1.1.463) and following the published syntax. We then checked the computational reproducibility of the tests of the four hypotheses that were stated in the original paper using different software (SPSS ver. 28, MATLAB ver. 2022, Mathwork Inc). Finally, we perform two robustness checks on the results of the first study.

To reproduce the hypotheses test, we first cleaned the data and computed the compound variables as described in the paper and its supplemental material. If the description was not clear, we looked for details in the provided R script in the log file. Regarding the first experiment, we reproduced the tests of H1 and H3 and performed robustness checks focused on the practical significance of the moderation effect of outgroup antipathy (H1) and on the existence of the mediation effect of empathic concern in the relationship between humanization messages and attitudes towards immigrants (H3). In the case of the second experiment, we were not able to reliably identify the variables needed for the analyses based on the dataset, log file, and supplemental materials. The original authors provided support which allowed us to computationally reproduce their results with minor differences.

2. Reproducibility

First, we ran the original syntax in R ver. 1.1.463 using the original dataset to compare our results with the figures presented in the original manuscript and tables presented in the supplemental file. Each step of the analysis was carefully followed, and all necessary code snippets were executed as instructed. Using the same syntax, we were able to reproduce all the main estimates and all published figures (see Appendix 1 for detailed results) for both experiments except the Figure A.1 (flowchart in Supplemental material of the original paper). We found that the treatment labels are misassigned within Figure A1. The order should be Humanization, Information, Combined, Control. Nevertheless, the treatments are labeled correctly in the log file and in the other parts of the manuscript. It seems that this presentation error did not influence the interpretation of hypothesis testing.

2.1 Study 1: Reproducibility using different software

2.1.1 Data cleaning

Two authors tried to reproduce the data cleaning procedure of Study 1 using two different softwares (SPSS ver. 28 and MATLAB). None of us was able to reach the same sample size as described in the original study. We are aware that some differences in the data cleaning procedure might be caused by the decision of which of the duplicate cases should be kept for further analyses.

In the first attempt with SPSS, we tried various ways to exclude the duplicates, but none of these efforts led to the same result as presented in the original study. Therefore, we have chosen the procedure best matching the description in the original manuscript. If a duplicate appeared in the data matrix, we preferred to keep the record that better met the other criteria for retention in the sample (i.e., did not indicate non-white ethnicity, did not indicate problems with video, finished the survey; see Figure A.1 in the Supplemental material of the original paper for more details). Following this approach, similar to the original study, we removed 149 duplicate cases (according to the identifier) and 168 non-whites (i.e., respondents who identified themselves as otherwise than White/Caucasian). However, in the next step, we identified only 1596 (not 1610 as in the original study) respondents with video issues and 384 (not 386) respondents who did not finish the questionnaire. We continued with the analysis in SPSS with a sample of 3514 respondents (not 3494 as in the original study) who met all the conditions described in the manuscript. These responses were divided among four treatments in the following way: Humanization: 847, Information: 949, Combined: 858, Control: 860.

In the second attempt by the other co-author with MATLAB, the analysis started with a sample of 5811. We first dropped 1539 unfinished responses followed by dropping 568 responses with video issues. Then we dropped 195 non-whites followed by dropping 28 duplicate entries. Notably we removed duplicates at the last stage of data cleaning to minimize potential loss of any relevant response. The duplicate removal was automatically done by the MATLAB algorithm. Afterwards, we continued the analysis with 3481 responses (not 3494 as reported in the original paper) who met all the conditions described in the manuscript. These responses were divided among four treatments in the following way: Humanization: 838, Information: 938, Combined: 851, Control: 854.

2.1.2 Operationalization of variables

Study 1 tested H1 and H3 only. *Empathic concern* (dependent variable for H1) was measured by Batson's six-item measure (Batson et al. 1997, 2002). The summary score of all six items was recorded to range from 0 to 1. *Attitudes towards immigrants* (also *political attitudes,* indicates negative attitudes towards immigrants) were operationalized through "harm index" (dependent variable for H3) which contained seven items (ten items in Study 2) that measured an attitude towards real or hypothetical law norms that may harm the immigrants. The summary score of all seven items was recoded to range from 0 to 1. Initial outgroup *antipathy* (moderator) measure was adapted from the "ethos of conflict" measure developed by Bar-Tal et al. (2009, 2012), Roccas et al. (Roccas, Klar, and Liviatan 2006; Roccas et al. 2008), Shnabel et al. (2009), and others. The original scale has 9 items, but the authors used just 3 of them in Study 1 to reduce the length of their survey. It was not clear why these three particular items were chosen and the rest dropped. After explanation from the authors, it is clear that they used a short-form three-items measure, which was validated by them in a previous study. The summary score created from the three items was recoded to range from 0 to 1. There were four experimental conditions: *Humanization* / *Information* / *Combined* (Humanization + Information) / *Control*. In the Humanization condition, the respondents were exposed to "a documentary clip humanizing a Latino immigrant family". In Information condition, the participants saw "another part of the same documentary providing information about the growth of Latino immigration in the state without any humanizing content". In Combined condition, the respondents were exposed to both clips. The Control group watched a video focused on the growth of traffic in the state instead of immigration. To do a manipulation check, the study measured *infrahumanization* (respondents rated the extent to which immigrants are likely to feel two secondary positive emotions: admiration and love). In analyses, authors also controlled for *gender*, *age*, and *political party preference* (1–7, 1 = Strong Democrat, 7 = Strong Republican, rescaled to 0-1).

Following the manuscript, supplemental material, and log file, we were able to compute all variables used in the analyses. We found just one error connected to the coding. In all tables in the original manuscript, the gender variable is presented as Female = 1 and others = 0. Nevertheless, according to the R syntax, Male should be coded as 1 and the rest (Female + missing) as 0. Therefore, all the effects of gender reported in Study 1 should have the opposite valence than presented in the original manuscript. For both replications in SPSS and MATLAB, we followed the R syntax and coded Male as 1 and the rest as 0.

2.1.3 First independent attempt to reproduce the results

First, we attempted to reproduce the hypothesis testing in SPSS with $N = 3514$. We regressed Infrahumanization on the treatments to do a manipulation check. When we used dichotomous antipathy score, the analysis showed the same results as the manipulation check presented in the original manuscript (Table G.8 in Supplemental material of the original paper). Nevertheless, it is important to note that the effect of humanization treatment on Infrahumanization was very small ($\beta = .21$). Unlike the authors of the original paper, we also did the same analysis with continuous antipathy score (not dichotomous). Dichotomization leads to the loss of potentially relevant variation. When we included control variables, antipathy (continuous), and interactions between treatments and antipathy in the model, the effect of the humanization treatment diminished and ceased to be significant. We present the detailed results in Appendix 2.

To test the H1, we regressed empathic concern on the treatments, antipathy (continuous), interaction between treatments and antipathy and control variables. We were able to reproduce the findings from the original analyses (compare Tab. 1 and Table G.9 in Supplemental material of the original manuscript). There are marginal differences in the value of some estimates due to different sample sizes, but the interpretation of the effects is the same as in the original study. The only difference is the opposite effect of gender, which results from a coding error in the original study. The SPSS syntax and the complete output of the analyses are available in Appendix 2.

Tab. 1: Regression of Empathic Concern on Treatments x Antipathy (Continuous) and Controls, Study 1

	(1)		(2)		(3)	
	B	SE	*B*	SE	*B*	SE
Intercept	0.27***	0.01	0.30***	0.02	0.20***	0.03
Humanization	0.36***	0.01	0.56***	0.02	0.56***	0.03
Information	0.09***	0.01	0.24***	0.02	0.24***	0.02
Combined	0.34***	0.01	0.55***	0.02	0.55***	0.03
Antipathy			-0.06	0.03	-0.07*	0.03
Hum. x Antipathy			-0.40***	0.04	-0.40***	0.04
Inf. X Antipathy			-0.29***	0.04	-0.29***	0.04
Comb. x Antipathy			-0.41***	0.04	-0.40***	0.04
Gender (1 = Male)					-0.03***	0.01
Age					0.002***	0.00
Party ID (0 - 1)					0.05**	0.02
N		3455		3449		3255
R2		0.32***		0.42***		0.43***
adj. R2		0.31		0.42		0.43

Note. *p < 0.05; **p < 0.01; ***p < 0.001.

To test the H3 we regressed the harm index on the treatments, antipathy and interaction between treatments and antipathy. We were able to reproduce the findings from the original analyses (compare Tab. 2 with Table G.13 in Supplemental material of the original manuscript). There are marginal differences in the value of some estimates due to different sample sizes, but the interpretation of the effects is the same as in the original study. The model with treatments (Model 1) is significant on the 5% level. However, the explained variance in harm index is negligible (0.2%).

Tab. 2: Ordinary Least Squares Regression of Policy Harm on Antipathy (Continuous) and Treatments, Study 1

	(1)		(2)	
	B	SE	*B*	SE
Intercept	0.71***	0.01	0.36***	0.01
Humanization	-0.01	0.01	-0.01	0.02
Information	0.01	0.01	0.04*	0.02
Combined	-0.01	0.01	0.00	0.02
Antipathy			0.67***	0.02
Hum. x Antipathy			-0.01	0.03
Inf. x Antipathy			-0.05	0.03
Comb. x Antipathy			-0.01	0.03
N		3505		3498
R2		0.002***		0.508***
adj. R2		0.001		0.51

Note. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

2.1.4 Second independent attempt to reproduce the results

In MATLAB with N = 3481, we regressed Infrahumanization on the treatments to do a manipulation check. The first model without antipathy and control variables showed the similar results as the manipulation check presented in the original manuscript (Table G.8 in Supplemental material of the original paper). However, it is important to note that the effect of humanization treatment on Infrahumanization was very small (β = .13). We obtained similar results when we included control variables, antipathy (dichotomous) and interactions between treatments and antipathy in the model (β = .09). However, when we take the antipathy score as a continuous variable in the model, the effect of the humanization treatment diminished and ceased to be significant (β = .04). The MATLAB syntax and the complete output of the analyses are available in Appendix 3.

To test the H1, we regressed empathic concern on the treatments, antipathy (continuous), interaction between treatments and antipathy and control variables. We were able to reproduce the results of the original analyses (compare Tab 3. and Table G.9 in Supplemental material of the original manuscript) with some marginal differences, possibly arising out of different sample sizes, but the interpretation of the effects is the same as in the original study.

Tab. 3: Regression of Empathic Concern on Treatments × Antipathy (Continuous), Controls, Study 1

	(1)		(2)		(3)	
	B	SE	*B*	SE	*B*	SE
Intercept	0.27***	0.01	0.30***	0.02	0.20***	0.03
Humanization	0.36***	0.01	0.57***	0.02	0.56***	0.02
Information	0.09***	0.01	0.24***	0.02	0.24***	0.02
Combined	0.35***	0.01	0.56***	0.02	0.55***	0.02
Antipathy			-0.05	0.03	-0.06*	0.01
Hum. x Antipathy			-0.41***	0.04	-0.40***	0.04
Inf. x Antipathy			-0.29***	0.04	-0.29***	0.02
Comb. x Antipathy			-0.41***	0.04	-0.40***	0.03
Gender (1 = Male)					-0.03***	0.04
Age					0.002***	0.04
Party ID (0 - 1)					0.05**	0.04
N		3362		3354		3148
R2		0.32***		0.42***		0.44***
adj. R2		0.32		0.42		0.44

Note. *p < 0.05; **p < 0.01; ***p < 0.001.

To test the H3, we regressed the policy harm index on the treatments, antipathy (continuous) and interaction between treatments and antipathy. We were able to reproduce the results of the original analyses (compare Tab. 4 and Table G.13 in Supplemental of the original manuscript) with some marginal differences, possibly arising out of different sample sizes, but the interpretation of the effects is the same as in the original study. The MATLAB syntax and the complete output of the analyses are available in Appendix 3.

Tab. 4: Regression of Policy Harm on Treatments × Antipathy (Continuous), Controls, Study 1

	(1)		(2)		(3)	
	B	SE	*B*	SE	*B*	SE
Intercept	0.71***	0.01	0.36***	0.01	0.26***	0.02
Humanization	-0.01	0.01	-0.008	0.02	-0.01	0.02
Information	0.01	0.01	0.03†	0.02	0.04*	0.02
Combined	-0.01	0.01	-0.01	0.02	-0.01	0.02
Antipathy			0.67***	0.02	0.64***	0.02
Hum. x Antipathy			-0.00	0.03	-0.01	0.03
Inf. x Antipathy			-0.05	0.03	-0.06†	0.03
Comb. x Antipathy			-0.00	0.03	0.01	0.03
Gender (1 = Male)					-0.00	0.01
Age					0.00	0.00
Party ID (0 - 1)					0.12***	0.01
N		3478		3467		3284
R2		0.00		0.51***		0.52***
adj. R2		0.00		0.51		0.52

Note. †$p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Finally, we were also able to reproduce figures from study 1 of the paper (see Figures 1-3).

Figure 1: Humanization by level of out-group antipathy and treatment group.

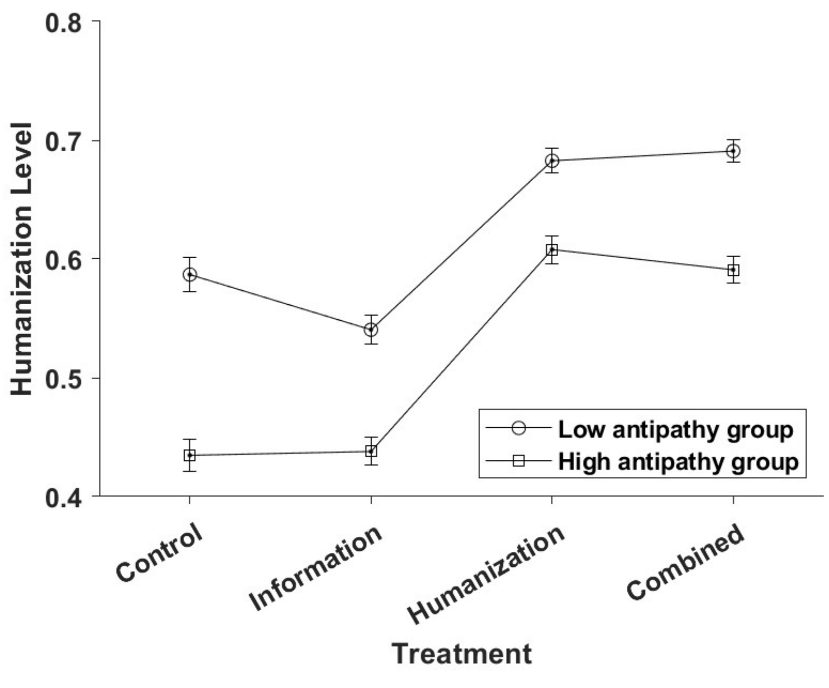


Figure 2: Marginal effects of the treatments on empathic concern, by levels of out-group antipathy.

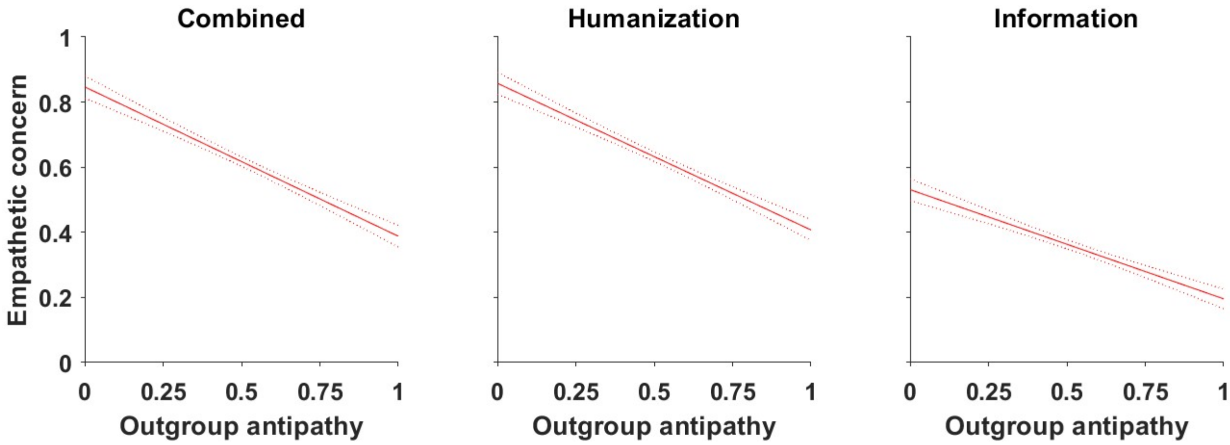
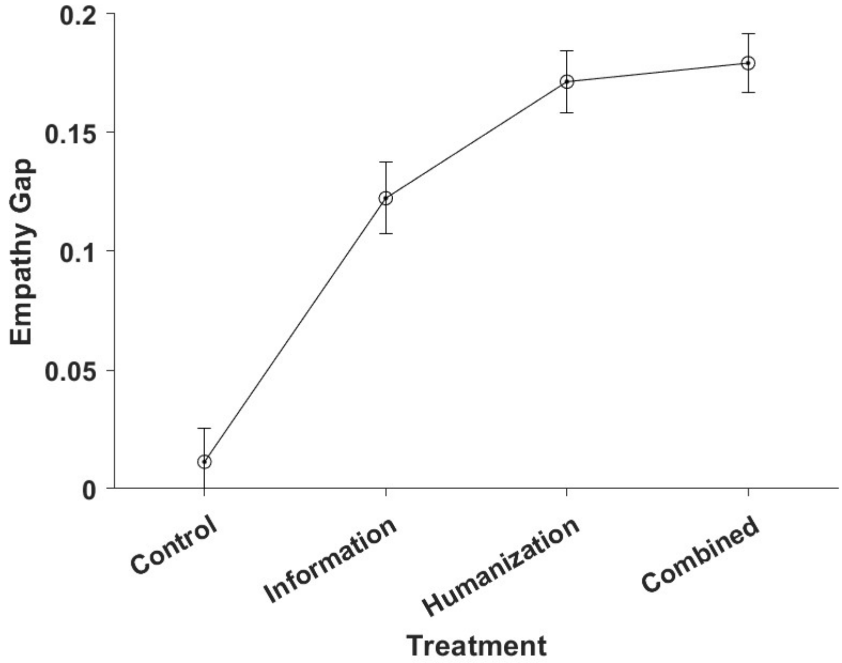


Figure 3: Empathy gap: difference between low and high antipathy individuals in reported empathic concern, by treatment condition.



2.2 Study 2: Reproducibility using different software

2.2.1 Data cleaning

According to Figure A.2 (Supplemental material, p. 4 of the original paper), there were 2632 (3623 invited – 991 not responded) participants who responded to the second wave of the survey. However, the provided dataset with manuscript contains 2159 participants only.

We first note that the original authors have not provided raw data for study 2. We thus could not recode from scratch. For instance, "non-finished" responses were already removed. Additionally, these items did not have original labels; instead all items were already assigned labels as icb1, icb2,..., icb10; item nr. 8 (icb8) was reverse coded, which is not mentioned in the original manuscript. Upon request, original authors informed us that the variables in the dataset have different order than the items in the survey, but we were not able to check it as we missed the codebook.

We started the data cleaning procedure with a sample of 2159. 130 non-whites were removed. Then, we removed 47 responses which had no treatment assigned. Therefore**,** we performed all analysis with a final sample of 1982 responses which is the same as what the original authors reported. Out of the final sample, we identified 999 illegal and 983 legal responses (same as original manuscript). Also, we could not figure out whether Male was coded 1 or female was coded 1.

2.2.2 Operationalization of variables

Study 2 tested all four hypotheses. Dissonance was manipulated separately from humanization (see Gubler et al., 2022, p. 2162). More importantly, to unbundle dissonance from humanization/empathy, the measurement was done in two waves. Outgroup *antipathy*, *infrahumanization*, and all demographics were measured in the first wave, which allowed to divide respondents in the group of "low antipathy" and "high antipathy" at the scale midpoint. Outgroup *antipathy* was yet again computed using the adapted "ethos of conflict" measure developed by Bar-Tal et al. (2009, 2012), Roccas et al. (Roccas, Klar, and Liviatan 2006; Roccas et al. 2008), Shnabel et al. (2009), and others. One difference to Study 1 is that in Study 2, outgroup *antipathy* was measured by all nine items (Study 1: just three items). The summary score created from all nine items was recoded to range from 0 to 1.

To do a manipulation check, the study measured *infrahumanization*, supposedly the same way as in Study 1: respondents rated the extent to which immigrants are likely to feel two secondary positive emotions: admiration and love. One difference here was that *infrahumanization* was measured both in the first and the second (after exposure to humanization vignette, see Gubler et al., 2022, p.2162-3) measurement wave.

There were two experimental conditions: *legal* (also documented) and *illegal* (also undocumented) immigration. After exposure to humanization vignette, the respondents were informed that immigrants shown "have come to this country illegally/legally".

Next, the *dissonance* (dependent variable for H2a and H2b) was elicited via standard "induced compliance" framework by Festinger and Carlsmith (1959). Respondents were to answer questions about the immigrants on scales with positive responses only. After that, *dissonance* was measured as how they felt emotions identified by Elliot and Devine (1994) and Haslam (2006) as indicators of dissonance: uncomfortable, uneasy, bothered, tense, and concerned.

Empathic concern (dependent variable for H1) was measured by Batson's six-item measure (Batson et al. 1997, 2002). The summary score of all six items was recorded to range from 0 to 1. *Attitudes towards immigrants* (also *political attitudes*) were operationalized through "harm index" (dependent variable for H3) and measured by eight items (seven items in Study 1) that measured an attitude towards real or hypothetical law norms that may harm the immigrants. The summary score of all eight items was recoded to range from 0 to 1.

In analyses, authors also controlled for *gender*, *age*, and *political party preference* (1–7, 1 = Strong Democrat, 7 = Strong Republican, rescaled to 0-1).

The Data cleaning section provides more details on our success in replicating the calculations.

2.2.3. First independent attempt to reproduce the results

In SPSS, we tried to compute the mean scores for all above described variables that were used for testing the hypotheses. According to the Supplemental material of the original paper (p. 5), the measure of group antipathy had 9 items and the item nr. 4 was reverse-coded. In the data file, we found 10 antipathy items (icb1-icb10) without specific labels. According to the R syntax, item 8 was reverse coded. It was not possible to identify if there was an extra item in the questionnaire or if there is a mistake in the dataset. We tried to follow the R syntax for creating the antipathy index (log file p. 14). According to the syntax, the item icb7 is missing in the index. In a follow-up e-mail conversation, the authors specify that icb7 was added "for exploratory reasons; it was not meant to be part of the 9-item scale". We also found a variable that seemed to be an antipathy index calculated by the authors (icb_measure), but we were not able to calculate the same values using various combinations of antipathy items. As it was not possible to calculate the original antipathy index or to create a new antipathy index (because we don't know the meaning of individual items icb1-icb10), the author of this reproduction attempt considered Study 2 to be not reproducible and did not try to reproduce the hypotheses testing. We would need further information from the authors which would allow us to computationally reproduce this part of the analysis.

2.2.4 Second independent attempt to reproduce the results

In MATLAB, we tried to reproduce the original results. However, we found the same issues as highlighted in the first attempt. Despite some further difficulties, we successfully computed policy harm index. However, because full wording of questions were not provided, we could not verify the computed antipathy score and policy harm. Section B.5 in Supplemental material of the original paper mentions seven and ten policy items used for measuring attitude towards immigrants in study 1 and study 2, respectively.

Nevertheless, we followed the same syntax as provided to calculate regression models. We successfully reproduced the table with regression of dissonance on treatments (table 5 here, G.12 in supplementary file). We found a weak effect suggesting that participants with high levels of outgroup antipathy reported higher dissonance (β = 0.05, p < .001). We notice that the authors have swapped the labels (titles) of policy harm tables in Study 2 in supplementary file: Table G14 and G16 with each other. Alternatively, the authors may have swapped actual table values, while the labels were correct. For example, the authors mention G14's label as having antipathy variable as dichotomous. However, we get this table when we take antipathy as continuous variable. The vice-versa is true for G16. Here, we report tables keeping labels same as original authors but replacing table values. We also found some evidence that, relative to the legal condition, humanizing messages in the illegal condition decreased support for policy harm. The effect is quite small, β = -0.05, p < 0.01, while controlling for other variables. This is not in line with the hypothesis that humanizing messages may not move policy attitudes in substantively significant way.

Tab. 5: Regression of Dissonance on Treatments × Antipathy (Dichotomous), Controls, Study 2

	(1)		(2)		(3)	
	B	SE	*B*	SE	*B*	SE
Intercept	0.26***	0.01	0.24***	0.01	0.30***	0.02
Illegal Condition	-0.05***	0.01	0.03†	0.01	0.03*	0.01
Outgroup Antipathy			0.05***	0.01	0.06***	0.01
Ill. Con. × Antipathy			0.05*	0.02	0.05*	0.02
Gender					-0.02*	0.01
Age					-0.00***	0.00
Party ID (0–1)					0.02	0.02
N		1963		1961		1945
R2		0.01		0.04		0.05
adj. R2		0.01		0.04		0.05

Note. †$p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Tab. 6: Regression of Policy Harm on Treatments × Antipathy (Continuous), Controls, Study 2

	(1)		(2)		(3)	
	B	SE	*B*	SE	*B*	SE
Intercept	0.62***	0.01	0.25***	0.01	0.19***	0.02
Illegal Condition	-0.03**	0.01	-0.05**	0.02	-0.05**	0.02
Outgroup Antipathy			0.85***	0.03	0.79***	0.03
Ill. Con. × Antipathy			0.04	0.04	0.04	0.04
Gender					-0.02*	0.01
Age					0.00***	0.00
Party ID (0–1)					0.09***	0.01
N		19561		1959		1944
R2		0.00		0.52		0.53
adj. R2		0.00		0.52		0.53

Note. †$p < 0.1$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

3. Robustness Checks

We did a robustness replication of Study 1 using the same data, different software (SPSS) and different type of analyses.

The focus of the H1 is the moderation effect of outgroup antipathy on the relation between the humanization message and the empathic concern. The original study supported the hypothesis by examining the regression coefficient of the interaction terms "humanization x antipathy" and "combined x antipathy". To assess the practical significance of the moderation effect, we computed a new regression model in which we entered the predictors in several steps. First, we entered control variables and outgroup antipathy. In the second step, we inserted all treatments. In the third step, we added the interaction term "humanization x antipathy" and in the fourth step we inserted the interaction term "combined x antipathy". We assessed how the proportion of explained variance in empathic concern increased with each step. As can be seen in Tab. 7, the control variables and antipathy explained 9.6% of the variance in empathic concern. Adding treatments in the second step significantly improved the model (ΔR^2 = 0,371, p < 0,001). Adding both the "humanization x antipathy" interaction (ΔR^2 = 0,003, p < 0,001) and the "combined x antipathy" interaction (ΔR^2 = 0,008, p < 0,001) led to a statistically significant but only marginal (+1,1% of explained variance in attitude) improvement of the model. This analysis provided statistical support for H1, but also showed that the moderation effect of antipathy is marginal and, that initial antipathy is not very contributing for understanding the effect of humanizing video clips on empathic concern.

Tab. 7: Regression of Empathic Concern on Treatments x Antipathy and Controls

	(1)		(2)		(3)		(4)	
	B	SE	*B*	*B*	*B*	SE	*B*	SE
Intercept	0.55	0.03	0.34	0.02	0.32	0.02	0.28	0.02
Gender (1 = Male)	-0.03	0.01	-0.03	0.01	-0.03	0.01	-0.03	0.01
Age	0.001	0.00	0.00	0,00	0.00	0.00	0.02**	0.00
Party ID (0 - 1)	0.06**	0.02	0.05	0.02	0.05**	0.02	0.05	0.02
Antipathy	-0.35	0.02	-0.34	0.02	-0.30	0.02	-0.22	0.02
Humanization			0.36	0.01	0.44	0.02	0.48	0.02
Information			0.09	0.01	0.09	0.01	0.09	0.01
Combined			0.34	0.01	0.34	0.01	0.47	0.02
Hum. x Antipathy					-0.16	0.04	-0.24	0.04
Comb. x Antipathy							-0.25	0.04
N		3255		3255		3255		3255
R2		0.096***		0.413***		0.416***		0.424***
adj. R2		0.094		0.411		0.415		0.422

Note. **p* < 0.05; ***p* < 0.01;
****p* < 0.001.

The essence of H3 is the assumption that there is no indirect effect of humanization treatment message on attitudes (harm index) through empathic concern. The authors tested this assumption through the direct effect of humanization treatment on the harm index (see Table 1 in the original manuscript). As they found no significant relation, they concluded that “neither of the conditions with humanizing messages had any discernible effect on policy attitudes” (p. 2168). This conclusion is probably based on the assumption that an indirect effect (ie., humanization → empathic concern → attitude) can only exist if there is a significant relation between the independent and dependent variables (ie., humanization → attitude). Such an assumption is in line with the recommendations for mediation analyses from Baron and Kenny (1986) and others. However, we followed more recent recommendations (see e.g., Zhao et al., 2010) and tested whether there can be a significant indirect effect even if there is no correlation between the independent variable and the outcome . Therefore, we did a mediation analysis with 5000 bootstrap samples using the PROCESS v4.2 plugin for SPSS (Hayes, 2017, Model 4), to test the indirect effect of humanization treatment on attitudes towards immigrants operationalized as the harm index. We estimated two models in which the independent variable was humanization treatment and combined treatment, respectively. The mediator was always empathic concern, and the dependent variable was harm index. Two other treatments, gender, age, and political preference, were controlled as covariates. The analyses showed that empathic concern significantly mediates the relationship between the humanization treatment and the harm index (see Figure 1) and also between the combined treatment and the harm index (see Figure 2). Both mediation effects were rather weak (partially standardized indirect effects were –0,242 for humanization treatment and –0,231 for combined treatment) but not marginal. This finding supports the H3.

Figure 4: Mediation analysis for Humanization treatment

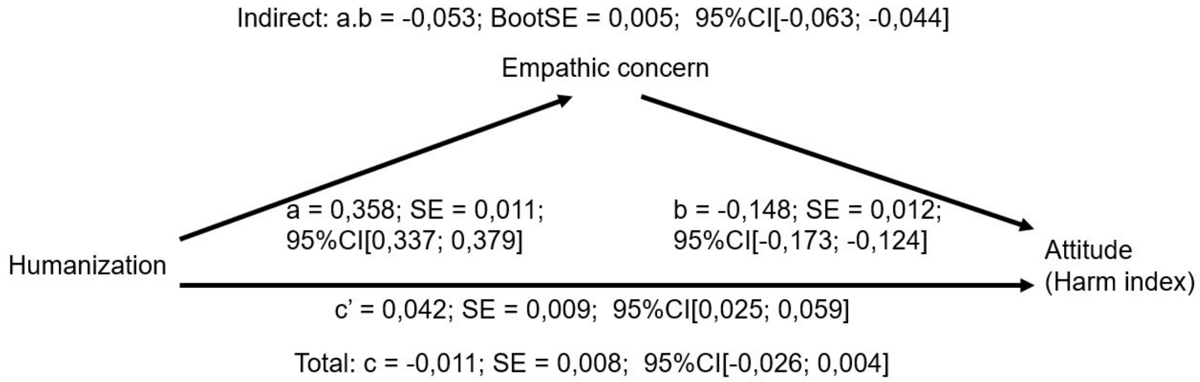
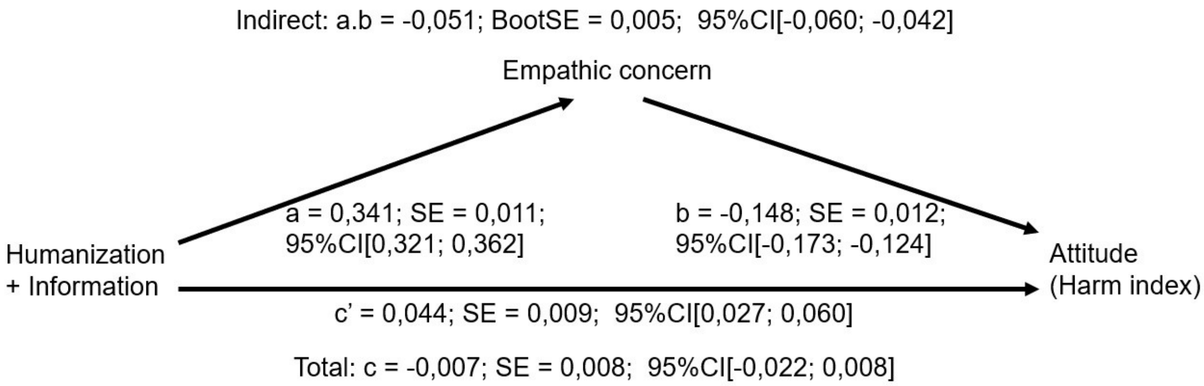


Figure 5: Mediation analysis for Combined treatment



According to the mediation analysis, the total effects of treatments on the harm index were very weak and insignificant, which is in line with the results of the original study. However, besides the negative indirect effects of treatments through empathic concern, there were also positive direct effects of both treatments on the harm index. Both humanization and combined treatments worsened participants' attitudes toward immigrants (i.e., increased the harm index) when the effect of empathic concern was controlled (see Appendix 2 for detailed results).

4. Conclusion

Using the same data and the same software, we were able to reproduce the analyses presented in the original paper. We also found support for the hypothesis (H1) that outgroup antipathy moderates the effect of humanization media messages on empathetic concern for immigrants when we analyzed data from the Study 1 using different software. Nevertheless, the individual effect estimates were slightly different due to different procedure of data cleaning and minor coding errors. The most relevant difference is the opposite effect of gender than reported in the original paper. We also point out that the moderation effect of initial outgroup antipathy is negligible and lacks practical significance. While treatments explain 31.7% of the variance in empathic concern, adding initial antipathy as a moderator helps explain only another 1.1% of the variance of the dependent variable. This means that although high initial antipathy weakens the effect of humanizing messages, this effect is negligible. Regardless of the level of initial antipathy, humanizing messages have a similar positive effect on people with different levels of initial outgroup antipathy.

The robustness check provided important conclusions regarding the third hypothesis concerning the indirect effect of humanization messages on attitudes towards immigrants. In contrast to the original study, we provide suggestive evidence that humanization messages weaken negative attitudes toward immigrants through empathic concern. At the same time, however, these messages also directly reinforce the negative attitude through a yet unclear mechanism. Our analysis showed that the mediation effect might exist. However, the effect is not evident in the correlation or regression analysis because humanization improves attitudes toward immigrants through empathic concern and, at the same time, worsens them through other potential mechanisms. Our mediation analysis is not definitive evidence of a mediation effect and we cannot explain the nature of the effect with certainty based on the available data.

We had issues to reproduce the results of the second study using different software. For instance, there are differences between how the questionnaires are presented in the Supplemental material of the original study and the number and order of items in the dataset and log file. We completed the reproduction attempt after obtaining supplemental information from the authors of the original study. We were able to reproduce the main conclusions.

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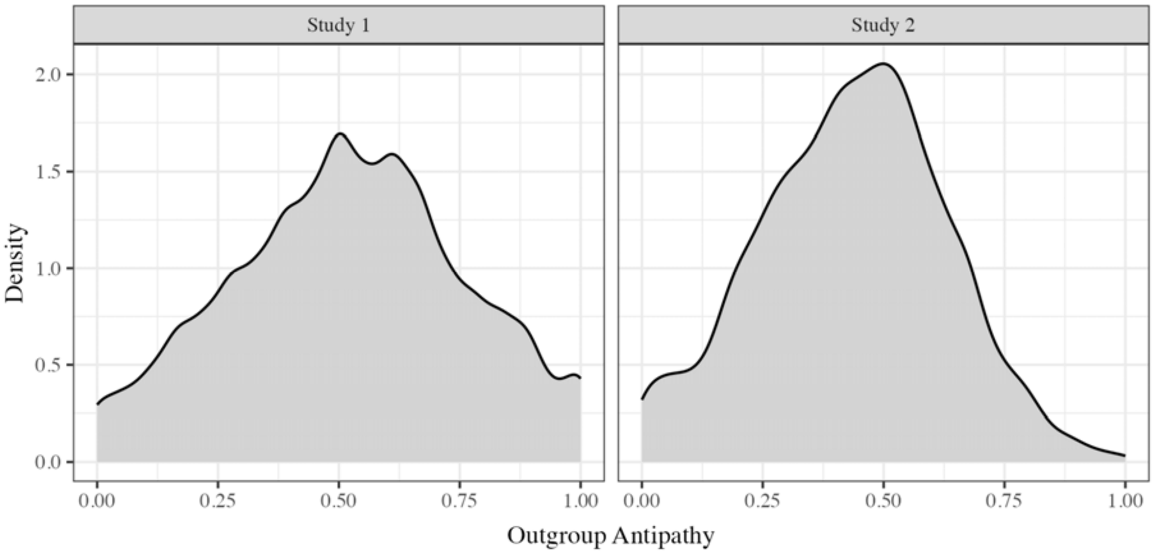
Appendix 1: Computational replication using the original syntax and same software (R)

Measure of Outgroup Antipathy

The outgroup antipathy measure used in study 1 consisted of three items, while the antipathy measure in study 2 used all nine items.

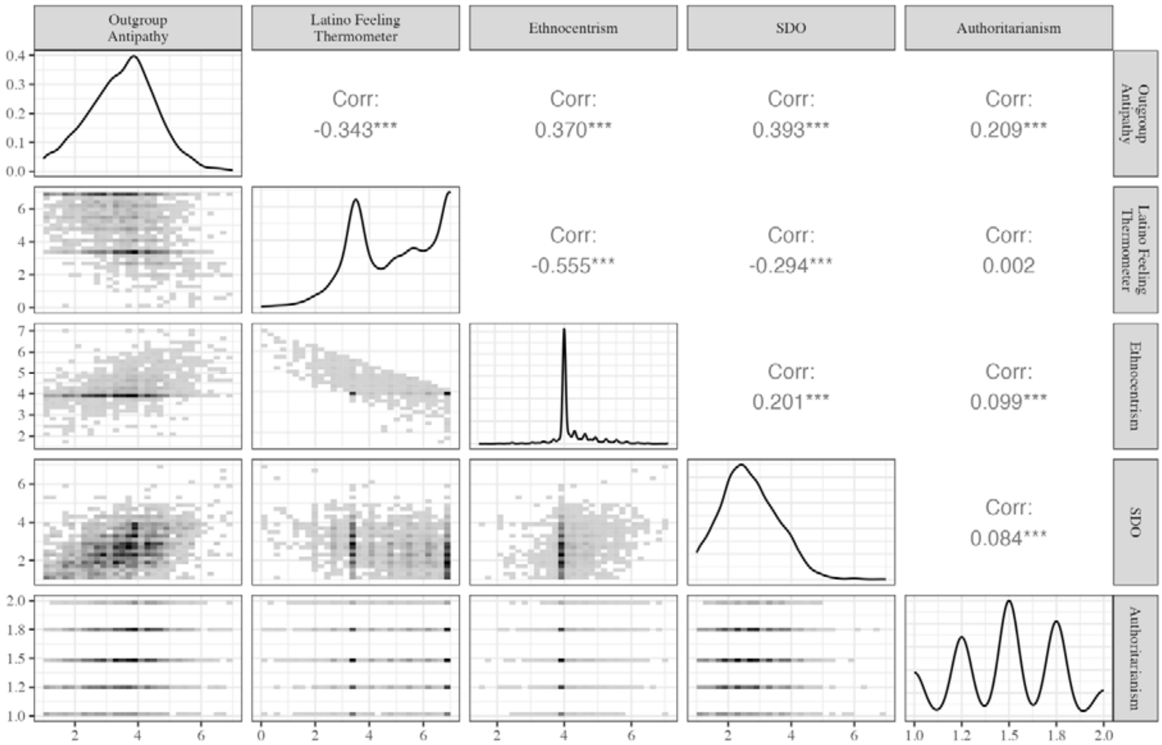
Participants rated their agreement with these statements on a 1–7, and item 4 was reverse-coded.

The left column of Figure below shows the distribution of antipathy across respondents for Study 1, and the right panel shows the distribution of those who completed both waves of Study 2.



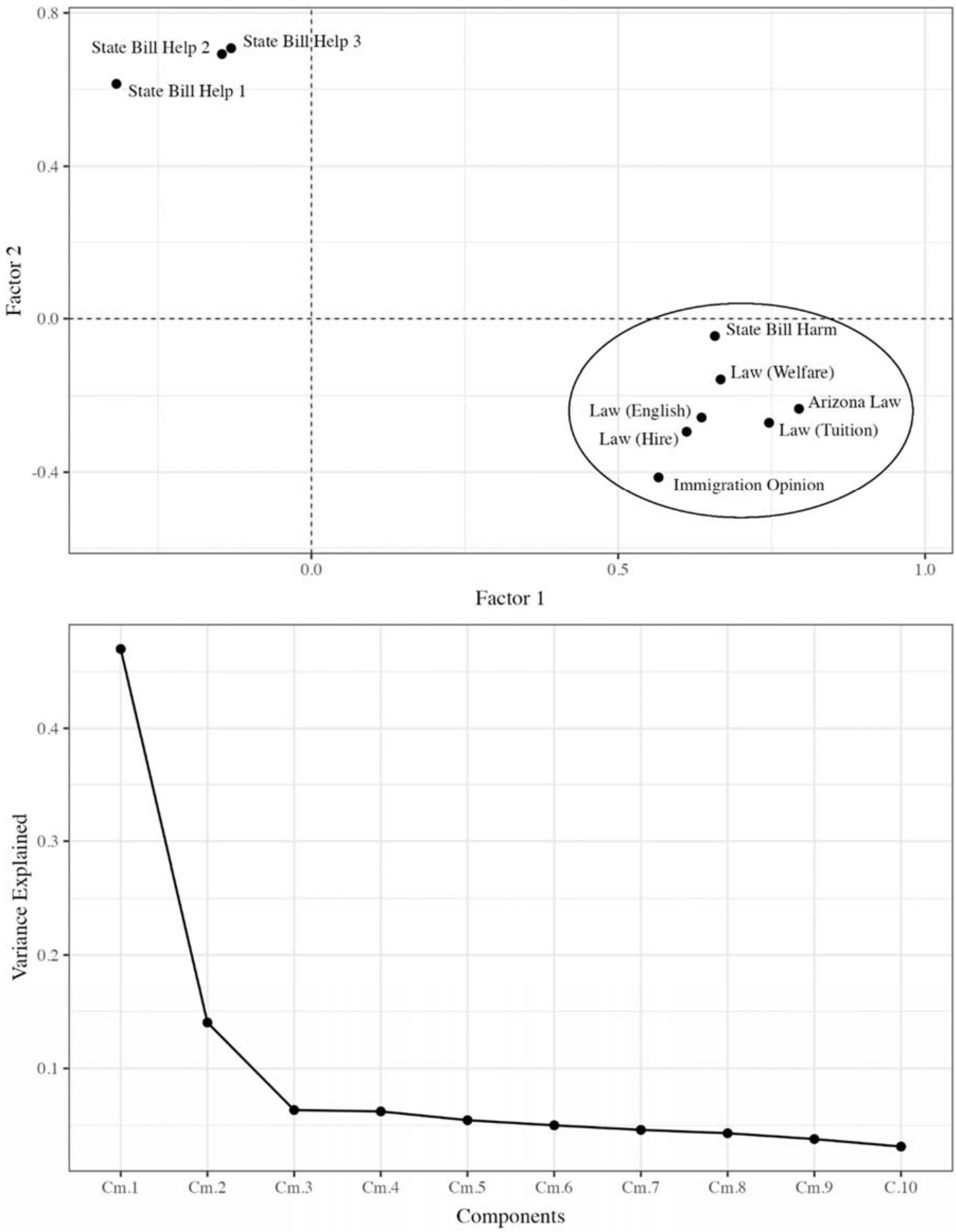
Kernel density plots for Outgroup Antipathy measure, from study 1 (n = 3,489) in the left panel and study 2 (n = 1,982) in the right panel. Note the n-size for study 1 differs from that in the paper because of 9 respondents for whom we do not have a pre-treatment measure of outgroup antipathy.

Validation of Outgroup Antipathy Measure

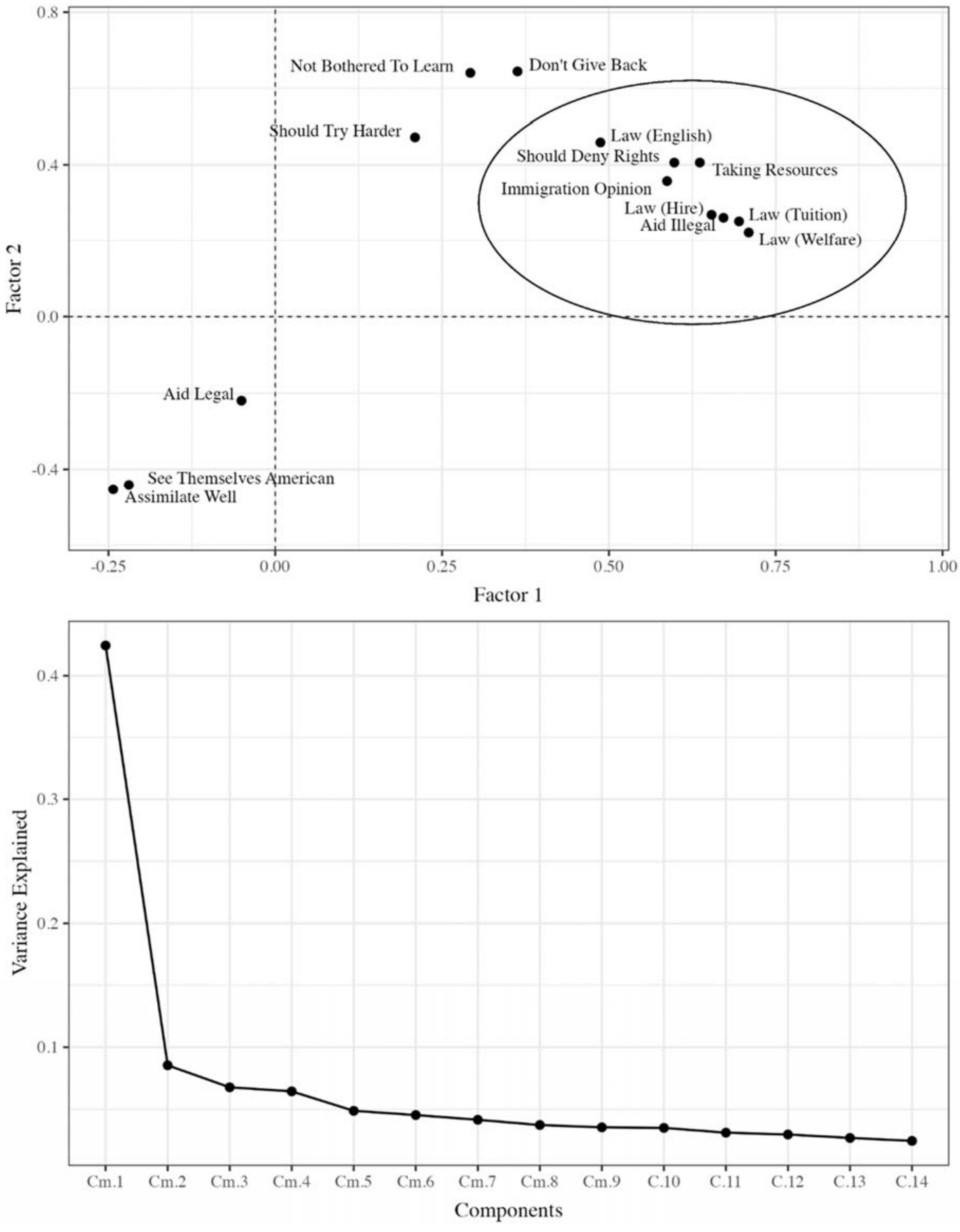


Correlation Matrix and 2D Density Plots of Outgroup Antipathy and Other Common Measures

D Factor Analysis of Policy Items



Factor and Principal Components Analysis plots for 10 policy outcome measures in study 1.

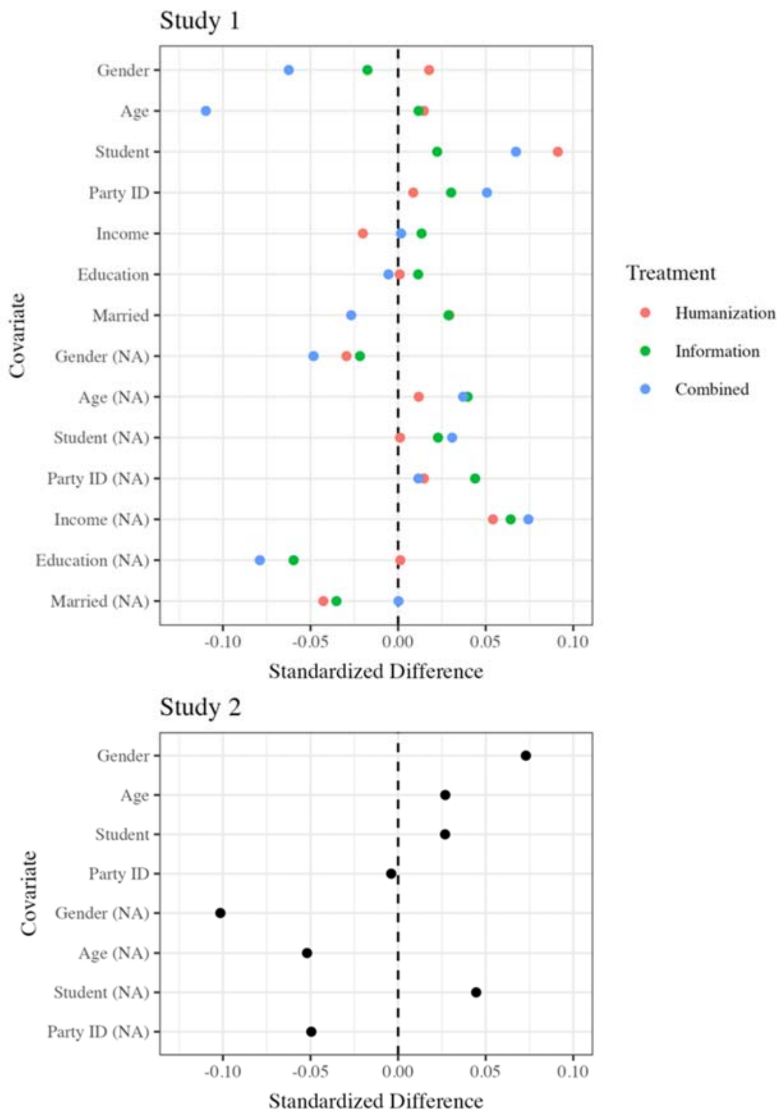


Factor and Principal Components Analysis plots for 14 policy outcome measures in study 2.

Balance

This section provides summaries of balance on covariates between treatment groups. Omnibus balance statistics are provided in Table E.6, while figures showing standardized differences for individual covariates are found in Figure E.7. These results indicate imbalances for gender and age for some treatments, but omnibus balance tests for the treatments indicate that we cannot reject the null of a balanced sample.

```
## Overall statistics (reported in the table)
> baltest_1a$overall
        chisquare df p.value
unstrat        11 14    0.72
> baltest_1b$overall
        chisquare df p.value
unstrat       9.9 14    0.77
> baltest_1c$overall
        chisquare df p.value
unstrat        20 14    0.14
```



Balance in Studies 1 and 2.

Regression of Humanization on Treatments ×Antipathy (Dichotomous), Controls, Study 1

```
 %                                             & (1)                     & (2)                  & (3)
\\
Intercept                         & 0.51 ^{***}      & 0.59 ^{***}      & 0.67 ^{***}     \\
                                                  & (0.01)                & (0.01)                 & (0.03)          \\
Humanization                & 0.13 ^{***}     & 0.10 ^{***}      & 0.09 ^{***}     \\
                                                 & (0.01)                & (0.02)                 & (0.02)          \\
Information                   & -0.03 ^*           & -0.05 ^{**}       & -0.05 ^{**}     \\
                                                  & (0.01)                & (0.02)                 & (0.02)          \\
Combined                        & 0.13 ^{***}     & 0.10 ^{***}      & 0.10 ^{***}     \\
                                                & (0.01)                & (0.02)                 & (0.02)          \\
Outgroup Antipathy            &                  & -0.15 ^{***}     & -0.15 ^{***}    \\
                                                       &                        & (0.02)                 & (0.02)
\\
```

```
Humanization $\times$ Antipathy &   & 0.08 ^{**}      & 0.08 ^{**}     \\
                                                    &                  & (0.02)          & (0.03)         \\
Information $\times$ Antipathy  &                 & 0.05 ^*         & 0.05 ^\dagger \\
                                 &                                       & (0.02)          & (0.02)         \\
Combined $\times$ Antipathy  &       & 0.05 ^*         & 0.06 ^*        \\
                                                      &                  & (0.02)          & (0.03)         \\
Gender (1 = Female)              &                 &                 & -0.04 ^{***}   \\
                                 &                 &                 & (0.01)         \\
Age                              &                 &                 & -0.00 ^{***}   \\
                                 &                 &                 & (0.00)         \\
Party ID (0--1)                  &                 &                 & 0.02           \\
                                 &                 &                 & (0.02)          \\
 $N$                                              & 3309            & 3305            & 3134           \\
$R^2$                                          & 0.08            & 0.12            & 0.13           \\
adj. $R^2$                                  & 0.08            & 0.12            & 0.13           \\
Resid. sd                                        & 0.26            & 0.25            & 0.25              \\
\hline
```

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Regression of Empathic Concern on Treatments ×Antipathy (Continuous), Controls, Study 1

```
%                         & (1)                 & (2)              & (3)            \\
Intercept              & 0.27 ^{***}      & 0.30 ^{***}      & 0.20 ^{***}     \\
                          & (0.01)              & (0.02)           & (0.03)          \\
Humanization       & 0.35 ^{***}      & 0.56 ^{***}      & 0.56 ^{***}     \\
                          & (0.01)            & (0.02)           & (0.02)          \\
Information           & 0.09 ^{***}    & 0.24 ^{***}      & 0.24 ^{***}     \\
                          & (0.01)            & (0.02)           & (0.02)          \\
Combined              & 0.34 ^{***}   & 0.55 ^{***}      & 0.55 ^{***}     \\
                          & (0.01)           & (0.02)           & (0.02)          \\
Outgroup Antipathy   &                   & -0.05 ^\dagger  & -0.07 ^*        \\
                          &                         & (0.03)           & (0.03)          \\
Humanization $\times$ Antipathy &                 & -0.40 ^{***}     & -0.40 ^{***}    \\
                          &                         & (0.04)           & (0.04)          \\
Information $\times$ Antipathy  &                 & -0.29 ^{***}     & -0.29 ^{***}    \\
                          &                 & (0.04)           & (0.04)          \\
Combined $\times$ Antipathy     &                 & -0.40 ^{***}     & -0.40 ^{***}    \\
                          &                 & (0.04)           & (0.04)          \\
Gender (1 = Female)       &                 &                  & -0.03 ^{***}    \\
                          &                 &                  & (0.01)          \\
Age                       &                 &                  & 0.00 ^{***}     \\
                          &                 &                  & (0.00)          \\
Party ID (0--1)           &                 &                  & 0.05 ^{**}      \\
                          &                 &                  & (0.02)          \\
 $N$                       & 3439            & 3433             & 3239            \\
$R^2$                     & 0.32            & 0.42             & 0.43            \\
adj. $R^2$                & 0.32            & 0.42             & 0.43            \\
Resid. sd                 & 0.23            & 0.21             & 0.21            \\ \hline
```

Standard errors in parentheses
† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Regression of Empathic Concern on Treatments ×Antipathy (Dichotomous), Controls, Study 1

```
%                                    & (1)             & (2)          & (3)         \\
Intercept                    & 0.27 ^{***}  & 0.28 ^{***}  & 0.21 ^{***} \\
                                     & (0.01)       & (0.01)       & (0.02)      \\
Humanization           & 0.35 ^{***}  & 0.43 ^{***}  & 0.44 ^{***} \\
                                    & (0.01)       & (0.01)       & (0.02)      \\
Information             & 0.09 ^{***}  & 0.14 ^{***}  & 0.14 ^{***} \\
                                  & (0.01)       & (0.01)       & (0.01)      \\
Combined               & 0.34 ^{***}  & 0.42 ^{***}  & 0.42 ^{***} \\
                                 & (0.01)       & (0.01)       & (0.01)      \\
Outgroup Antipathy     &             & -0.02        & -0.02       \\
                                 &             & (0.01)       & (0.02)      \\
Humanization $\times$ Antipathy &             & -0.16 ^{***} & -0.16 ^{***}\\
                                 &             & (0.02)       & (0.02)      \\
Information $\times$ Antipathy  &             & -0.11 ^{***} & -0.11 ^{***}\\
                                 &             & (0.02)       & (0.02)      \\
Combined $\times$ Antipathy     &             & -0.16 ^{***} & -0.16 ^{***}\\
                                 &             & (0.02)       & (0.02)      \\
Gender (1 = Female)              &             &              & -0.04 ^{***}\\
                                 &             &              & (0.01)      \\
Age                              &             &              & 0.00 ^{***} \\
                                 &             &              & (0.00)      \\
Party ID (0--1)                  &             &              & 0.01        \\
                                 &             &              & (0.02)       \\
 $N$                              & 3439        & 3433         & 3239        \\
$R^2$                            & 0.32        & 0.38         & 0.40        \\
adj. $R^2$                       & 0.32        & 0.38         & 0.39        \\
Resid. sd                        & 0.23        & 0.22         & 0.21         \\ \hline
```

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Changing Hearts, Study 2

This section provides supporting statistics and tables for the figures shown in the Study 2 subsection of the section titled “Changing Hearts: Humanization and Empathy.

Regression of Empathic Concern on Treatments ×Antipathy (Dichotomous), Controls, Study 2

```
%                                     & (1)           & (2)           & (3)          \\
Intercept                             & 0.63 ^{***}  & 0.69 ^{***}  & 0.65 ^{***} \\
                                      & (0.01)        & (0.01)        & (0.02)       \\
Illegal Condition                     & -0.04 ^{***} & -0.02 ^*      & -0.02 ^*     \\
                                      & (0.01)        & (0.01)        & (0.01)       \\
Outgroup Antipathy                    &               & -0.14 ^{***} & -0.14 ^{***}\\
                                      &               & (0.01)        & (0.01)       \\
Illegal Condition $\times$ Antipathy &              & -0.05 ^{**}  & -0.05 ^{**} \\
                                      &               & (0.02)        & (0.02)       \\
Gender (1 = Female)                   &               &               & 0.04 ^{***} \\
                                      &               &               & (0.01)       \\
Age                                   &               &               & 0.00 ^{***} \\
                                      &               &               & (0.00)       \\
Party ID (0--1)                       &               &               & -0.03        \\
                                      &               &               & (0.02)        \\
 $N$                                   & 1977          & 1977          & 1962         \\
$R^2$                                 & 0.01          & 0.16          & 0.17         \\
adj. $R^2$                            & 0.01          & 0.16          & 0.17         \\
Resid. sd                             & 0.22          & 0.20          & 0.20          \\ \hline
```

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Dissonance as a Mechanism

This section provides supporting statistics and a table for the figure shown in the section titled "Dissonance as a Mechanism."

Regression of Dissonance on Treatments ×Antipathy (Dichotomous), Controls, Study 2

```
%                                          & (1)              & (2)              & (3)            \\
Intercept                            & 0.27 ^{***}   & 0.24 ^{***}     & 0.30 ^{***}    \\
                                        & (0.01)           & (0.01)           & (0.02)         \\
Illegal Condition               & 0.04 ^{***}   & 0.02 ^\dagger  & 0.02 ^*        \\
                                       & (0.01)           & (0.01)           & (0.01)         \\
Outgroup Antipathy   &                & 0.05 ^{***}     & 0.06 ^{***}    \\
                                      &                  & (0.01)           & (0.01)         \\
Illegal Condition $\times$ Antipathy &                & 0.05 ^*          & 0.05 ^*        \\
                                      &                  & (0.02)           & (0.02)         \\
Gender (1 = Female)                   &                  &                  & -0.03 ^{**}    \\
                                      &                  &                  & (0.01)         \\
Age                                   &                  &                  & -0.00 ^{***}   \\
                                      &                  &                  & (0.00)         \\
Party ID (0--1)                       &                  &                  & -0.01          \\
                                      &                  &                  & (0.02)          \\
 $N$                                   & 1982             & 1982             & 1966           \\
$R^2$                                 & 0.01             & 0.04             & 0.05           \\
adj. $R^2$                            & 0.01             & 0.04             & 0.05           \\
Resid. sd                             & 0.22             & 0.22             & 0.22            \\ \hline
```

Standard errors in parentheses
† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Changing Minds about Policy

This section provides supporting tables for the results in the section of the paper titled "Changing Minds about Policy." Tables in the following, provide an estimation of the models with control variables in addition to what is shown in the paper. Tables G.15 and G.16, on the other hand, show the same models with our dichotomous measure of outgroup antipathy.

Regression of Policy Harm on Treatments ×Antipathy (Continuous), Controls, Study 1

```
%                                 & (1)             & (2)             & (3)             \\
Intercept                         & 0.71 ^{***}     & 0.57 ^{***}     & 0.39 ^{***}     \\
                                  & (0.01)          & (0.01)          & (0.02)          \\
Humanization                      & -0.01           & -0.00           & -0.00           \\
                                  & (0.01)          & (0.01)          & (0.01)          \\
Information                       & 0.01            & 0.03 ^*         & 0.03 ^*         \\
                                  & (0.01)          & (0.01)          & (0.01)          \\
Combined                          & -0.01           & 0.01            & 0.00            \\
                                  & (0.01)          & (0.01)          & (0.01)          \\
Outgroup Antipathy                &                 & 0.27 ^{***}     & 0.25 ^{***}     \\
                                  &                 & (0.01)          & (0.01)          \\
Humanization $\times$ Antipathy &                 & -0.01           & -0.01           \\
                                  &                 & (0.02)          & (0.02)          \\
Information $\times$ Antipathy  &                 & -0.03 ^\dagger  & -0.03 ^\dagger \\
                                  &                 & (0.02)          & (0.02)          \\
Combined $\times$ Antipathy     &                 & -0.02           & -0.02           \\
                                  &                 & (0.02)          & (0.02)          \\
Gender (1 = Female)               &                 &                 & 0.00            \\
                                  &                 &                 & (0.01)          \\
Age                               &                 &                 & 0.00 ^*         \\
                                  &                 &                 & (0.00)          \\
Party ID (0--1)                   &                 &                 & 0.19 ^{***}     \\
                                  &                 &                 & (0.01)           \\
 $N$                               & 3489            & 3482            & 3281            \\
$R^2$                             & 0.00            & 0.33            & 0.36            \\
adj. $R^2$                        & 0.00            & 0.33            & 0.36            \\
Resid. sd                         & 0.22            & 0.18            & 0.18             \\ \hline
```

Standard errors in parentheses
† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Regression of Policy Harm on Treatments ×Antipathy (Continuous), Controls, Study 2

```
%                                     & (1)          & (2)          & (3)          \\
Intercept                             & 0.62 ^{***} & 0.52 ^{***} & 0.36 ^{***}\\
                                      & (0.01)       & (0.01)       & (0.02)       \\
Illegal Condition                     & -0.03 ^{**} & -0.03 ^{**} & -0.03 ^{**}\\
                                      & (0.01)       & (0.01)       & (0.01)       \\
Outgroup Antipathy                    &              & 0.25 ^{***} & 0.22 ^{***}\\
                                      &              & (0.01)       & (0.01)       \\
Illegal Condition $\times$ Antipathy &              & 0.02         & 0.01         \\
                                      &              & (0.02)       & (0.02)       \\
Gender (1 = Female)                   &              &              & -0.02 ^{**}\\
                                      &              &              & (0.01)       \\
Age                                   &              &              & 0.00 ^{***}\\
                                      &              &              & (0.00)       \\
Party ID (0--1)                       &              &              & 0.20 ^{***}\\
                                      &              &              & (0.02)        \\
 $N$                                   & 1982         & 1982         & 1966         \\
$R^2$                                 & 0.00         & 0.30         & 0.35         \\
adj. $R^2$                            & 0.00         & 0.30         & 0.35         \\
Resid. sd                             & 0.23         & 0.19         & 0.19          \\ \hline
```

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Regression of Policy Harm on Treatments ×Antipathy (Dichotomous), Controls, Study 1

```
%                                & (1)               & (2)               & (3)               \\
Intercept                        & 0.71 ^{***}       & 0.36 ^{***}       & 0.26 ^{***}       \\
                                 & (0.01)            & (0.01)            & (0.02)            \\
Humanization                     & -0.01             & -0.00             & -0.01             \\
                                 & (0.01)            & (0.02)            & (0.02)            \\
Information                      & 0.01              & 0.04 ^*           & 0.04 ^*           \\
                                 & (0.01)            & (0.02)            & (0.02)            \\
Combined                         & -0.01             & -0.00             & -0.00             \\
                                 & (0.01)            & (0.02)            & (0.02)            \\
Outgroup Antipathy               &                   & 0.67 ^{***}       & 0.65 ^{***}       \\
                                 &                   & (0.02)            & (0.02)            \\
Humanization $\times$ Antipathy &                  & -0.01             & -0.01             \\
                                 &                   & (0.03)            & (0.03)            \\
Information $\times$ Antipathy  &                  & -0.06 ^\dagger  & -0.06 ^\dagger \\
                                 &                   & (0.03)            & (0.03)            \\
Combined $\times$ Antipathy     &                  & -0.01             & -0.01             \\
                                 &                   & (0.03)            & (0.03)            \\
Gender (1 = Female)              &                   &                   & -0.00             \\
                                 &                   &                   & (0.01)            \\
Age                              &                   &                   & 0.00              \\
                                 &                   &                   & (0.00)            \\
Party ID (0--1)                  &                   &                   & 0.12 ^{***}       \\
                                 &                   &                   & (0.01)             \\
 $N$                              & 3489              & 3482              & 3281              \\
$R^2$                            & 0.00              & 0.51              & 0.52              \\
adj. $R^2$                       & 0.00              & 0.51              & 0.52              \\
Resid. sd                        & 0.22              & 0.15              & 0.15               \\ \hline
```

Standard errors in parentheses
[†] significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Regression of Policy Harm on Treatments ×Antipathy (Dichotomous), Controls, Study 2

```
%                                     & (1)          & (2)          & (3)          \\
Intercept                             & 0.62 ^{***} & 0.25 ^{***} & 0.19 ^{***}\\
                                      & (0.01)      & (0.01)      & (0.02)       \\
Illegal Condition                     & -0.03 ^{**} & -0.04 ^*    & -0.04 ^*     \\
                                      & (0.01)      & (0.02)      & (0.02)       \\
Outgroup Antipathy                    &             & 0.85 ^{***} & 0.80 ^{***}\\
                                      &             & (0.03)      & (0.03)       \\
Illegal Condition $\times$ Antipathy &            & 0.03        & 0.03        \\
                                      &             & (0.04)      & (0.04)       \\
Gender (1 = Female)                   &             &             & -0.02 ^*     \\
                                      &             &             & (0.01)       \\
Age                                   &             &             & 0.00 ^{**} \\
                                      &             &             & (0.00)       \\
Party ID (0--1)                       &             &             & 0.09 ^{***}\\
                                      &             &             & (0.01)        \\
 $N$                                   & 1982        & 1982        & 1966         \\
$R^2$                                 & 0.00        & 0.53        & 0.54         \\
adj. $R^2$                            & 0.00        & 0.52        & 0.53         \\
Resid. sd                             & 0.23        & 0.16        & 0.16          \\ \hline
```

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Additional Results

Marginal Effects on Empathic Concern in Study 2

Though not reported in the paper, significant marginal effects exist between the treatment condition and a continuous measure of outgroup antipathy in study 2, as evidenced in Table H.17 and Figure H.8. These effects are in the same direction as, but a smaller magnitude than, the effects found in study 1.

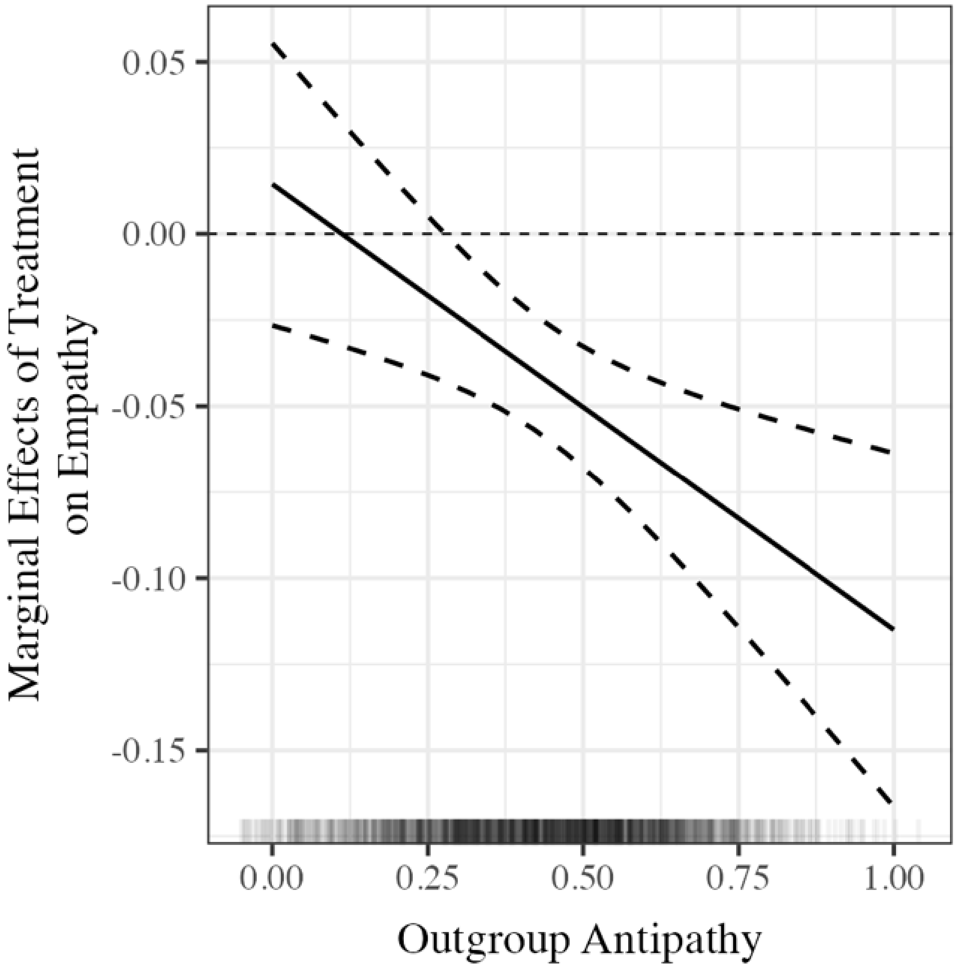
Table H.17: Regression of Empathic Concern of Treatment and Outgroup Antipathy (Continuous), Study 2

```
%                                     & (1)          & (2)          & (3)         \\
Intercept                      & 0.63 ^{***}  & 0.84 ^{***}  & 0.76 ^{***} \\
                                      & (0.01)       & (0.02)       & (0.02)      \\
Illegal Condition         & -0.04 ^{***} & 0.01         & 0.01         \\
                                      & (0.01)       & (0.02)       & (0.02)      \\
Outgroup Antipathy                    &              & -0.48 ^{***} & -0.51 ^{***}\\
                                      &              & (0.03)       & (0.03)      \\
Illegal Condition $\times$ Antipathy &              & -0.13 ^{**}  & -0.13 ^{**} \\
                                      &              & (0.04)       & (0.04)      \\
Gender (1 = Female)                   &              &              & 0.03 ^{***} \\
                                      &              &              & (0.01)      \\
Age                                   &              &              & 0.00 ^{***} \\
                                      &              &              & (0.00)      \\
Party ID (0--1)                       &              &              & 0.05 ^{**}  \\
                                      &              &              & (0.02)       \\
 $N$                                   & 1977         & 1977         & 1962        \\
$R^2$                                 & 0.01         & 0.25         & 0.26        \\
adj. $R^2$                            & 0.01         & 0.25         & 0.26        \\
Resid. sd                             & 0.22         & 0.19         & 0.19         \\ \hline
```

Standard errors in parentheses

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Figure showing the marginal effects of the treatment on empathic Concern, by out- group antipathy (study 2). Rug plot of outgroup antipathy included; bars represent 95% confi- dence intervals



Effects by Study 1 Samples

As noted in the paper, our study 1 participants were recruited from three main groups: an online panel of statewide voters (Voters), two groups of citizen activists who were delegates for or attendees of precinct-level caucus meetings (Activists), and lists of local elected officials obtained from state institutions. There was little variation among these populations in terms of how the treatments, and their interaction with outgroup antipathy, affected our outcomes of interest. Results broken down by these three samples can be seen in Tables H.18, H.19, and H.20.

Regression of Humanization on Pre-Treatment Antipathy and Treatments, Study 1, by Sample

```
%                                 & Everyone         & Voters           & Activists        & Elected Officials\\
Intercept                         & 0.59 ^{***}      & 0.66 ^{***}      & 0.57 ^{***}      & 0.59 ^{***}      \\
                                  & (0.01)           & (0.03)           & (0.01)           & (0.04)           \\
Humanization                      & 0.10 ^{***}      & 0.03             & 0.11 ^{***}      & 0.07             \\
                                  & (0.02)           & (0.04)           & (0.02)           & (0.06)           \\
Information                       & -0.05 ^{**}      & -0.04            & -0.06 ^{**}      & -0.01            \\
                                  & (0.02)           & (0.04)           & (0.02)           & (0.06)           \\
Combined                          & 0.10 ^{***}      & 0.04             & 0.12 ^{***}      & 0.08             \\
                                  & (0.02)           & (0.05)           & (0.02)           & (0.06)           \\
Outgroup Antipathy                & -0.15 ^{***}     & -0.31 ^{***}     & -0.13 ^{***}     & -0.20 ^{**}      \\
                                  & (0.02)           & (0.06)           & (0.02)           & (0.06)           \\
Antipathy $\times$ Humanization & 0.08 ^{**}       & 0.20 ^{**}       & 0.06 ^*          & 0.12             \\
                                  & (0.02)           & (0.08)           & (0.03)           & (0.09)           \\
Antipathy $\times$ Information  & 0.05 ^*          & 0.16 ^*          & 0.04             & 0.09             \\
                                  & (0.02)           & (0.08)           & (0.03)           & (0.08)           \\
Antipathy $\times$ Combined     & 0.05 ^*          & 0.20 ^*          & 0.03             & 0.09             \\
                                  & (0.02)           & (0.08)           & (0.03)           & (0.09)           \\
 $N$                              & 3305             & 405              & 2662             & 238              \\
$R^2$                             & 0.12             & 0.13             & 0.13             & 0.12             \\
adj. $R^2$                        & 0.12             & 0.11             & 0.12             & 0.09             \\
Resid. sd                         & 0.25             & 0.25             & 0.25             & 0.24             \\ \hline
```

Standard errors in parentheses
† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$ Variables are on a 0–1 scale

Regression of Empathic Concern on Pre-Treatment Antipathy and Treatments, Study 1, by Sample

```
%                                 & Everyone         & Voters           & Activists        & Elected Officials\\
Intercept                         & 0.28 ^{***}      & 0.30 ^{***}      & 0.27 ^{***}      & 0.28 ^{***}      \\
                                  & (0.01)           & (0.03)           & (0.01)           & (0.03)           \\
Humanization                      & 0.43 ^{***}      & 0.42 ^{***}      & 0.43 ^{***}      & 0.43 ^{***}      \\
                                  & (0.01)           & (0.04)           & (0.02)           & (0.05)           \\
Information                       & 0.14 ^{***}      & 0.12 ^{**}       & 0.14 ^{***}      & 0.21 ^{***}      \\
                                  & (0.01)           & (0.04)           & (0.02)           & (0.05)           \\
Combined                          & 0.42 ^{***}      & 0.41 ^{***}      & 0.42 ^{***}      & 0.42 ^{***}      \\
                                  & (0.01)           & (0.04)           & (0.02)           & (0.05)           \\
Outgroup Antipathy                & -0.02            & 0.01             & -0.02            & 0.03             \\
                                  & (0.01)           & (0.05)           & (0.02)           & (0.05)           \\
Antipathy $\times$ Humanization & -0.16 ^{***}     & -0.19 ^{**}      & -0.15 ^{***}     & -0.21 ^{**}      \\
                                  & (0.02)           & (0.06)           & (0.02)           & (0.07)           \\
Antipathy $\times$ Information  & -0.11 ^{***}     & -0.09            & -0.11 ^{***}     & -0.21 ^{**}      \\
                                  & (0.02)           & (0.06)           & (0.02)           & (0.07)           \\
Antipathy $\times$ Combined     & -0.16 ^{***}     & -0.15 ^*         & -0.16 ^{***}     & -0.16 ^*         \\
                                  & (0.02)           & (0.06)           & (0.02)           & (0.08)           \\
 $N$                              & 3433             & 412              & 2773             & 248              \\
$R^2$                             & 0.38             & 0.40             & 0.38             & 0.42             \\
adj. $R^2$                        & 0.38             & 0.39             & 0.37             & 0.41             \\
Resid. sd                         & 0.22             & 0.21             & 0.22             & 0.20             \\ \hline
```

Regression of Policy Harm on Pre-Treatment Antipathy and Treatments, Study 1, by Sample

```
%                                 & Everyone          & Voters            & Activists         & Elected Officials\\
Intercept                         & 0.57 ^{***}       & 0.47 ^{***}       & 0.59 ^{***}       & 0.57 ^{***}       \\
                                  & (0.01)            & (0.03)            & (0.01)            & (0.03)            \\
Humanization                      & -0.00             & 0.02              & 0.00              & -0.05             \\
                                  & (0.01)            & (0.03)            & (0.01)            & (0.05)            \\
Information                       & 0.03 ^*           & 0.00              & 0.04 ^{**}        & -0.04             \\
                                  & (0.01)            & (0.03)            & (0.01)            & (0.05)            \\
Combined                          & 0.01              & 0.03              & 0.01              & -0.06             \\
                                  & (0.01)            & (0.04)            & (0.01)            & (0.05)            \\
Outgroup Antipathy                & 0.27 ^{***}       & 0.34 ^{***}       & 0.25 ^{***}       & 0.27 ^{***}       \\
                                  & (0.01)            & (0.05)            & (0.01)            & (0.05)            \\
Antipathy $\times$ Humanization & -0.01             & -0.00             & -0.02             & 0.02              \\
                                  & (0.02)            & (0.06)            & (0.02)            & (0.07)            \\
Antipathy $\times$ Information  & -0.03 ^\dagger    & -0.01             & -0.04 ^*          & 0.01              \\
                                  & (0.02)            & (0.06)            & (0.02)            & (0.07)            \\
Antipathy $\times$ Combined     & -0.02             & -0.04             & -0.02             & -0.01             \\
                                  & (0.02)            & (0.06)            & (0.02)            & (0.07)            \\
 $N$                              & 3482              & 417               & 2815              & 250               \\
$R^2$                             & 0.33              & 0.38              & 0.31              & 0.35              \\
adj. $R^2$                        & 0.33              & 0.37              & 0.31              & 0.33              \\
Resid. sd                         & 0.18              & 0.20              & 0.17              & 0.19              \\ \hline
Standard errors in parentheses
```

† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Variables are on a 0–1 scale

Marginal Effects by Political Ideology and Party ID

Some readers may wonder the extent to which outgroup antipathy and political ideology or party identification are related. In both studies, there is very little evidence that political ideology or party identification has an interaction effect with the treatments that is similar to that of antipathy, as shown in Figures H.9, H.10, and H.11. This is true when looking at either empathy or policy outcomes. However, this conclusion should be tempered by the fact that our sample is heavily skewed toward conservatives and Republicans, as can be seen by the rug plots at the bottom of each figure.

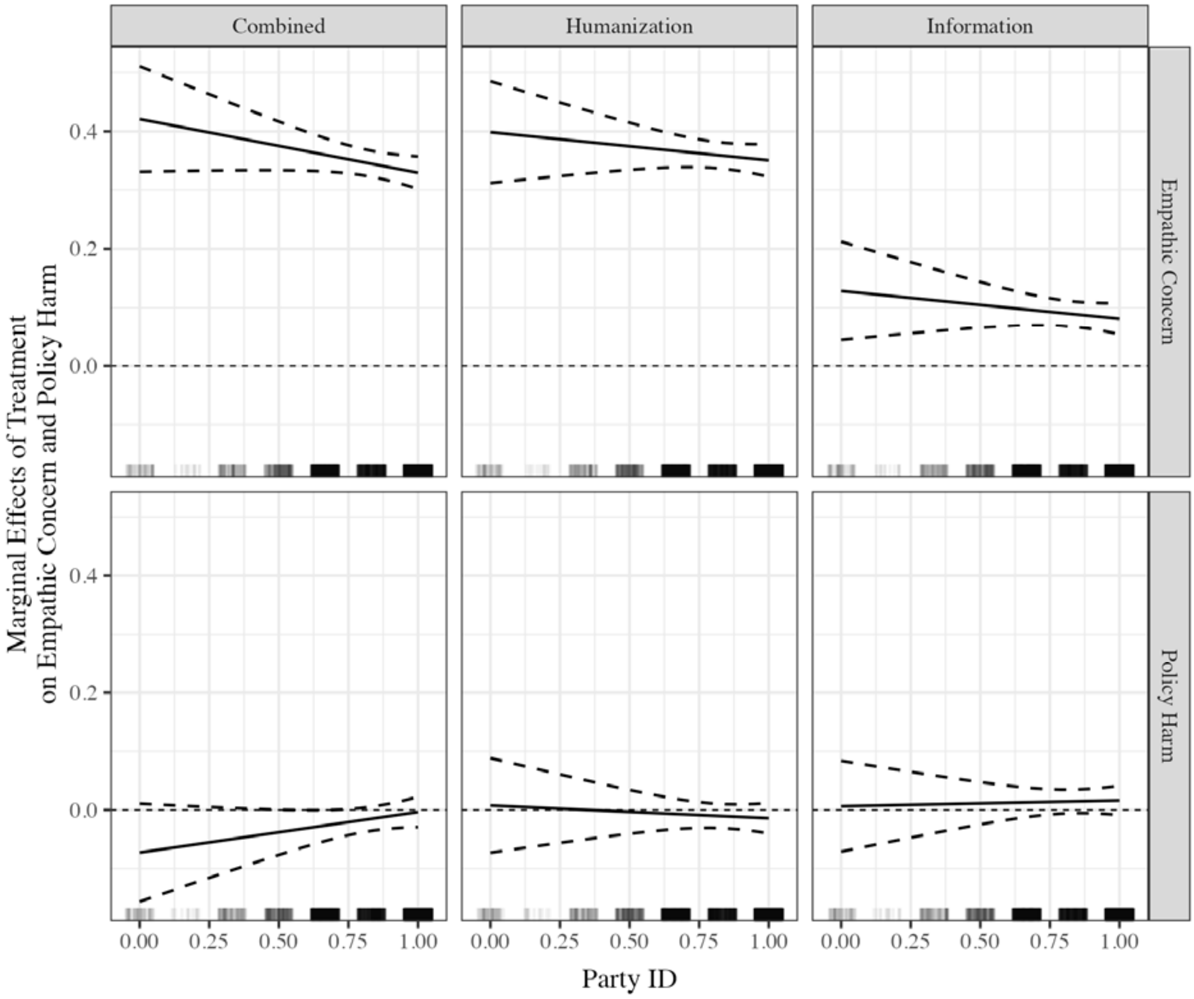


Figure showing the marginal effects of the treatments on empathic concern and policy harm, by Party ID, for Study 1. Rug plot of Party ID included; bars represent 95% confidence intervals.

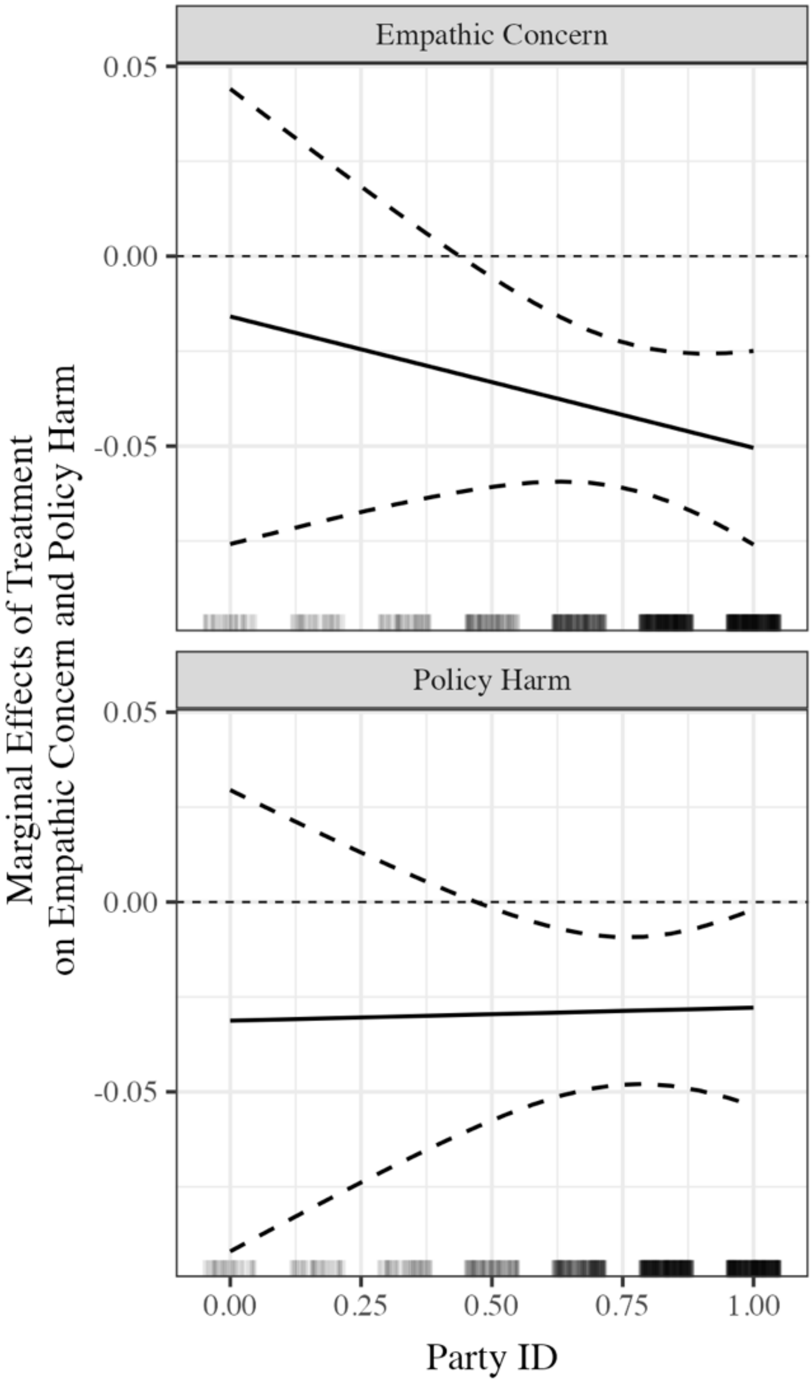


Figure showing the marginal effects of the treatments on empathic concern and policy harm, by Party ID, for Study 2. Rug plot of Party ID included; bars represent 95% confidence intervals.

Study 2 Results with 3-Item Antipathy Measure

This section provides results from study 2 with a 3-item antipathy measure and compares them to the original 9-item measure in Tables H.21, H.22, and H.23. Results are almost identical with either measure.

Regression of Empathic Concern on Pre-Treatment Antipathy and Treatments, Study 2, 3- vs. 9-Item Antipathy Measure

```
%                                     & 3-Item          & 9-Item         \\
Intercept                             & 0.69 ^{***}      & 0.69 ^{***}     \\
                                      & (0.01)           & (0.01)          \\
Illegal Condition                     & -0.02 ^\dagger  & -0.02 ^*       \\
                                      & (0.01)           & (0.01)          \\
Outgroup Antipathy                    & -0.14 ^{***}     & -0.14 ^{***}    \\
                                      & (0.01)           & (0.01)          \\
Illegal Condition $\times$ Antipathy & -0.05 ^*        & -0.05 ^{**}     \\
                                      & (0.02)           & (0.02)           \\
 $N$                                   & 1977              & 1977            \\
$R^2$                                 & 0.15             & 0.16            \\
adj. $R^2$                            & 0.14             & 0.16            \\
Resid. sd                             & 0.20             & 0.20             \\ \hline
```

Standard errors in parentheses
† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Regression of Dissonance on Pre-Treatment Antipathy and Treatments, Study 2, 3- vs. 9-Item Antipathy Measure

```
%                                     & 3-Item          & 9-Item         \\
Intercept                             & 0.25 ^{***}     & 0.24 ^{***}    \\
                                      & (0.01)          & (0.01)         \\
Illegal Condition                     & 0.02 ^\dagger  & 0.02 ^\dagger \\
                                      & (0.01)          & (0.01)         \\
Outgroup Antipathy                    & 0.03 ^*         & 0.05 ^{***}    \\
                                      & (0.01)          & (0.01)         \\
Illegal Condition $\times$ Antipathy & 0.04 ^*        & 0.05 ^*        \\
                                      & (0.02)          & (0.02)          \\
 $N$                                   & 1982             & 1982            \\
$R^2$                                 & 0.03            & 0.04           \\
adj. $R^2$                            & 0.02            & 0.04           \\
Resid. sd                             & 0.22            & 0.22            \\ \hline
```

Standard errors in parentheses
† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Regression of Policy Harm on Pre-Treatment Antipathy and Treatments, Study 2, 3- vs. 9-Item Antipathy Measure

```
%                                     & 3-Item       & 9-Item      \\
Intercept                             & 0.52 ^{***}  & 0.52 ^{***} \\
                                      & (0.01)       & (0.01)      \\
Illegal Condition                     & -0.04 ^{***} & -0.03 ^{**} \\
                                      & (0.01)       & (0.01)      \\
Outgroup Antipathy                    & 0.24 ^{***}  & 0.25 ^{***} \\
                                      & (0.01)       & (0.01)      \\
Illegal Condition $\times$ Antipathy & 0.02        & 0.02       \\
                                      & (0.02)       & (0.02)       \\
 $N$                                   & 1982          & 1982         \\
$R^2$                                 & 0.27         & 0.30        \\
adj. $R^2$                            & 0.27         & 0.30        \\
Resid. sd                             & 0.20         & 0.19         \\ \hline
```

Standard errors in parentheses
† significant at $p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Results for Separate Policy Outcomes

This section break down our Minds about Policy” results by the different policy components of the outcome measure in the following table:

```
%                                & Law (English)    & Law (Tuition)    & Law (Welfare)    & Law (Hire)       & Imm. Opinion     &
AZ Law           & State Bill Harm \\
Intercept                        & 0.58 ^{***}      & 0.56 ^{***}      & 0.62 ^{***}      & 0.57 ^{***}      & 0.37 ^{***}      &
0.53 ^{***}      & 0.78 ^{***}     \\
                                 & (0.01)           & (0.01)           & (0.01)           & (0.01)           & (0.01)           &
(0.01)           & (0.01)          \\
Humanization                     & -0.00            & -0.04 ^\dagger  & -0.00            & 0.01             & 0.01             &
0.01             & 0.01            \\
                                 & (0.02)           & (0.02)           & (0.02)           & (0.02)           & (0.02)           &
(0.02)           & (0.01)          \\
Information                      & -0.01            & 0.02             & 0.02             & 0.04 ^*          & 0.04 ^*          &
0.05 ^*          & 0.03 ^*         \\
                                 & (0.02)           & (0.02)           & (0.02)           & (0.02)           & (0.02)           &
(0.02)           & (0.01)          \\
Combined                         & -0.03            & -0.01            & 0.02             & 0.01             & 0.01             &
0.01             & 0.03 ^\dagger  \\
                                 & (0.02)           & (0.02)           & (0.02)           & (0.02)           & (0.02)           &
(0.02)           & (0.01)          \\
Outgroup Antipathy               & 0.27 ^{***}      & 0.32 ^{***}      & 0.26 ^{***}      & 0.26 ^{***}      & 0.28 ^{***}      &
0.34 ^{***}      & 0.16 ^{***}     \\
                                 & (0.02)           & (0.02)           & (0.02)           & (0.02)           & (0.02)           &
(0.02)           & (0.01)          \\
Antipathy $\times$ Humanization & -0.03            & -0.01            & -0.01            & 0.00             & -0.02            &
-0.00            & -0.01           \\
                                 & (0.03)           & (0.03)           & (0.03)           & (0.03)           & (0.03)           &
(0.03)           & (0.02)          \\
Antipathy $\times$ Information  & -0.00            & -0.02            & -0.06 ^*         & -0.03            & -0.04            &
-0.04            & -0.02           \\
                                 & (0.03)           & (0.03)           & (0.03)           & (0.03)           & (0.02)           &
(0.03)           & (0.02)          \\
Antipathy $\times$ Combined     & 0.01             & -0.02            & -0.05 ^\dagger  & -0.01            & -0.03            & -
0.02            & -0.02           \\
                                 & (0.03)           & (0.03)           & (0.03)           & (0.03)           & (0.03)           &
(0.03)           & (0.02)           \\
 $N$                              & 3477             & 3476             & 3477             & 3476             & 3409
& 3478             & 3474             \\
$R^2$                            & 0.18             & 0.23             & 0.15             & 0.17             & 0.21             &
0.27             & 0.12            \\
adj. $R^2$                       & 0.18             & 0.23             & 0.15             & 0.17             & 0.20             &
0.27             & 0.12            \\
Resid. sd                        & 0.29             & 0.28             & 0.27             & 0.27             & 0.26             &
0.27             & 0.20             \\ \hline
```

Regression of Separate Policy Outcomes on Antipathy and Treatments, Study 2

```
%                           & Law (English)    & Law (Tuition)    & Law (Welfare)    & Law (Hire)       & Imm. Opinion     & Aid
Illegal      & Take Resources   & Deny Rights     \\
Intercept                   & 0.39 ^{***}      & 0.48 ^{***}      & 0.55 ^{***}      & 0.48 ^{***}      & 0.38 ^{***}      & 0.74
^{***}      & 0.39 ^{***}      & 0.33 ^{***}     \\
                            & (0.01)           & (0.01)           & (0.01)           & (0.01)           & (0.01)           &
(0.01)           & (0.01)           & (0.01)          \\
Illegal                     & -0.02            & -0.02            & -0.03 ^\dagger  & -0.04 ^{**}      & -0.05 ^{**}      & -0.04
^{**}      & -0.05 ^{***}     & -0.01           \\
                            & (0.02)           & (0.01)           & (0.01)           & (0.01)           & (0.02)           &
(0.01)           & (0.01)           & (0.01)          \\
Antipathy                   & 0.21 ^{***}      & 0.22 ^{***}      & 0.16 ^{***}      & 0.19 ^{***}      & 0.28 ^{***}      & 0.16
^{***}      & 0.27 ^{***}      & 0.27 ^{***}     \\
                            & (0.02)           & (0.02)           & (0.02)           & (0.02)           & (0.02)           &
(0.02)           & (0.02)           & (0.02)          \\
Illegal $\times$ Antipathy & 0.03             & -0.01            & 0.04 ^\dagger   & 0.03             & 0.02             & 0.03
& 0.03             & -0.03           \\
                            & (0.02)           & (0.02)           & (0.02)           & (0.02)           & (0.03)           &
(0.02)           & (0.02)           & (0.02)          \\
 $N$                        & 1981             & 1981             & 1982             & 1981             & 1972             &
1977             & 1978             & 1977            \\
$R^2$                       & 0.15             & 0.14             & 0.12             & 0.16             & 0.20             & 0.13
& 0.26             & 0.19            \\
adj. $R^2$                  & 0.15             & 0.14             & 0.12             & 0.16             & 0.20             & 0.13
& 0.26             & 0.19            \\
Resid. sd                   & 0.26             & 0.25             & 0.23             & 0.23             & 0.28             & 0.23
& 0.24             & 0.25             \\ \hline
```

Results Using Common Policy Outcomes

This section replicates the “Changing Minds about Policy” results while only using the five survey questions contained in both surveys. As can be seen in Tables H.26 and H.27, the results are almost identical.

Regression of Policy Harm on Antipathy and Treatments, Study 1, Common Items vs. Full Scale

```
%                                 & Common Policy Items & Full Policy Scale  \\
Intercept                         & 0.54 ^{***}         & 0.57 ^{***}        \\
                                  & (0.01)              & (0.01)             \\
Humanization                      & -0.01               & -0.00              \\
                                  & (0.01)              & (0.01)             \\
Information                       & 0.02                & 0.03 ^*            \\
                                  & (0.01)              & (0.01)             \\
Combined                          & 0.00                & 0.01               \\
                                  & (0.01)              & (0.01)             \\
Outgroup Antipathy                & 0.28 ^{***}         & 0.27 ^{***}        \\
                                  & (0.01)              & (0.01)             \\
Humanization $\times$ Antipathy & -0.01               & -0.01              \\
                                  & (0.02)              & (0.02)             \\
Information $\times$ Antipathy  & -0.03 ^\dagger     & -0.03 ^\dagger    \\
                                  & (0.02)              & (0.02)             \\
Combined $\times$ Antipathy     & -0.02               & -0.02              \\
                                  & (0.02)              & (0.02)              \\
 $N$                               & 3481                & 3482               \\
$R^2$                             & 0.31                & 0.33               \\
adj. $R^2$                        & 0.31                & 0.33               \\
Resid. sd                         & 0.20                & 0.18                \\ \hline
```

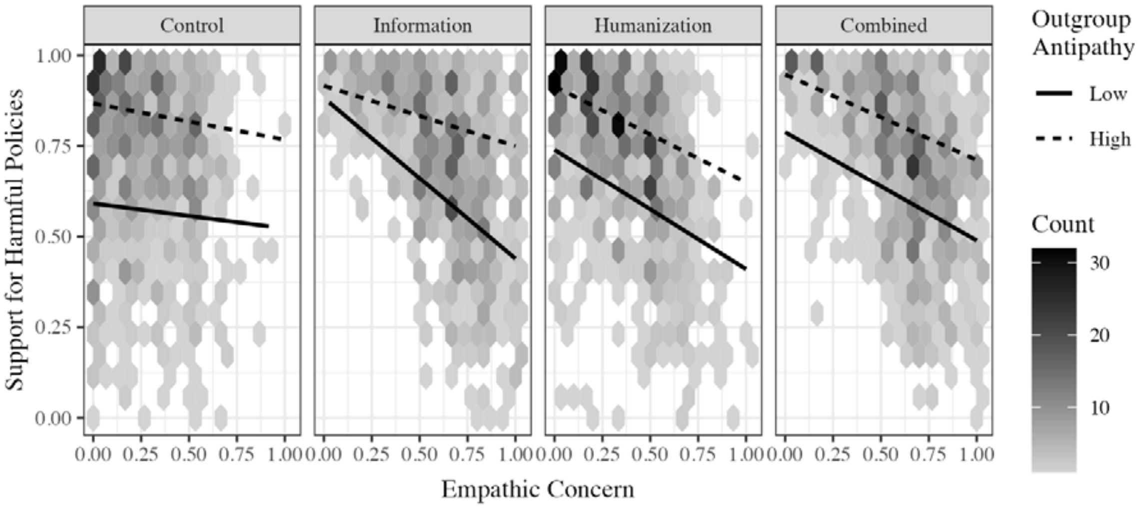
Regression of Policy Harm on Antipathy and Treatments, Study 2, Common Items vs. Full Scale

```
%                                     & Common Policy Items & Full Policy Scale  \\
Intercept                             & 0.53 ^{***}         & 0.52 ^{***}        \\
                                      & (0.01)              & (0.01)             \\
Illegal Condition                     & -0.03 ^{**}         & -0.03 ^{**}        \\
                                      & (0.01)              & (0.01)             \\
Outgroup Antipathy                    & 0.23 ^{***}         & 0.25 ^{***}        \\
                                      & (0.01)              & (0.01)             \\
Illegal Condition $\times$ Antipathy & 0.02                 & 0.02               \\
                                      & (0.02)              & (0.02)               \\
 $N$                                   & 1982                & 1982               \\
$R^2$                                 & 0.25                & 0.30               \\
adj. $R^2$                            & 0.25                & 0.30               \\
Resid. sd                             & 0.21                & 0.19                \\ \hline
```

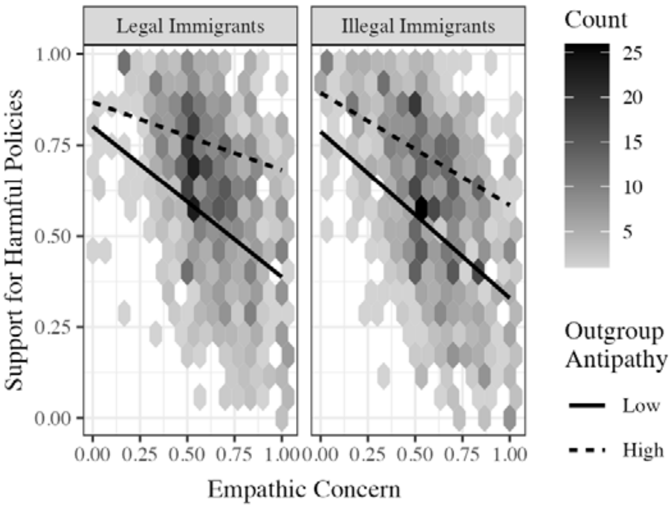
Standard errors in parentheses
† significant at $p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Relationship between Empathic Concern and Support for Harmful Policies

Following figures show the correlation between empathic concern and support for harmful policies in studies 1 and 2, respectively. Note the strong negative correlation across treatments and across low vs. high antipathy, with the exception of the control condition in study 1.



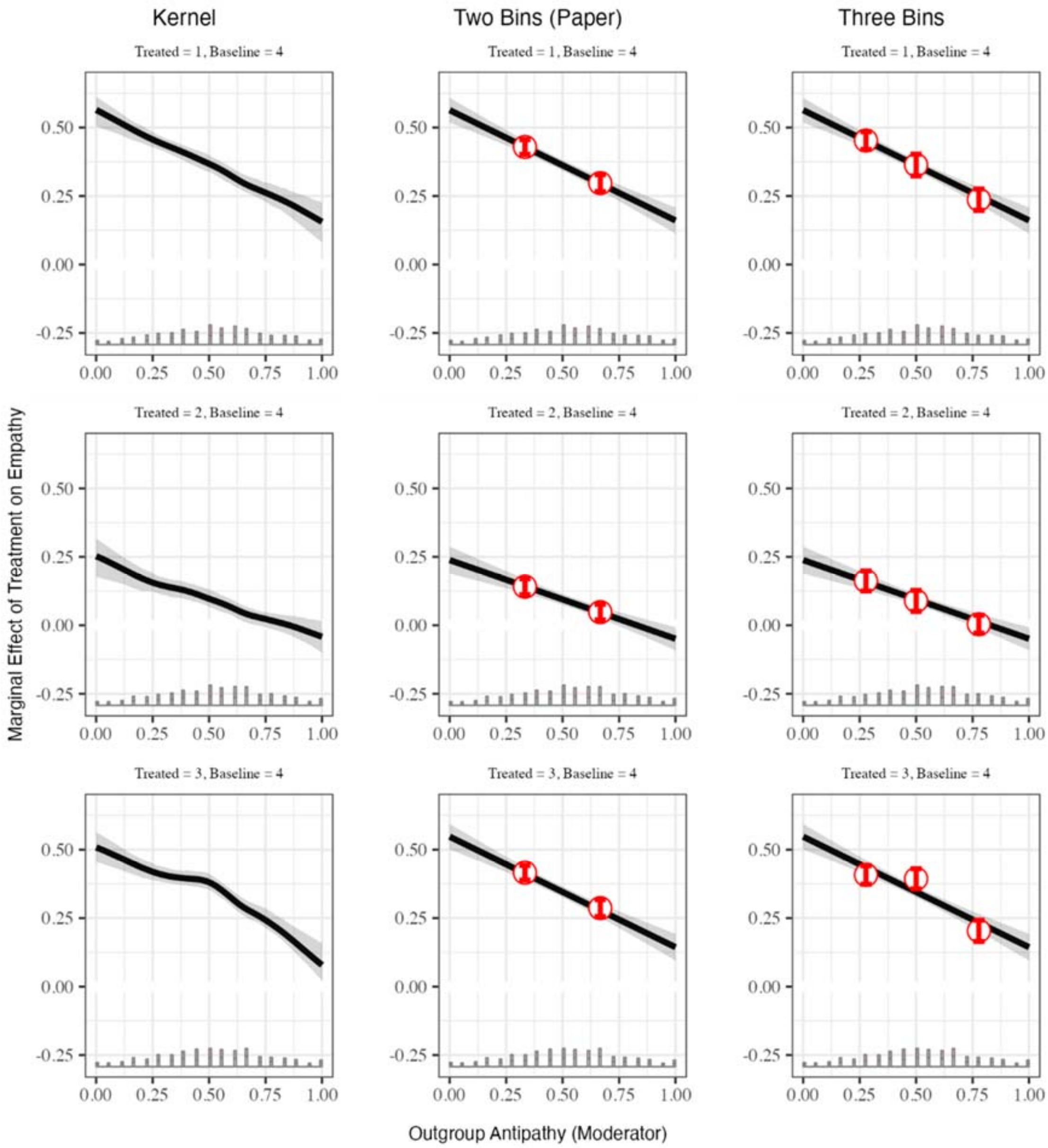
Relationship between post-treatment empathic concern and post-treatment support for harmful policies, with regression lines, study 1.



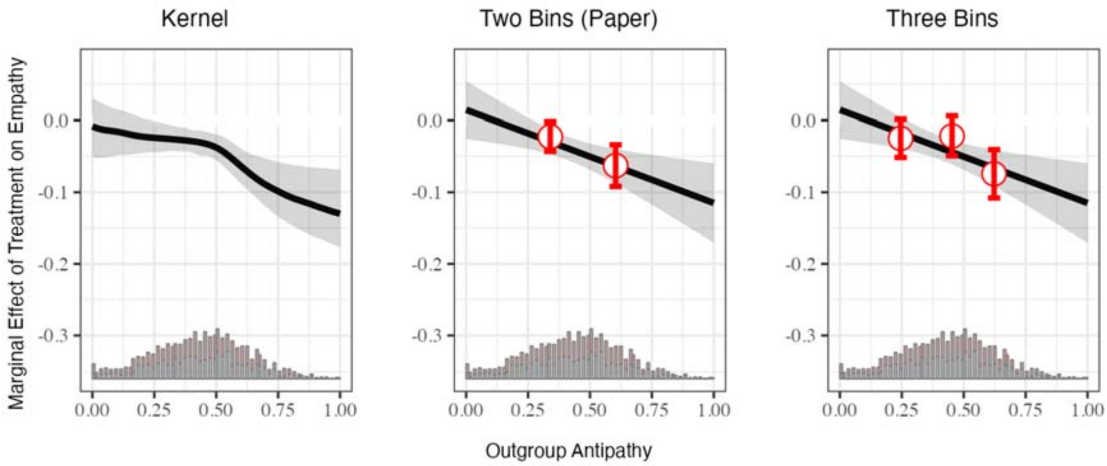
Relationship between post-treatment empathic concern and post-treatment support for harmful policies, with regression lines, study 2.

Linearity and Binning of Marginal Effects

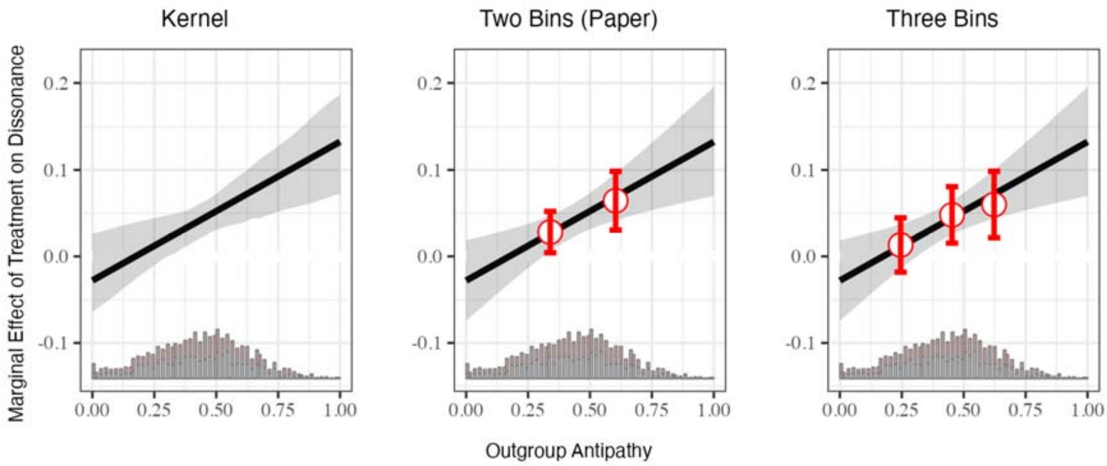
The results of our analyses are very reliant on the presence of heterogeneous treatment effects. For the sake of simplicity in interpretation, we usually opt to present these heterogeneous by binning participants into low and high antipathy groups in the paper. However, recent research (Hainmueller et al. 2019) indicates that estimates from multiplicative interaction models like ours can, at times, be highly dependent on binning choices. For this reason, we use the interflex package in R to examine what our main marginal effects would look like with a kernel estimate, two bins (the analysis used in the paper), and three bins. As seen in Figures H.14, H.15, and H.16, the moderating effect of outgroup antipathy is highly linear in nature and the choice of number of bins has little effect on the substantive conclusions drawn from our analyses.



Marginal effects on empathic concern from study 1, kernel estimates and tests with two and three bins



Marginal effects on empathic concern from study 2, kernel estimates and tests with two and three bins.



Marginal effects on dissonance from study 2, kernel estimates and tests with two and three bins

Appendix 2: Computational replication in SPSS

SPSS syntax and outputs of reproduction and robustness checks for Study 1

Syntax for SPSS analyses

*Recoding items to numeric values. Set "99" as a missing value.
RECODE i_admire i_love i_resent i_shame i_excite i_plea i_fear i_anger e_sym e_moved e_com e_warm
    e_soft e_tender d_uncom d_angry d_shame d_uneasy d_friend d_disgust d_emba d_bother d_opti d_annoy d_tense d_disa d_happy d_ener d_concern d_good
    ('NA'='99').
EXECUTE.
    ***Now, e_sym to d_good were changed to "Numeric" manually.**

RECODE m_less ('Strongly Disagree'=1) ('Disagree'=2) ('Somewhat Disagree'=3) ('Neither Agree nor '+
    'Disagree'=4) ('Somewhat Agree'=5) ('Agree'=6) ('Strongly Agree'=7) (ELSE=99) INTO OD1.
VARIABLE LABELS OD1 'In general, illegal immigrants...'.

RECODE m_learn ('Strongly Disagree'=7) ('Disagree'=6) ('Somewhat Disagree'=5)
    ('Neither Agree nor Disagree'=4) ('Somewhat Agree'=3) ('Agree'=2) ('Strongly Agree'=1)
    (ELSE=99) INTO IG1_recoded.
VARIABLE LABELS IG1_recoded 'Illegal immigrants have moral...'.

RECODE m_suffer ('Strongly Disagree'=1) ('Disagree'=2) ('Somewhat Disagree'=3) ('Neither Agree '+
    'nor Disagree'=4) ('Somewhat Agree'=5) ('Agree'=6) ('Strongly Agree'=7) (ELSE=99) INTO IVO1.
VARIABLE LABELS IVO1 'Legal residents...'.

RECODE law_english ('Strongly Disagree'=1) ('Disagree'=2) ('Somewhat Disagree'=3) ('Neither Agree or '+
    'Disagree'=4) ('Somewhat Agree'=5) ('Agree'=6) ('Strongly Agree'=7) (ELSE=99) INTO law1_english.
VARIABLE LABELS law1_english '...documents in English only...'.

RECODE law_tuition ('Strongly Disagree'=1) ('Disagree'=2) ('Somewhat Disagree'=3) ('Neither Agree or '+
    'Disagree'=4) ('Somewhat Agree'=5) ('Agree'=6) ('Strongly Agree'=7) (ELSE=99) INTO law2_tuition.
VARIABLE LABELS law2_tuition '...pay out-of-state tuition...'.

RECODE law_welfare ('Strongly Disagree'=1) ('Disagree'=2) ('Somewhat Disagree'=3) ('Neither Agree or '+
    'Disagree'=4) ('Somewhat Agree'=5) ('Agree'=6) ('Strongly Agree'=7) (ELSE=99) INTO law3_welfare.
VARIABLE LABELS law3_welfare '...restricting welfare support...'.

RECODE law_hire ('Strongly Disagree'=1) ('Disagree'=2) ('Somewhat Disagree'=3) ('Neither Agree or '+
    'Disagree'=4) ('Somewhat Agree'=5) ('Agree'=6) ('Strongly Agree'=7) (ELSE=99) INTO law4_hire.
VARIABLE LABELS law4_hire '...increasing the penalties...who hire...'.

RECODE immig_opinion ('Illegal immigrants should be required to go home immediately.'=1)
    ('Most illegal immigrants should be required to go home, but some should be allowed to remain in the U.S. under a temporary guest worker program.'=2)
    ('Most illegal immigrants should be allowed to stay in the U.S. but only as temporary workers who must eventually return home.'=3)
    ('Illegal immigrants should be allowed to stay permanently in the U.S.'=4) (ELSE=99) INTO immig_opinion_nr.

```
VARIABLE LABELS  immig_opinion_nr '1=go home, 2=some allowed, 3=temporary stay, 4=stay
permanently'.

RECODE arizona_law st8_hb497 st8_hb116 st8_hb469 st8_hb466 ('Strongly Oppose'=1) ('Oppose'=2)
    ('Neither Favor nor Oppose'=3) ('Favor'=4) ('Strongly Favor'=5) (ELSE=99) INTO arizona_law_nr
    st8_bill_harm st8_bill_help1 st8_bill_help2 st8_bill_help3.
VARIABLE LABELS  arizona_law_nr 'How much favor arizona law' /st8_bill_harm 'How much favor bill '+
    'base on Arizona law (???)' /st8_bill_help1 'how much favor bill that would help immigrants 1 '+
    '(???)' /st8_bill_help2 'how much favor bill that would help immigrants 2 (???)'
    /st8_bill_help3 'how much favor bill that would help immigrants 3 (???)'.
EXECUTE.
*i_admire to d_good were changed to "Numeric" manually.

missing values e_sym to e_tender (99).
missing values i_admire to i_anger (99).
missing values d_uncom to d_bother (99).
missing values d_opti to d_good (99).
missing values OD1 to st8_bill_help3 (99).
EXECUTE.

*Compute variables and rescale them to 0-1, set 99 as missing values.
*0=the minimal value of the scale, 1=the maximal value of the scale.
COMPUTE pos_em=(MEAN(i_admire,i_love)-1)/6.
COMPUTE neg_em=(MEAN(i_resent,i_shame)-1)/6.
COMPUTE e_conc=(MEAN(e_sym,e_moved,e_com,e_warm,e_soft,e_tender)-1)/6.
COMPUTE law_harm=(MEAN((law1_english-1)/6,(law2_tuition-1)/6,(law3_welfare-1)/6,(law4_hire-1)/6)).
COMPUTE harm=(MEAN((law1_english-1)/6,(law2_tuition-1)/6,(law3_welfare-1)/6,(law4_hire-1)/6,(4-
immig_opinion_nr)/3,(arizona_law_nr-1)/4,(st8_bill_harm-1)/4)).
COMPUTE bills_help=(MEAN((st8_bill_help1-1)/4,(st8_bill_help2-1)/4,(st8_bill_help3-1)/4)).
COMPUTE disonanc=(MEAN(d_uncom,d_uneasy,d_bother,d_tense,d_concern)-1)/6.
COMPUTE antipath=(MEAN(OD1,IG1_recoded,IVO1)-1)/6.
EXECUTE.
RECODE antipath (Lowest thru 0.50000001=0) (0.50000002 thru Highest=1) INTO antip_dich.
VARIABLE LABELS  antip_dich 'Antipathy dichotomous'.
EXECUTE.
RECODE pos_em to antip_dich (MISSING=99).
missing values pos_em to antip_dich (99).
EXECUTE.

*According to the Figure A.1, treatment1=control. However, according to the R syntax,
treatment1=humanization and treatment4=control.
RECODE treatment1 treatment2 treatment3 treatment4 ('1'=1) (ELSE=0) INTO t_hum t_inf
    t_comb t_cont.
VARIABLE LABELS  t_hum 'Treatment: humanization' /t_inf 'Treatment: Information'
    /t_comb 'Treatment: Humanization + Information' /t_cont 'Treatment: Control'.
EXECUTE.

*According to tables, Female should be coded as 1. According to the R syntax, Male = 1 and else is 0.
*We believe Male=1 was used in the original analysis.
RECODE gender ('Male'=1) (ELSE=0) INTO Male.
VARIABLE LABELS  Male 'Male=1, Other=0'.
RECODE gender ('Male'=1) ('Female'=0) (ELSE=99) INTO Male_miss.
VARIABLE LABELS  Male_miss 'Male=1, Female=0, Other=99'.
RECODE gender ('Female'=1) (ELSE=0) INTO Female.
VARIABLE LABELS  Female 'Female=1, Other=0'.
RECODE gender ('Female'=1) ('Male'=0) (ELSE=99) INTO Female_miss.
```

```
VARIABLE LABELS  Female_miss 'Female=1, Male=0, Other=99'.
RECODE partyid (CONVERT) ('Strong Republican'=7) ('Not so strong Republican'=6) ('Independent '+
   'leaning Republican'=5) ('Independent'=4) ('Independent leaning Democrat'=3) ('Not so strong '+
   'Democrat'=2) ('Strong Democrat'=1) (ELSE=SYSMIS) INTO partyid_rec.
VARIABLE LABELS  partyid_rec '1=strong democrat, 7=strong republican'.
COMPUTE part_id=(partyid_rec-1)/6.
RECODE part_id (MISSING=99).
RECODE year_born (CONVERT) ('NA'=SYSMIS) INTO year_born_nr.
COMPUTE age=2012-year_born_nr.
RECODE age (MISSING=99).
missing values Male to age (99).
EXECUTE.

*Computing interactions for continuous antipathy.
COMPUTE humxant=t_hum*antipath.
COMPUTE infxant=t_inf*antipath.
COMPUTE comxant=t_comb*antipath.
RECODE humxant infxant comxant (MISSING=99).
missing values humxant to comxant (99).
EXECUTE.

*Computing interactions for dichotomous antipathy.
COMPUTE humxantd=t_hum*antip_dich.
COMPUTE infxantd=t_inf*antip_dich.
COMPUTE comxantd=t_comb*antip_dich.
RECODE humxantd infxantd comxantd (MISSING=99).
missing values humxantd to comxantd (99).
EXECUTE.

*Data cleaning.
RECODE ethnicity ('White / Caucasian'=1) ('NA'=1) (ELSE=0) INTO white.
EXECUTE.
RECODE vidscreen ('Yes'=1) (ELSE=0) INTO videoOK.
EXECUTE.
* Identify Duplicate Cases.
SORT CASES BY identifier(A) white(D) videoOK (D) finished(D).
MATCH FILES
  /FILE=*
  /BY identifier
  /FIRST=NonDuplicate.
VARIABLE LABELS  nonDuplicate 'Indicator of each first matching case as Primary'.
VALUE LABELS  nonDuplicate 0 'Duplicate Case' 1 'Primary Case'.
VARIABLE LEVEL  nonDuplicate (ORDINAL).
EXECUTE.
COMPUTE keep=finished+white+videoOK+nonDuplicate.
EXECUTE.

*Continue only with non-duplicate respondents who are not non-white, did not have problems with video
and finished survey.
USE ALL.
COMPUTE filter_$=(keep=4).
VARIABLE LABELS filter_$ 'keep=4 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
```

```
*Regression: Manipulation check as presented in Table G.8 in supplemental material.
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT pos_em
  /METHOD=ENTER t_hum t_inf t_comb
  /METHOD=ENTER antip_dich humxantd infxantd comxantd
  /METHOD=ENTER Male age part_id.

*Regression: Manipulation check using continuous antipathy variable.
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT pos_em
  /METHOD=ENTER t_hum t_inf t_comb
  /METHOD=ENTER antipath humxant infxant comxant
  /METHOD=ENTER Male age part_id.

*3 regressions: Hypothesis 1 testing, as presented in Table G.9.
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT e_conc
  /METHOD=ENTER t_hum t_inf t_comb.

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT e_conc
  /METHOD=ENTER t_hum t_inf t_comb antipath humxant infxant comxant.

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT e_conc
  /METHOD=ENTER t_hum t_inf t_comb antipath humxant infxant comxant Male age part_id.

*2 Regressions: H3 testing as presented  in Table 1 in Manuscript.
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT harm
  /METHOD=ENTER t_hum t_inf t_comb.
```

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT harm
  /METHOD=ENTER t_hum t_inf t_comb antipath humxant infxant comxant.

*Robustness check - H1: multiple steps, R2 change.
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT e_conc
  /METHOD=ENTER Male age part_id  antipath
  /METHOD=ENTER t_hum t_inf t_comb
  /METHOD=ENTER humxant
  /METHOD=ENTER comxant.
EXECUTE.

*Mediation analyses were done using PROCESS 4.2.
1st analysis:
Model  : 4
    Y  : harm
    X  : t_hum
    M (mediator)  : e_conc

Covariates:
 Male     age      part_id  antipath t_inf t_comb
5000 bootstrap samples
2nd analysis:
Model  : 4
    Y  : harm
    X  : t_comb
    M (mediator)  : e_conc

Covariates:
 Male     age      part_id  antipath t_hum    t_inf
5000 bootstrap samples
3rd analysis (with continuous antipathy as a moderator):
Model  : 8
    Y  : harm
    X  : t_hum
    M  : e_conc
    W (moderator) : antipath

Covariates:
 Male     age      part_id  t_inf t_comb
5000 bootstrap samples
```

4th analysis (with continuous antipathy as a moderator):
Model : 8
Y : harm
X : t_comb
M : e_conc
W (moderator) : antipath

Covariates:
Male age part_id t_hum t_inf
5000 bootstrap samples

Outputs of SPSS analyses

Regression

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Treatment: Humanization + Information, Treatment: humanization, Treatment: Information[b]	.	Enter
2	Antipathy dichotomous, comxantd, humxantd, infxantd[b]	.	Enter
3	Male=1, Other=0, age, part_id[b]	.	Enter

a. Dependent Variable: pos_em

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,276[a]	,076	,075	,25491	,076	86,466	3	3146	<,001
2	,347[b]	,120	,118	,24891	,044	39,373	4	3142	<,001
3	,361[c]	,131	,128	,24757	,010	12,427	3	3139	<,001

a. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information

b. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, Antipathy dichotomous, comxantd, humxantd, infxantd

c. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, Antipathy dichotomous, comxantd, humxantd, infxantd, Male=1, Other=0, age, part_id

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16,856	3	5,619	86,466	<,001[b]
	Residual	204,431	3146	,065		
	Total	221,287	3149			
2	Regression	26,614	7	3,802	61,364	<,001[c]
	Residual	194,673	3142	,062		
	Total	221,287	3149			
3	Regression	28,899	10	2,890	47,152	<,001[d]
	Residual	192,388	3139	,061		
	Total	221,287	3149			

a. Dependent Variable: pos_em

b. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information

c. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, Antipathy dichotomous, comxantd, humxantd, infxantd

d. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, Antipathy dichotomous, comxantd, humxantd, infxantd, Male=1, Other=0, age, part_id

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,515	,009		55,650	<,001
	Treatment: humanization	,131	,013	,212	10,017	<,001
	Treatment: Information	-,026	,013	-,043	-2,024	,043
	Treatment: Humanization + Information	,132	,013	,215	10,172	<,001
2	(Constant)	,588	,013		46,922	<,001
	Treatment: humanization	,095	,018	,153	5,348	<,001
	Treatment: Information	-,046	,017	-,077	-2,656	,008
	Treatment: Humanization + Information	,100	,017	,163	5,769	<,001
	Antipathy dichotomous	-,153	,018	-,289	-8,483	<,001
	humxantd	,075	,026	,090	2,926	,003
	infxantd	,046	,025	,059	1,838	,066
	comxantd	,060	,025	,071	2,368	,018
3	(Constant)	,676	,027		25,166	<,001
	Treatment: humanization	,096	,018	,155	5,438	<,001
	Treatment: Information	-,046	,017	-,077	-2,653	,008
	Treatment: Humanization + Information	,097	,017	,158	5,624	<,001
	Antipathy dichotomous	-,148	,018	-,279	-8,220	<,001
	humxantd	,074	,025	,089	2,916	,004
	infxantd	,045	,025	,058	1,821	,069
	comxantd	,059	,025	,069	2,309	,021
	Male=1, Other=0	-,035	,009	-,064	-3,821	<,001
	age	-,002	,000	-,077	-4,556	<,001
	part_id	,016	,021	,013	,776	,438

a. Dependent Variable: pos_em

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	Antipathy dichotomous	-,204[b]	-12,147	<,001	-,212	,999
	humxantd	-,095[b]	-4,270	<,001	-,076	,591
	infxantd	-,138[b]	-6,190	<,001	-,110	,581
	comxantd	-,110[b]	-5,074	<,001	-,090	,619
	Male=1, Other=0	-,076[b]	-4,466	<,001	-,079	,999
	age	-,098[b]	-5,718	<,001	-,101	,996
	part_id	-,023[b]	-1,329	,184	-,024	1,000
2	Male=1, Other=0	-,067[c]	-4,012	<,001	-,071	,997
	age	-,079[c]	-4,709	<,001	-,084	,986
	part_id	,007[c]	,424	,671	,008	,978

a. Dependent Variable: pos_em

b. Predictors in the Model: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information

c. Predictors in the Model: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, Antipathy dichotomous, comxantd, humxantd, infxantd

Notes

Output Created		14-JUL-2023 13:52:04
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>

	N of Rows in Working Data File	3514
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA CHANGE /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT pos_em /METHOD=ENTER t_hum t_inf t_comb /METHOD=ENTER antipath humxant infxant comxant /METHOD=ENTER Male age part_id.
Resources	Processor Time	00:00:00,08
	Elapsed Time	00:00:00,08
	Memory Required	19568 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Treatment: Humanization + Information, Treatment: humanization, Treatment: Information[b]	.	Enter
2	antipath, comxant, humxant, infxant[b]	.	Enter
3	Male=1, Other=0, age, part_id[b]	.	Enter

a. Dependent Variable: pos_em
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	,276[a]	,076	,075	,25491	,076	86,466
2	,381[b]	,145	,143	,24536	,069	63,475
3	,394[c]	,155	,152	,24405	,010	12,258

Model Summary

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	3146	<,001
2	4	3142	<,001
3	3	3139	<,001

a. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information
b. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, antipath, comxant, humxant, infxant
c. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, antipath, comxant, humxant, infxant, Male=1, Other=0, age, part_id

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16,856	3	5,619	86,466	<,001[b]
	Residual	204,431	3146	,065		
	Total	221,287	3149			
2	Regression	32,141	7	4,592	76,272	<,001[c]
	Residual	189,146	3142	,060		
	Total	221,287	3149			
3	Regression	34,331	10	3,433	57,642	<,001[d]
	Residual	186,956	3139	,060		
	Total	221,287	3149			

a. Dependent Variable: pos_em
b. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information
c. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information,

antipath, comxant, humxant, infxant
d. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, antipath, comxant, humxant, infxant, Male=1, Other=0, age, part_id

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t
1	(Constant)	,515	,009		55,650
	Treatment: humanization	,131	,013	,212	10,017
	Treatment: Information	-,026	,013	-,043	-2,024
	Treatment: Humanization + Information	,132	,013	,215	10,172
2	(Constant)	,711	,021		33,925
	Treatment: humanization	,046	,029	,075	1,567
	Treatment: Information	-,074	,029	-,124	-2,558
	Treatment: Humanization + Information	,063	,029	,103	2,150
	antipath	-,381	,037	-,346	-10,346
	humxant	,163	,052	,154	3,145
	infxant	,099	,051	,099	1,959
	comxant	,128	,052	,119	2,440
3	(Constant)	,764	,031		24,895
	Treatment: humanization	,048	,029	,077	1,623
	Treatment: Information	-,073	,029	-,123	-2,544
	Treatment: Humanization + Information	,062	,029	,100	2,100
	antipath	-,377	,037	-,342	-10,223
	humxant	,162	,052	,153	3,133
	infxant	,098	,050	,097	1,932
	comxant	,124	,052	,115	2,372
	Male=1, Other=0	-,033	,009	-,060	-3,633
	age	-,001	,000	-,070	-4,237
	part_id	,047	,021	,039	2,300

Coefficients[a]

Model	Sig.

1	(Constant)	<,001
	Treatment: humanization	<,001
	Treatment: Information	,043
	Treatment: Humanization + Information	<,001
2	(Constant)	<,001
	Treatment: humanization	,117
	Treatment: Information	,011
	Treatment: Humanization + Information	,032
	antipath	<,001
	humxant	,002
	infxant	,050
	comxant	,015
3	(Constant)	<,001
	Treatment: humanization	,105
	Treatment: Information	,011
	Treatment: Humanization + Information	,036
	antipath	<,001
	humxant	,002
	infxant	,053
	comxant	,018
	Male=1, Other=0	<,001
	age	<,001
	part_id	,022

a. Dependent Variable: pos_em

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	antipath	-,257[b]	-15,569	<,001	-,267	,999
	humxant	-,206[b]	-5,763	<,001	-,102	,229
	infxant	-,281[b]	-7,863	<,001	-,139	,225
	comxant	-,235[b]	-6,565	<,001	-,116	,226
	Male=1, Other=0	-,076[b]	-4,466	<,001	-,079	,999
	age	-,098[b]	-5,718	<,001	-,101	,996

	part_id	-,023[b]	-1,329	,184	-,024	1,000
2	Male=1, Other=0	-,062[c]	-3,755	<,001	-,067	,995
	age	-,072[c]	-4,323	<,001	-,077	,984
	part_id	,034[c]	2,018	,044	,036	,952

a. Dependent Variable: pos_em
b. Predictors in the Model: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information
c. Predictors in the Model: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information, antipath, comxant, humxant, infxant

Regression

Notes

Output Created		14-JUL-2023 13:52:04
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT e_conc /METHOD=ENTER t_hum t_inf t_comb.
Resources	Processor Time	00:00:00,08
	Elapsed Time	00:00:00,07
	Memory Required	13904 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Treatment: Humanization + Information, Treatment: humanization, Treatment: Information[b]	.	Enter

a. Dependent Variable: e_conc
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,561[a]	,315	,314	,22798

a. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82,445	3	27,482	528,732	<,001[b]
	Residual	179,372	3451	,052		
	Total	261,817	3454			

a. Dependent Variable: e_conc
b. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	,269	,008		34,234
	Treatment: humanization	,354	,011	,550	31,752
	Treatment: Information	,086	,011	,139	7,928
	Treatment: Humanization + Information	,342	,011	,535	30,844

Coefficients[a]

Model	Sig.

1	(Constant)	<,001
	Treatment: humanization	<,001
	Treatment: Information	<,001
	Treatment: Humanization + Information	<,001

a. Dependent Variable: e_conc

Regression

Notes

Output Created		14-JUL-2023 13:52:04
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT e_conc /METHOD=ENTER t_hum t_inf t_comb antipath humxant infxant comxant.
Resources	Processor Time	00:00:00,08
	Elapsed Time	00:00:00,10

	Memory Required	16624 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	comxant, antipath, Treatment: humanization, Treatment: Information, humxant, Treatment: Humanization + Information, infxant[b]	.	Enter

a. Dependent Variable: e_conc
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,645[a]	,416	,415	,21056

a. Predictors: (Constant), comxant, antipath, Treatment: humanization, Treatment: Information, humxant, Treatment: Humanization + Information, infxant

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	108,864	7	15,552	350,767	<,001[b]
	Residual	152,564	3441	,044		
	Total	261,428	3448			

a. Dependent Variable: e_conc
b. Predictors: (Constant), comxant, antipath, Treatment: humanization, Treatment: Information, humxant, Treatment: Humanization + Information, infxant

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	,297	,017		17,167
	Treatment: humanization	,561	,024	,873	22,958
	Treatment: Information	,238	,024	,383	9,894
	Treatment: Humanization +	,547	,024	,854	22,455

	Information				
	antipath	-,055	,030	-,048	-1,809
	humxant	-,400	,043	-,366	-9,363
	infxant	-,286	,042	-,276	-6,864
	comxant	-,405	,043	-,365	-9,416

Coefficients[a]

Model		Sig.
1	(Constant)	<,001
	Treatment: humanization	<,001
	Treatment: Information	<,001
	Treatment: Humanization + Information	<,001
	antipath	,071
	humxant	<,001
	infxant	<,001
	comxant	<,001

a. Dependent Variable: e_conc

Regression

Notes

Output Created		14-JUL-2023 13:52:05
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.

Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT e_conc /METHOD=ENTER t_hum t_inf t_comb antipath humxant infxant comxant Male age part_id.
Resources	Processor Time	00:00:00,09
	Elapsed Time	00:00:00,09
	Memory Required	19328 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	part_id, Treatment: Information, Male=1, Other=0, age, antipath, Treatment: humanization, comxant, humxant, Treatment: Humanization + Information, infxant[b]	.	Enter

a. Dependent Variable: e_conc
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,657[a]	,432	,430	,20720

a. Predictors: (Constant), part_id, Treatment: Information, Male=1, Other=0, age, antipath, Treatment: humanization, comxant, humxant, Treatment: Humanization + Information, infxant

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105,959	10	10,596	246,815	<,001[b]

	Residual	139,267	3244	,043		
	Total	245,226	3254			

a. Dependent Variable: e_conc
b. Predictors: (Constant), part_id, Treatment: Information, Male=1, Other=0, age, antipath, Treatment: humanization, comxant, humxant, Treatment: Humanization + Information, infxant

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t
1	(Constant)	,195	,026		7,597
	Treatment: humanization	,562	,025	,877	22,787
	Treatment: Information	,241	,024	,388	9,888
	Treatment: Humanization + Information	,546	,025	,857	22,229
	antipath	-,069	,031	-,060	-2,219
	humxant	-,395	,043	-,360	-9,111
	infxant	-,290	,042	-,278	-6,824
	comxant	-,400	,044	-,360	-9,160
	Male=1, Other=0	-,034	,008	-,059	-4,477
	age	,002	,000	,082	6,155
	part_id	,053	,017	,041	3,052

Coefficients[a]

Model		Sig.
1	(Constant)	<,001
	Treatment: humanization	<,001
	Treatment: Information	<,001
	Treatment: Humanization + Information	<,001
	antipath	,027
	humxant	<,001
	infxant	<,001
	comxant	<,001
	Male=1, Other=0	<,001
	age	<,001
	part_id	,002

a. Dependent Variable: e_conc

Regression

Notes

Output Created		14-JUL-2023 13:52:05
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA CHANGE /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT harm /METHOD=ENTER t_hum t_inf t_comb.
Resources	Processor Time	00:00:00,09
	Elapsed Time	00:00:00,08
	Memory Required	13904 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Treatment: Humanization +	.	Enter

	Information, Treatment: humanization, Treatment: Information[b]		

a. Dependent Variable: harm
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	,048[a]	,002	,001	,22089	,002	2,697

Model Summary

Model	Change Statistics		
	df1	df2	Sig. F Change
1	3	3501	,044

a. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,395	3	,132	2,697	,044[b]
	Residual	170,827	3501	,049		
	Total	171,222	3504			

a. Dependent Variable: harm
b. Predictors: (Constant), Treatment: Humanization + Information, Treatment: humanization, Treatment: Information

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	,706	,008		93,643
	Treatment: humanization	-,010	,011	-,018	-,890
	Treatment: Information	,014	,010	,028	1,342
	Treatment: Humanization + Information	-,013	,011	-,025	-1,213

Coefficients[a]

Model		Sig.
1	(Constant)	<,001
	Treatment: humanization	,373
	Treatment: Information	,180
	Treatment: Humanization + Information	,225

a. Dependent Variable: harm

Regression

Notes

Output Created		14-JUL-2023 13:52:05
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA CHANGE /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT harm /METHOD=ENTER t_hum t_inf t_comb antipath humxant infxant comxant.
Resources	Processor Time	00:00:00,09

	Elapsed Time	00:00:00,10
	Memory Required	16624 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	comxant, antipath, Treatment: humanization, Treatment: Information, Treatment: Humanization + Information, humxant, infxant[b]	.	Enter

a. Dependent Variable: harm
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	,713[a]	,508	,507	,15522	,508	515,783	7	3490	<,001

a. Predictors: (Constant), comxant, antipath, Treatment: humanization, Treatment: Information, Treatment: Humanization + Information, humxant, infxant

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	86,989	7	12,427	515,783	<,001[b]
	Residual	84,086	3490	,024		
	Total	171,076	3497			

a. Dependent Variable: harm
b. Predictors: (Constant), comxant, antipath, Treatment: humanization, Treatment: Information, Treatment: Humanization +

Information, humxant, infxant

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	,356	,013		28,285	<,001
	Treatment: humanization	-,005	,018	-,010	-,285	,776
	Treatment: Information	,035	,018	,071	2,004	,045
	Treatment: Humanization + Information	,000	,018	,000	-,011	,991
	antipath	,674	,022	,732	30,608	<,001
	humxant	-,010	,031	-,011	-,305	,760
	infxant	-,053	,030	-,064	-1,747	,081
	comxant	-,011	,031	-,012	-,336	,737

a. Dependent Variable: harm

Regression

Notes

Output Created	14-JUL-2023 13:52:05

Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
Syntax		REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA CHANGE /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT e_conc /METHOD=ENTER Male age part_id antipath /METHOD=ENTER t_hum t_inf t_comb /METHOD=ENTER humxant /METHOD=ENTER comxant.
Resources	Processor Time	00:00:00,11
	Elapsed Time	00:00:00,13
	Memory Required	18720 bytes
	Additional Memory Required for Residual Plots	0 bytes

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	antipath, Male=1, Other=0, age, part_id[b]	.	Enter
2	Treatment: Information, Treatment: humanization, Treatment: Humanization + Information[b]	.	Enter

3	humxant[b]		.	Enter
4	comxant[b]		.	Enter

a. Dependent Variable: e_conc
b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	,309[a]	,096	,094	,26124	,096	85,801
2	,642[b]	,413	,411	,21064	,317	584,053
3	,645[c]	,416	,415	,20999	,004	21,060
4	,651[d]	,424	,422	,20865	,008	42,927

Model Summary

Model	Change Statistics		
	df1	df2	Sig. F Change
1	4	3250	<,001
2	3	3247	<,001
3	1	3246	<,001
4	1	3245	<,001

a. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id
b. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information
c. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information, humxant
d. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information, humxant, comxant

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23,423	4	5,856	85,801	<,001[b]
	Residual	221,804	3250	,068		
	Total	245,226	3254			

2	Regression	101,163	7	14,452	325,725	<,001[c]
	Residual	144,063	3247	,044		
	Total	245,226	3254			
3	Regression	102,091	8	12,761	289,402	<,001[d]
	Residual	143,135	3246	,044		
	Total	245,226	3254			
4	Regression	103,960	9	11,551	265,339	<,001[e]
	Residual	141,266	3245	,044		
	Total	245,226	3254			

a. Dependent Variable: e_conc
b. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id
c. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information
d. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information, humxant
e. Predictors: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information, humxant, comxant

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	,552	,026		21,394
	Male=1, Other=0	-,031	,010	-,055	-3,266
	age	,001	,000	,063	3,753
	part_id	,057	,022	,045	2,623
	antipath	-,353	,020	-,308	-17,942
2	(Constant)	,338	,022		15,458
	Male=1, Other=0	-,032	,008	-,056	-4,137
	age	,002	,000	,080	5,916
	part_id	,051	,018	,040	2,885
	antipath	-,340	,016	-,297	-21,408
	Treatment: humanization	,358	,011	,559	33,845
	Treatment: Information	,091	,010	,146	8,801
	Treatment: Humanization + Information	,341	,011	,535	32,343
3	(Constant)	,317	,022		14,214
	Male=1, Other=0	-,032	,008	-,056	-4,187
	age	,002	,000	,081	5,975
	part_id	,051	,018	,040	2,893

	antipath	-,300	,018	-,262	-16,550
	Treatment: humanization	,442	,021	,690	20,885
	Treatment: Information	,091	,010	,146	8,791
	Treatment: Humanization + Information	,342	,011	,536	32,489
	humxant	-,164	,036	-,149	-4,589
4	(Constant)	,276	,023		11,980
	Male=1, Other=0	-,033	,008	-,058	-4,333
	age	,002	,000	,081	6,030
	part_id	,051	,017	,040	2,947
	antipath	-,221	,022	-,192	-10,178
	Treatment: humanization	,483	,022	,754	22,015
	Treatment: Information	,090	,010	,145	8,775
	Treatment: Humanization + Information	,468	,022	,733	21,397
	humxant	-,243	,037	-,221	-6,486
	comxant	-,247	,038	-,223	-6,552

Coefficients[a]

Model		Sig.
1	(Constant)	<,001
	Male=1, Other=0	,001
	age	<,001
	part_id	,009
	antipath	<,001
2	(Constant)	<,001
	Male=1, Other=0	<,001
	age	<,001
	part_id	,004
	antipath	<,001
	Treatment: humanization	<,001
	Treatment: Information	<,001
	Treatment: Humanization + Information	<,001
3	(Constant)	<,001
	Male=1, Other=0	<,001
	age	<,001

	part_id	,004
	antipath	<,001
	Treatment: humanization	<,001
	Treatment: Information	<,001
	Treatment: Humanization + Information	<,001
	humxant	<,001
4	(Constant)	<,001
	Male=1, Other=0	<,001
	age	<,001
	part_id	,003
	antipath	<,001
	Treatment: humanization	<,001
	Treatment: Information	<,001
	Treatment: Humanization + Information	<,001
	humxant	<,001
	comxant	<,001

a. Dependent Variable: e_conc

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation
1	Treatment: humanization	,337[b]	21,573	<,001	,354
	Treatment: Information	-,228[b]	-14,061	<,001	-,240
	Treatment: Humanization + Information	,305[b]	19,247	<,001	,320
	humxant	,290[b]	17,658	<,001	,296
	comxant	,256[b]	15,519	<,001	,263
2	humxant	-,149[c]	-4,589	<,001	-,080
	comxant	-,151[c]	-4,681	<,001	-,082
3	comxant	-,223[d]	-6,552	<,001	-,114

Excluded Variables[a]

Model	Collinearity Statistics
	Tolerance

1	Treatment: humanization	,999
	Treatment: Information	,999
	Treatment: Humanization + Information	,995
	humxant	,945
	comxant	,952
2	humxant	,170
	comxant	,172
3	comxant	,154

a. Dependent Variable: e_conc
b. Predictors in the Model: (Constant), antipath, Male=1, Other=0, age, part_id
c. Predictors in the Model: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information
d. Predictors in the Model: (Constant), antipath, Male=1, Other=0, age, part_id, Treatment: Information, Treatment: humanization, Treatment: Humanization + Information, humxant

Matrix

Notes

Output Created		14-JUL-2023 13:54:36
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Resources	Processor Time	00:00:19,17
	Elapsed Time	00:00:19,20

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 4.2 beta ***************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : harm
    X  : t_hum
    M  : e_conc

Covariates:
 Male     age      part_id  antipath t_inf    t_comb

Sample
Size:  3255

**************************************************************************
OUTCOME VARIABLE:
 e_conc

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      ,6423      ,4125      ,0444   325,7246     7,0000  3247,0000      ,0000

Model
              coeff         se          t          p       LLCI       ULCI
constant      ,3380      ,0219    15,4575      ,0000      ,2951      ,3809
t_hum         ,3581      ,0106    33,8447      ,0000      ,3373      ,3788
Male        -,0319      ,0077    -4,1373      ,0000     -,0471     -,0168
age           ,0017      ,0003     5,9163      ,0000      ,0011      ,0023
part_id       ,0507      ,0176     2,8854      ,0039      ,0162      ,0851
```

antipath	-,3402	,0159	-21,4080	,0000	-,3713	-,3090
t_inf	,0909	,0103	8,8010	,0000	,0706	,1111
t_comb	,3413	,0106	32,3432	,0000	,3206	,3620

Standardized coefficients

	coeff
t_hum	1,3044
Male	-,0559
age	,0803
part_id	,0398
antipath	-,2967
t_inf	,1465
t_comb	,5354

****
OUTCOME VARIABLE:
harm

Model Summary

R	R-sq	MSE	F	df1	df2	p
,7377	,5442	,0220	484,4796	8,0000	3246,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	,3175	,0160	19,8930	,0000	,2862	,3488
t_hum	,0424	,0087	4,8946	,0000	,0254	,0594
e_conc	-,1483	,0124	-12,0005	,0000	-,1726	-,1241
Male	-,0044	,0055	-,8140	,4157	-,0151	,0063
age	,0005	,0002	2,5101	,0121	,0001	,0009
part_id	,1247	,0124	10,0677	,0000	,1004	,1489
antipath	,5788	,0120	48,4090	,0000	,5554	,6023
t_inf	,0225	,0074	3,0630	,0022	,0081	,0370
t_comb	,0436	,0085	5,0958	,0000	,0268	,0603

Standardized coefficients

coeff

t_hum	,1933
e_conc	-,1855
Male	-,0097
age	,0302
part_id	,1225
antipath	,6314
t_inf	,0454
t_comb	,0854

************************** TOTAL EFFECT MODEL ****************************

OUTCOME VARIABLE:
harm

Model Summary

R	R-sq	MSE	F	df1	df2	p
,7239	,5240	,0230	510,6275	7,0000	3247,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	,2673	,0157	16,9865	,0000	,2365	,2982
t_hum	-,0107	,0076	-1,4043	,1603	-,0256	,0042
Male	,0003	,0056	,0540	,9569	-,0106	,0112
age	,0003	,0002	1,2504	,2112	-,0001	,0007
part_id	,1172	,0126	9,2709	,0000	,0924	,1419
antipath	,6293	,0114	55,0226	,0000	,6069	,6517
t_inf	,0091	,0074	1,2193	,2228	-,0055	,0236
t_comb	-,0071	,0076	-,9317	,3516	-,0220	,0078

Standardized coefficients

	coeff
t_hum	-,0487
Male	,0007
age	,0153
part_id	,1151
antipath	,6865
t_inf	,0183

```
t_comb       -,0139


************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_ps
     -,0107      ,0076    -1,4043      ,1603     -,0256      ,0042     -,0487

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_ps
      ,0424      ,0087     4,8946      ,0000      ,0254      ,0594      ,1933

Indirect effect(s) of X on Y:
           Effect     BootSE   BootLLCI   BootULCI
e_conc     -,0531      ,0050     -,0629     -,0435

Partially standardized indirect effect(s) of X on Y:
           Effect     BootSE   BootLLCI   BootULCI
e_conc     -,2420      ,0227     -,2869     -,1982

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Matrix

Notes

Output Created		14-JUL-2023 13:56:03
Comments		
Input	Active Dataset	DataSet1
	Filter	keep=4 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3514
Resources	Processor Time	00:00:21,19
	Elapsed Time	00:00:21,28

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 4.2 beta ***************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : harm
    X  : t_comb
    M  : e_conc
```

Covariates:
Male age part_id antipath t_hum t_inf

Sample
Size: 3255

****
OUTCOME VARIABLE:
e_conc

Model Summary

R	R-sq	MSE	F	df1	df2	p
,6423	,4125	,0444	325,7246	7,0000	3247,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	,3380	,0219	15,4575	,0000	,2951	,3809
t_comb	,3413	,0106	32,3432	,0000	,3206	,3620
Male	-,0319	,0077	-4,1373	,0000	-,0471	-,0168
age	,0017	,0003	5,9163	,0000	,0011	,0023
part_id	,0507	,0176	2,8854	,0039	,0162	,0851
antipath	-,3402	,0159	-21,4080	,0000	-,3713	-,3090
t_hum	,3581	,0106	33,8447	,0000	,3373	,3788
t_inf	,0909	,0103	8,8010	,0000	,0706	,1111

Standardized coefficients

	coeff
t_comb	1,2432
Male	-,0559
age	,0803
part_id	,0398
antipath	-,2967
t_hum	,5586
t_inf	,1465

****

OUTCOME VARIABLE:
harm

Model Summary

R	R-sq	MSE	F	df1	df2	p
,7377	,5442	,0220	484,4796	8,0000	3246,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	,3175	,0160	19,8930	,0000	,2862	,3488
t_comb	,0436	,0085	5,0958	,0000	,0268	,0603
e_conc	-,1483	,0124	-12,0005	,0000	-,1726	-,1241
Male	-,0044	,0055	-,8140	,4157	-,0151	,0063
age	,0005	,0002	2,5101	,0121	,0001	,0009
part_id	,1247	,0124	10,0677	,0000	,1004	,1489
antipath	,5788	,0120	48,4090	,0000	,5554	,6023
t_hum	,0424	,0087	4,8946	,0000	,0254	,0594
t_inf	,0225	,0074	3,0630	,0022	,0081	,0370

Standardized coefficients

	coeff
t_comb	,1984
e_conc	-,1855
Male	-,0097
age	,0302
part_id	,1225
antipath	,6314
t_hum	,0828
t_inf	,0454

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
harm

Model Summary

R	R-sq	MSE	F	df1	df2	p

,7239	,5240	,0230	510,6275	7,0000	3247,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	,2673	,0157	16,9865	,0000	,2365	,2982
t_comb	-,0071	,0076	-,9317	,3516	-,0220	,0078
Male	,0003	,0056	,0540	,9569	-,0106	,0112
age	,0003	,0002	1,2504	,2112	-,0001	,0007
part_id	,1172	,0126	9,2709	,0000	,0924	,1419
antipath	,6293	,0114	55,0226	,0000	,6069	,6517
t_hum	-,0107	,0076	-1,4043	,1603	-,0256	,0042
t_inf	,0091	,0074	1,2193	,2228	-,0055	,0236

Standardized coefficients

	coeff
t_comb	-,0322
Male	,0007
age	,0153
part_id	,1151
antipath	,6865
t_hum	-,0209
t_inf	,0183

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps
-,0071	,0076	-,9317	,3516	-,0220	,0078	-,0322

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps
,0436	,0085	5,0958	,0000	,0268	,0603	,1984

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI

```
e_conc     -,0506      ,0048     -,0602     -,0415

Partially standardized indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
e_conc     -,2307      ,0218     -,2741     -,1888

*********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

NOTE: Standardized coefficients for dichotomous or multicategorical X are in
      partially standardized form.

------ END MATRIX -----
```

Appendix 3: Computational replication in Matlab

The next table is not presented in results by original author however it is important

Table G.8_2: Regression of Humanization on Treatments × Antipathy (Continuous), Controls, Study 1

	M1	M2	M3
Intercept	0.512***(0.01)	0.708***(0.02)	0.762***(0.03)
Humanization	0.135***(0.01)	0.044(0.03)	0.046(0.03)
Information	-0.023†(0.01)	-0.071*(0.03)	-0.07*(0.03)
Combined	0.134***(0.01)	0.075*(0.03)	0.063*(0.03)
Outgroup Antipathy		-0.378***(0.04)	-0.378***(0.04)
Humanization × Antipathy		0.173***(0.05)	0.166**(0.05)
Information × Antipathy		0.098*(0.05)	0.092†(0.05)
Combined × Antipathy		0.106*(0.05)	0.122*(0.05)
Gender (1 = Male)			-0.035***(0.01)
Age			-0.001***(0)
Party ID (0–1)			0.046*(0.02)
N	3278	3273	3113
R-square	0.08	0.15	0.16
adj. R-square	0.08	0.14	0.15
Resid. sd	0.25	0.25	0.24

```
% script to reproduce results of Gubler, J. R., Karpowitz, C. F., Monson, J. Q., Romney, D. A.,
& South, M. (2022).
% Changing Hearts and Minds? Why Media Messages Designed to Foster Empathy Often Fail.
The Journal of Politics, 84(4), 2156-2171.
% Written by: Shubham Pandey
% Indian Institute of Technology Bombay, Mumbai
% contact: shubham.cogsci@gmail.com
%------------------------------------------------------------------------
% ------to run the script, keep the data in same directory as script-------
clear;
close;
rawData=readtable('stud01_deID.csv');
stud01=rawData;
%drop unnecessary columns
stud01.welcome1=[]; stud01.welcome2=[];

%total participants
N.S1_Total=height(stud01);

%drop participants who could not finish
toDrop = stud01.finished == 0;
```

```
N.S1_notFinish= sum(toDrop == 1);
stud01(toDrop,:) = [];

%drop participants with video issues
toDrop = stud01.vidscreen == "No";
N.S1_VidIssues= sum(toDrop == 1);
stud01(toDrop,:) = [];

%keep only white/Caucasian participants
toDrop = stud01.ethnicity ~= "White / Caucasian";
N.S1_NonWhites= sum(toDrop == 1);
stud01(toDrop,:) = [];

%drop duplicate rows (entries) in the data
stud01=sortrows(stud01,1);
N.S1_BeforeUnique=height(stud01);
%-unique(A,setOrder) returns the unique values of A in a specific order. setOrder can be 'sorted'
(default) or 'stable'.
[~, uniqueIdx, ~] = unique(stud01(:,"identifier"), 'rows', 'stable');
stud01 = stud01(uniqueIdx, :);
% Find the number of rows deleted
N.S1_FinalSample= height(stud01);
N.S1_Duplicates = N.S1_BeforeUnique -N.S1_FinalSample;

%make gender numeric, 1 for male, 0 for female
stud01.gender=replace(stud01.gender, {'Male', 'Female'}, {'1', '0'});
stud01.gender=str2double(stud01.gender);
%change year born column to age by substracting from 2012
stud01.year_born=2012-stud01.year_born;
stud01 = renamevars(stud01, 'year_born', 'Age');
%change partyId
stud01.partyid = replace(stud01.partyid, {'Strong Republican', 'Not so strong Republican',
'Independent leaning Republican',...
    'Independent leaning Democrat','Independent', 'Not so strong Democrat', 'Strong Democrat',
'Other'}, {'7', '6', '5', '3', '4','2', '1', 'NaN'});
stud01.partyid = replace(stud01.partyid, "Don't know", "NaN");
stud01.partyid=str2double(stud01.partyid);

%now lets change likert scale repsonse to digit for antipathy
```

```
likertCols =  {'m_learn', 'm_less', 'm_suffer'}; % Specify the column names of the Likert scale
responses
likertScale = {'NA', 'Strongly Disagree', 'Disagree', 'Somewhat Disagree', 'Neither Agree nor
Disagree', 'Somewhat Agree', 'Agree', 'Strongly Agree'};
replaceValues = [NaN 1 2 3 4 5 6 7];
for i = 1:numel(likertCols)
    colName = likertCols{i};
    colData = stud01.(colName);  % Access the column data
    [~, colData] = ismember(colData, likertScale);  % Convert the responses to indices
    colData = replaceValues(colData);  % Replace with values from 1 to 7
    stud01.(colName) = colData';  % Assign the updated column data back to the table
end
%mlearn is reverse coded
stud01.m_learn=max(stud01.m_learn)+ 1 - stud01.m_learn;

%code to find policy harm index study 1
stud01.immig_opinion = str2double(replace(stud01.immig_opinion, {'NA', 'Illegal immigrants
should be required to go home immediately.',...
    'Most illegal immigrants should be required to go home, but some should be allowed to remain
in the U.S. under a temporary guest worker program.',...
    'Most illegal immigrants should be allowed to stay in the U.S. but only as temporary workers
who must eventually return home.',...
    'Illegal immigrants should be allowed to stay permanently in the U.S.'}, {'NaN', '1', '2', '3',
'4'}));
%reverse code the above response
stud01.immig_opinion=5-stud01.immig_opinion;
%below two policy questions were only asked in Study 1, 'arizona_law', 'st8_hb497' rated on 1 to
5
stud01.arizona_law = str2double(replace(stud01.arizona_law, {'NA', 'Strongly Oppose',
'Oppose', 'Neither Favor nor Oppose', 'Favor', 'Strongly Favor'}, {'NaN', '1', '2', '3', '4', '5'}));
stud01.st8_hb497 = str2double(replace(stud01.st8_hb497, {'NA', 'Strongly Oppose', 'Oppose',
'Neither Favor nor Oppose', 'Favor', 'Strongly Favor'}, {'NaN', '1', '2', '3', '4', '5'}));
%now similarly change other likert columns related to policy harm
likertCols =  {'law_english', 'law_tuition', 'law_welfare', 'law_hire'}; % Specify the column
names of the Likert scale responses
likertScale = {'NA', 'Strongly Disagree', 'Disagree', 'Somewhat Disagree', 'Neither Agree or
Disagree', 'Somewhat Agree', 'Agree', 'Strongly Agree'};
replaceValues = [NaN 1 2 3 4 5 6 7];
for i = 1:numel(likertCols)
    colName = likertCols{i};
```

```
    colData = stud01.(colName);  % Access the column data
    [~, colData] = ismember(colData, likertScale);  % Convert the responses to indices
    colData = replaceValues(colData)';  % Replace with values from 1 to 7
    stud01.(colName) = colData;  % Assign the updated column data back to the table
end

%standardize all variables between zero to one
var = {'partyid', 'm_learn', 'm_less', 'm_suffer', 'i_admire', 'i_love',...
    'e_sym', 'e_moved', 'e_com', 'e_warm', 'e_soft', 'e_tender',...
    'd_uncom', 'd_uneasy', 'd_bother', 'd_tense', 'd_concern',...
    'law_english', 'law_tuition', 'law_welfare', 'law_hire', 'arizona_law', 'st8_hb497',
'immig_opinion'};
% Apply standardizing function
stud01{:, var} = zero_to_one(stud01{:, var});
clear var;

%-------now caluclate scores --------
stud01.antipathy_score=(stud01.m_learn+ stud01.m_less+ stud01.m_suffer)/3;
% make two groups of high and low antipaty
stud01.antipathy_group= stud01.antipathy_score > 0.5;
stud01.humanization_score=(stud01.i_admire+stud01.i_love)/2;
stud01.empathy_score = (stud01.e_sym + stud01.e_moved + stud01.e_com + stud01.e_warm +
stud01.e_soft + stud01.e_tender)/6;
%calculated dissonance
stud01.diss = mean(stud01{:, {'d_uncom', 'd_uneasy', 'd_bother', 'd_tense', 'd_concern'}}, 2,
'omitnan');
%calculate policy harm score
stud01.harm = mean(stud01{:, {'law_english', 'law_tuition', 'law_welfare', 'law_hire',
'immig_opinion', 'arizona_law', 'st8_hb497'}}, 2, 'omitnan');  % Calculate row means and assign
them to a new column 'harm'

%---------------------------------
%------now applying regression models--------
% Main study 1 regression model for humanization ~ treatments * antipathy
% Extract the variables from the table/dataset
emp = stud01.empathy_score;
%convert numeric to string
stud01.treatment1 = str2double(stud01.treatment1);
stud01.treatment2 = str2double(stud01.treatment2);
stud01.treatment3 = str2double(stud01.treatment3);
```

```
stud01.treatment4 = str2double(stud01.treatment4);
% Replace NaN values with zero
stud01.treatment1(isnan(stud01.treatment1)) = 0;
stud01.treatment2(isnan(stud01.treatment2)) = 0;
stud01.treatment3(isnan(stud01.treatment3)) = 0;
stud01.treatment4(isnan(stud01.treatment4)) = 0;

icb_pre = stud01.antipathy_score;
icb_pre_d = stud01.antipathy_group;
possec=stud01.humanization_score;
duplicateData=stud01;

%Table G.8: Regression of Humanization on Treatments × Antipathy (Dichotomous), Controls,
Study 1
% Get the variable names of the desired columns
table2fit = stud01(:, {'treatment1', 'treatment2', 'treatment3', 'gender', 'Age',
'partyid','antipathy_group', 'humanization_score'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Humanization', 'Information', 'Combined',
'Gender_1_male', 'Age', 'Party_ID', 'Outgroup_Antipathy','humanization_score' };
% regression model G8(1) in appendix
r.s1.hum.first = fitlm(table2fit,'humanization_score ~ Humanization + Information +
Combined');
%regression model G8(2) in appendix
r.s1.hum.second = fitlm(table2fit,'humanization_score ~ Humanization + Information +
Combined + Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy +
Combined*Outgroup_Antipathy');
%regression model G8(3) in appendix
r.s1.hum.third = fitlm(table2fit,'humanization_score ~ Humanization + Information + Combined
+ Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy +
Combined*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a combined table with three models and save in excel for viewing purpose
Table.G8 = create_table (r.s1.hum,'G8');

% The next table is not presented in results by original author however it is important
% Table G.8_2: Regression of Humanization on Treatments × Antipathy (Continuosu), Controls,
Study 1
table2fit = stud01(:, {'treatment1', 'treatment2', 'treatment3', 'gender', 'Age',
'partyid','antipathy_score', 'humanization_score'});
```

```
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Humanization', 'Information', 'Combined',
'Gender_1_male', 'Age', 'Party_ID', 'Outgroup_Antipathy','humanization_score' };
r.s1.hum.first = fitlm(table2fit,'humanization_score ~ Humanization + Information +
Combined');
r.s1.hum.second = fitlm(table2fit,'humanization_score ~ Humanization + Information +
Combined + Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy +
Combined*Outgroup_Antipathy');
r.s1.hum.third = fitlm(table2fit,'humanization_score ~ Humanization + Information + Combined
+ Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy +
Combined*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a combined table with three models and save in excel for viewing purpose
Table.G8_2 = create_table (r.s1.hum,'G8_2');

%Table G.9: Regression of Empathic Concern on Treatments × Antipathy (Continuous),
Controls, Study 1
table2fit = stud01(:, {'treatment1', 'treatment2', 'treatment3', 'gender', 'Age',
'partyid','antipathy_score', 'empathy_score'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Humanization', 'Information', 'Combined',
'Gender_1_male', 'Age', 'Party_ID', 'Outgroup_Antipathy','Empathetic_concern' };
% regression model G9(1) in appendix
r.s1.emp.first = fitlm(table2fit,'Empathetic_concern ~ Humanization + Information +
Combined');
%regression model G9(2) in appendix
r.s1.emp.second = fitlm(table2fit,'Empathetic_concern ~ Humanization + Information +
Combined + Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy +
Combined*Outgroup_Antipathy');
%regression model G9(3) in appendix
r.s1.emp.third = fitlm(table2fit,'Empathetic_concern ~ Humanization + Information + Combined
+ Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy +
Combined*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a combined table with three models and save in excel for viewing purpose
Table.G9 = create_table (r.s1.emp,'G9');

%Table G.10: Regression of Empathic Concern on Treatments × Antipathy (Dichotomous),
Controls, Study 1
```

```
table2fit = stud01(:, {'treatment1', 'treatment2', 'treatment3', 'gender', 'Age',
'partyid','antipathy_group', 'empathy_score'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Humanization', 'Information', 'Combined',
'Gender_1_male', 'Age', 'Party_ID', 'Outgroup_Antipathy','Empathetic_concern' };
% regression model G10(1) in appendix
r.s1.emp.first = fitlm(table2fit,'Empathetic_concern ~ Humanization + Information +
Combined');
%regression model G10(2) in appendix
r.s1.emp.second = fitlm(table2fit,'Empathetic_concern ~ Humanization + Information +
Combined + Outgroup_Antipathy + Humanization*Outgroup_Antipathy +
Information*Outgroup_Antipathy + Combined*Outgroup_Antipathy');
%regression model G10(3) in appendix
r.s1.emp.third = fitlm(table2fit,'Empathetic_concern ~ Humanization + Information + Combined
+ Outgroup_Antipathy + Humanization*Outgroup_Antipathy +
Information*Outgroup_Antipathy + Combined*Outgroup_Antipathy + Gender_1_male + Age +
Party_ID');

%make a combined table with three models and save in excel for viewing purpose
Table.G10 = create_table (r.s1.emp,'G10');

%Table G.13: Regression of Policy Harm on Treatments × Antipathy (Continuous), Controls,
Study
table2fit = stud01(:, {'treatment1', 'treatment2', 'treatment3', 'gender', 'Age',
'partyid','antipathy_score', 'harm'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Humanization', 'Information', 'Combined',
'Gender_1_male', 'Age', 'Party_ID', 'Outgroup_Antipathy','Policy_Harm' };
% regression model G13(1) in appendix
r.s1.harm.first = fitlm(table2fit,'Policy_Harm ~ Humanization + Information + Combined');
%regression model G13(2) in appendix
r.s1.harm.second = fitlm(table2fit,'Policy_Harm ~ Humanization + Information + Combined +
Outgroup_Antipathy+ Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy
+ Combined*Outgroup_Antipathy');
%regression model G13(3) in appendix
r.s1.harm.third = fitlm(table2fit,'Policy_Harm ~ Humanization + Information + Combined +
Outgroup_Antipathy+ Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy
+ Combined*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a combined table with three models and save in excel for viewing purpose
```

```
Table.G13 = create_table (r.s1.harm,'G13');

%Table G.15: Regression of Policy Harm on Treatments × Antipathy (Dichotomous), Controls, Study 1
table2fit = stud01(:, {'treatment1', 'treatment2', 'treatment3', 'gender', 'Age', 'partyid','antipathy_group', 'harm'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Humanization', 'Information', 'Combined', 'Gender_1_male', 'Age', 'Party_ID', 'Outgroup_Antipathy','Policy_Harm' };
% regression model G15(1) in appendix
r.s1.harm.first = fitlm(table2fit,'Policy_Harm ~ Humanization + Information + Combined');
%regression model G15(2) in appendix
r.s1.harm.second = fitlm(table2fit,'Policy_Harm ~ Humanization + Information + Combined + Outgroup_Antipathy+ Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy + Combined*Outgroup_Antipathy');
%regression model G15(3) in appendix
r.s1.harm.third = fitlm(table2fit,'Policy_Harm ~ Humanization + Information + Combined + Outgroup_Antipathy + Humanization*Outgroup_Antipathy + Information*Outgroup_Antipathy + Combined*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a combined table with three models and save in excel for viewing purpose
Table.G15 = create_table (r.s1.harm,'G15');

%------------------------------------------------------------------------
% ----------------------code to plot figures from study 1----------------------------
% Define the mapping of numeric values to treatments names and store string values also
treatmentNames = containers.Map([1 2 3 4], {'Humanization', 'Information', 'Combined', 'Control'});
treatment_Cond = cellfun(@(x) treatmentNames(x), num2cell(stud01.treatment), 'UniformOutput', false);
groupsNames= containers.Map([0 1], {'Low', 'High'});
antipathy_Cond = cellfun(@(x) groupsNames(x), num2cell(stud01.antipathy_group), 'UniformOutput', false);
stud01 = addvars(stud01,treatment_Cond,antipathy_Cond);

%-----------------------------------------
% divide data into four treatment conditions (4,2,1,3 is order in x axis in graph in the published paper
data.humanization=stud01(stud01.treatment == 1,:);
data.information=stud01(stud01.treatment == 2,:);
```

```
data.combined=stud01(stud01.treatment == 3,:);
data.control=stud01(stud01.treatment == 4,:);

%further divide data into eight conditions based on two groups
data.humanization_low=data.humanization(data.humanization.antipathy_group == 0,:);
data.humanization_hii=data.humanization(data.humanization.antipathy_group == 1,:);

data.combined_low=data.combined(data.combined.antipathy_group == 0,:);
data.combined_hii=data.combined(data.combined.antipathy_group == 1,:);

data.information_low=data.information(data.information.antipathy_group == 0,:);
data.information_hii=data.information(data.information.antipathy_group == 1,:);

data.control_low=data.control(data.control.antipathy_group == 0,:);
data.control_hii=data.control(data.control.antipathy_group == 1,:);

% ------------------start plotting figures----------------------------------------
% ----------------- -Plotting figure 1 from paper-----------------------------
valueset={'Control','Information','Humanization','Combined'};
treaments=categorical({'Control','Information','Humanization','Combined'}, valueset);
cluster_mean=[[mean(data.control_low.humanization_score,"omitnan")
mean(data.control_hii.humanization_score,"omitnan")];...
   [mean(data.information_low.humanization_score,"omitnan")
mean(data.information_hii.humanization_score,"omitnan")];...    ...
   [mean(data.humanization_low.humanization_score,"omitnan")
mean(data.humanization_hii.humanization_score,"omitnan")];...
   [mean(data.combined_low.humanization_score,"omitnan")
mean(data.combined_hii.humanization_score,"omitnan")]];
cluster_SEM=[[std(data.control_low.humanization_score,"omitnan")/sqrt(numel(data.control_lo
w.humanization_score))...

std(data.control_hii.humanization_score,"omitnan")/sqrt(numel(data.control_hii.humanization_s
core))];...

[std(data.information_low.humanization_score,"omitnan")/sqrt(numel(data.information_low.hu
manization_score))...

std(data.information_hii.humanization_score,"omitnan")/sqrt(numel(data.information_hii.human
ization_score))];...
```

```
[std(data.humanization_low.humanization_score,"omitnan")/sqrt(numel(data.humanization_low.humanization_score))...

std(data.humanization_hii.humanization_score,"omitnan")/sqrt(numel(data.humanization_hii.humanization_score))];...

[std(data.combined_low.humanization_score,"omitnan")/sqrt(numel(data.combined_low.humanization_score))...

std(data.combined_hii.humanization_score,"omitnan")/sqrt(numel(data.combined_hii.humanization_score))]];
% Create line plot
h1=plot(treaments, cluster_mean(:,1), 'ko-','DisplayName', 'Low antipathy group');
hold on;
errorbar(treaments, cluster_mean(:,1), cluster_SEM(:,1), 'k.');
h2=plot(treaments, cluster_mean(:,2), 'ks-', 'DisplayName', 'High antipathy group');
errorbar(treaments, cluster_mean(:,2), cluster_SEM(:,2), 'k.');
set(gca,'YLim',[0.4 0.8]);
set(gca,'YTick', 0.4:0.1:0.8);
ylabel('Humanization Level');
xlabel('Treatment');
legend([h1, h2], {'Low antipathy group', 'High antipathy group'}, 'Location', 'southeast');
make_axis();
saveas(gcf,'Figure1.png');
close;
%----------------------------------------------------------------------
%-----------------plotting figure 2 of paper-----------------------
subplot (1,3,1) % plot for combined treatment
% Fit the general linear model
mdl = fitlm(data.combined.antipathy_score, data.combined.empathy_score);
h=plot (mdl, 'Display', 'off');
delete(h(1));
title('Combined')
ylabel('Empathetic concern');
make_axis();
set(gca,'YLim',[0. 1]);
set(gca,'YTick', 0.0:0.2:1);
set(gca,'XLim',[0. 1]);
set(gca,'XTick', 0.0:0.25:1);
```

```
xlabel('Outgroup antipathy');
legend off;

subplot (1,3,2) % plot for humanization treatment
mdl = fitlm(data.humanization.antipathy_score, data.humanization.empathy_score);
h=plot (mdl, 'Display', 'off');
delete(h(1));
title('Humanization')
make_axis();
set(gca,'YLim',[0. 1]);
set(gca,'YTick', 0.0:0.2:1);
set(gca,'XLim',[0. 1]);
set(gca,'XTick', 0.0:0.25:1);
xlabel('Outgroup antipathy');
xlabel('Outgroup antipathy');
set(gca,'YLabel',[]); set(gca,'YTickLabel',[]);
legend off;

subplot (1,3,3) % plot for information treatment
mdl = fitlm(data.information.antipathy_score, data.information.empathy_score);
h=plot (mdl, 'Display', 'off');
delete(h(1));
title('Information')
make_axis()
set(gca,'YLim',[0. 1]);
set(gca,'YTick', 0.0:0.2:1);
set(gca,'XLim',[0. 1]);
set(gca,'XTick', 0.0:0.25:1);
xlabel('Outgroup antipathy');
set(gca,'YLabel',[]); set(gca,'YTickLabel',[]);
legend off;%
saveas(gcf,'Figure2.png');
saveas(gcf,'Figure2.fig');
close;

%---------------plotting figure 3 of paper---------------------
cluster_mean=[[mean(data.control_low.empathy_score,"omitnan")
mean(data.control_hii.empathy_score,"omitnan")];...
   [mean(data.information_low.empathy_score,"omitnan")
mean(data.information_hii.empathy_score,"omitnan")];...    ...
```

```
  [mean(data.humanization_low.empathy_score,"omitnan")
mean(data.humanization_hii.empathy_score,"omitnan")];...
  [mean(data.combined_low.empathy_score,"omitnan")
mean(data.combined_hii.empathy_score,"omitnan")]];
cluster_SEM=[[std(data.control_low.empathy_score,"omitnan")/sqrt(numel(data.control_low.em
pathy_score))...

std(data.control_hii.empathy_score,"omitnan")/sqrt(numel(data.control_hii.empathy_score))];...

[std(data.information_low.empathy_score,"omitnan")/sqrt(numel(data.information_low.empathy
_score))...

std(data.information_hii.empathy_score,"omitnan")/sqrt(numel(data.information_hii.empathy_sc
ore))];...

[std(data.humanization_low.empathy_score,"omitnan")/sqrt(numel(data.humanization_low.empa
thy_score))...

std(data.humanization_hii.empathy_score,"omitnan")/sqrt(numel(data.humanization_hii.empathy
_score))];...

[std(data.combined_low.empathy_score,"omitnan")/sqrt(numel(data.combined_low.empathy_sc
ore))...

std(data.combined_hii.empathy_score,"omitnan")/sqrt(numel(data.combined_hii.empathy_score)
)]];
%find empathy gap
empathy_gap=cluster_mean(:,1)- cluster_mean(:,2);
empathy_gap_SEM=sqrt(cluster_SEM(:,1).^2 + cluster_SEM(:,1).^2);
h1=plot(treaments, empathy_gap, 'ko-');
hold on;
errorbar(treaments, empathy_gap, empathy_gap_SEM, 'k.');
set(gca,'YLim',[0.00 0.20]);
set(gca,'YTick', 0.00:0.05:0.20);
ylabel('Empathy Gap');
xlabel('Treatment');
make_axis();
saveas(gcf,'Figure3.png');
saveas(gcf,'Figure3.fig');
close;
```

```
%------------------------------------------------------------------------
%------------------------------------------------------------------------
%--------------------study 2 analysis begin----------------------------------
study2_data=readtable('stud02_deID.csv');
stud02=study2_data; %work on this data, and keep original data in workspace as backup
N.S2_Total=height(stud02);

%Remove non-whites
N.S2_temp =  height(stud02);
stud02(ismember(stud02.ethnicity, [1:4, 6:8]), :) = [];
N.S2_nonWhites = N.S2_temp - height(stud02);

%drop participants who could not finish
N.S2_temp =  height(stud02);
stud02(stud02.Finished == 0, :) = [];
N.S2_notFinish= N.S2_temp - height(stud02);

%Change gender measure to dichotomous
stud02.gender = stud02.gender - 1;

%check treatments and add a column 'condition' based on treatment
condition = zeros(size(stud02, 1), 1); % Initialize condition as zeros
myvars = {'RO_BR_FL_238', 'RO_BR_FL_268', 'RO_BR_FL_265', 'RO_BR_FL_262'};
% Check if a response is not assigned to a condition
NoAsssignment = all(ismissing(stud02(:, myvars)), 2);
condition (NoAsssignment==1) = NaN;
%Check for "Positive Legal" in myvars columns
positiveLegalRows = any(strcmp(stud02{:, myvars}, 'Positive Legal'), 2);
condition(positiveLegalRows) = 0; % Set condition to 0 for positiveLegalRows
% Check for "Positive Illegal" in myvars columns
positiveIllegalRows = any(strcmp(stud02{:, myvars}, 'Positive Illegal'), 2);
condition(positiveIllegalRows) = 1; % Set condition to 1 for positiveIllegalRows
% Assign condition to stud02
stud02.condition = condition;
N.S2_illegal= sum(condition==1);
N.S2_legal= sum(condition==0);

%Remove people who never received a treatment assignment in wave 2
N.S2_noTreatment_assigned =  sum(NoAsssignment==1);
```

```
stud02(isnan(stud02.condition), :) = [];

%Humanization Measures and Index
myvars = {'post_hum1', 'post_hum2'};
stud02.Properties.VariableNames(startsWith(stud02.Properties.VariableNames, 'Q25_')) = ...
    strcat('post_hum', string(1:8));
stud02.Properties.VariableNames(startsWith(stud02.Properties.VariableNames, 'hum')) = ...
    strcat('pre_', stud02.Properties.VariableNames(startsWith(stud02.Properties.VariableNames,
'hum')));
% Calculate composite scores
stud02.post_hum_measure = mean(stud02{:, myvars}, 2);
stud02.post_hum_measure = (stud02.post_hum_measure - 1) / (7 - 1);
% Alpha
raw_alpha.hum = cronbach(stud02{:, myvars});

%dissonance: 10 items
% Dissonance Measures and Index
stud02.Properties.VariableNames(ismember(stud02.Properties.VariableNames, {'Q35_1',
'Q35_4', 'Q35_5', 'Q35_7', 'Q35_8', 'Q36_3', 'Q36_4', 'Q36_5', 'Q36_8', 'Q36_9'})) = ...
    strcat('diss', string(1:10));
myvars = {'diss1', 'diss2', 'diss5', 'diss6', 'diss7'};
stud02.diss_measure =  mean(stud02{:, myvars}, 2);
stud02.diss_measure = (stud02.diss_measure - 1) / (7 - 1);
% Alpha
raw_alpha.diss = cronbach(stud02{:, myvars});
% Calculate median of diss_measure with na.rm = TRUE
my_med = median(stud02.diss_measure, 'omitnan');
% Calculate diss_hi based on diss_measure and my_med
stud02.diss_hi = double(~(stud02.diss_measure <= my_med));
stud02.diss_hi(isnan(stud02.diss_measure)) = NaN;
% in next few lines, a dichotomous dissonance measuer is calcuted based on median of
dissonance of study 1.
% I do not know the reason why this was done by original authors. The final generated varible is
"diss_hi_alt".
% however this variable was not used in any regression model
% % Calculate median of stud01$diss where treatment is 4, with na.rm = TRUE
% my_med = median(stud01.diss(stud01.treatment == 4), 'omitnan');
% % Calculate diss_hi_alt based on diss_measure and my_med from Study 1 data
% stud02.diss_hi_alt = double(~(stud02.diss_measure <= my_med));
% stud02.diss_hi_alt(isnan(stud02.diss_measure)) = NaN;
```

```
%Empathy Measures and Index
stud02.Properties.VariableNames(startsWith(stud02.Properties.VariableNames, 'Q38_')) = ...
    strcat('emp', string(1:6));
myvars = {'emp1', 'emp2', 'emp3', 'emp4', 'emp5', 'emp6'};
stud02.emp_index =  mean(stud02{:, myvars}, 2);
stud02.emp_index01 = (stud02.emp_index - 1) / (7 - 1);
raw_alpha.emp = cronbach(stud02{:, myvars});

%Policy Measures and Index
oldvars = {'Q40_1', 'Q40_2', 'Q41_14', 'Q41_21', 'Q41_22', 'Q41_16', 'Q41_20', ...
           'Q42', 'Q43_6', 'Q43_7', 'Q44_1', 'Q44_2', 'Q44_3', 'Q44_4'};
newvars = {'pol1a', 'pol1b', 'pol2a', 'pol2b', 'pol2c', 'pol2d', 'pol2e', ...
           'pol3', 'pol4a', 'pol4b', 'pol5a', 'pol5b', 'pol5c', 'pol5d'};
stud02.Properties.VariableNames(ismember(stud02.Properties.VariableNames, oldvars)) =
newvars;
stud02.pol1b_rev = abs(stud02.pol1b - 6);
stud02.pol3_rev = abs(stud02.pol3 - 5);
myvars = {'pol1b_rev', 'pol3_rev', 'pol4a', 'pol4b', 'pol5a', 'pol5b', 'pol5c', 'pol5d'};
% stud02.pol3_gohome = zeros(size(stud02, 1), 1);
% stud02.pol3_gohome(stud02.pol3 == 1 | stud02.pol3 == 2) = 1;
% stud02.pol3_gohome(isnan(stud02.pol3)) = NaN;
stud02.policy_harm = mean(stud02{:, myvars}, 2);
stud02.policy_harm = (stud02.policy_harm - 1) / (6.4 - 1);
raw_alpha.emp = cronbach(stud02{:, myvars});

%Antipathy Measures and Index
%Update: the author of original paper have infomred that they took icb7 as an extra exploratory
variable and it should not be included in analysis.
stud02.icb8_rev = abs(8 - stud02.icb8);
myvars = ["icb1", "icb2", "icb3", "icb4", "icb5", "icb6", "icb8_rev", "icb9", "icb10"];
stud02.icb_measure = mean(stud02{:, myvars}, 2);
raw_alpha.antipathy = cronbach(stud02{:, myvars});
%Fix the hi_icb measure
stud02.hi_icb = double(~ (stud02.icb_measure < 4));
stud02.hi_icb(isnan(stud02.icb_measure)) = NaN;

%standardize some variable
stud02.icb_measure = zero_to_one(stud02.icb_measure);
stud02.partyid = zero_to_one(stud02.partyid);
```

```
%now perform regression modeling
%Table G.11: Regression of Empathic Concern on Treatments × Antipathy (Dichotomous),
Controls, Study 2
table2fit = stud02(:, {'condition', 'gender', 'age', 'partyid','hi_icb', 'emp_index01'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Illegal_Condition', 'Gender_1_male', 'Age', 'Party_ID',
'Outgroup_Antipathy', 'Empathetic_concern' };
% regression model G11(1) in appendix
r.s2.emp.first = fitlm(table2fit,'Empathetic_concern ~ Illegal_Condition');
%regression model G11(2) in appendix
r.s2.emp.second = fitlm(table2fit,'Empathetic_concern ~ Illegal_Condition +
Outgroup_Antipathy+ Illegal_Condition*Outgroup_Antipathy');
%regression model G11(3) in appendix
r.s2.emp.third = fitlm(table2fit,'Empathetic_concern ~ Illegal_Condition + Outgroup_Antipathy+
Illegal_Condition*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a table with these three models and save in excel
Table.G11 = create_table (r.s2.emp,'G11');

%Table G.12: Regression of Dissonance on Treatments × Antipathy (Dichotomous), Controls,
Study 2
table2fit = stud02(:, {'condition', 'gender', 'age', 'partyid','hi_icb', 'diss_measure'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Illegal_Condition', 'Gender_1_male', 'Age', 'Party_ID',
'Outgroup_Antipathy', 'Dissonance' };
% regression model G12(1) in appendix
r.s2.diss.first = fitlm(table2fit,'Dissonance ~ Illegal_Condition');
%regression model G12(2) in appendix
r.s2.diss.second = fitlm(table2fit,'Dissonance ~ Illegal_Condition + Outgroup_Antipathy+
Illegal_Condition*Outgroup_Antipathy');
%regression model G12(3) in appendix
r.s2.diss.third = fitlm(table2fit,'Dissonance ~ Illegal_Condition + Outgroup_Antipathy+
Illegal_Condition*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a table with these three models and save in excel
Table.G12 = create_table (r.s2.diss,'G12');

% Table G.14: Regression of Policy Harm on Treatments × Antipathy (Continuous), Controls,
Study 2
```

```
table2fit = stud02(:, {'condition', 'gender', 'age', 'partyid','icb_measure', 'policy_harm'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Illegal_Condition', 'Gender_1_male', 'Age', 'Party_ID',
'Outgroup_Antipathy', 'Policy_Harm' };
% regression model G14(1) in appendix
r.s2.harm.first = fitlm(table2fit,'Policy_Harm ~ Illegal_Condition');
%regression model G14(2) in appendix
r.s2.harm.second = fitlm(table2fit,'Policy_Harm ~ Illegal_Condition + Outgroup_Antipathy+
Illegal_Condition*Outgroup_Antipathy');
%regression model G14(3) in appendix
r.s2.harm.third = fitlm(table2fit,'Policy_Harm ~ Illegal_Condition + Outgroup_Antipathy+
Illegal_Condition*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a table with these three models and save in excel
Table.G14 = create_table (r.s2.harm,'G14');

%Table G.16: Regression of Policy Harm on Treatments × Antipathy (Dichotomous), Controls,
Study 2
table2fit = stud02(:, {'condition', 'gender', 'age', 'partyid','hi_icb', 'policy_harm'});
%now change variable names for better understanding of results
table2fit.Properties.VariableNames = {'Illegal_Condition', 'Gender_1_male', 'Age', 'Party_ID',
'Outgroup_Antipathy', 'Policy_Harm' };
% regression model G16(1) in appendix
r.s2.harm.first = fitlm(table2fit,'Policy_Harm ~ Illegal_Condition');
%regression model G16(2) in appendix
r.s2.harm.second = fitlm(table2fit,'Policy_Harm ~ Illegal_Condition + Outgroup_Antipathy+
Illegal_Condition*Outgroup_Antipathy');
%regression model G16(3) in appendix
r.s2.harm.third = fitlm(table2fit,'Policy_Harm ~ Illegal_Condition + Outgroup_Antipathy+
Illegal_Condition*Outgroup_Antipathy + Gender_1_male + Age + Party_ID');

%make a table with these three models and save in excel
Table.G16 = create_table (r.s2.harm,'G16');

%----------------------------------------------------------------------
% --------functions used in above script------------------------------
%----------function to add significance star----------
function stars_cell=findstar (array)
pvalue=array.pValue;
significant_stars= {'***';'**'; '*'; '†'};
```

```
thresholds= [.001, .01, .05, .10];
% Initialize the cell array of stars
stars_cell = cell(size(pvalue));
% Assign stars based on thresholds
for i = 1:numel(pvalue)
    for j = 1:numel(thresholds)
        if pvalue(i) <= thresholds(j)
            stars_cell{i} = significant_stars{j};
            break;
        end
    end
end
end
%---------------------------------------------------------------------------
%-----------------function to swap rows of regression table---------------
function coeficients = swapRows (array)
% Matlab automatically keeps interaction effects at last of coeficieint table
% however, the paper tables report them in middle so we need to swap rows here
% Assuming you have the structs r.s2.emp.third and r.s1.emp.third
coeficients=array.Coefficients;
% find wheter this study 1 or 2 depending on no. of variables
Numvariables=length(array.CoefficientNames);
if Numvariables == 11 %if Study 1
    % Define the rows to move
    rowsToMove = coeficients(5:7, :);
    % Shift rows 8 to 11 up
    coeficients(5:8, :) = coeficients(8:11, :);
    % Add rows 5, 6, 7 as the last three rows
    coeficients(9:11, :) = rowsToMove;
    % Update row names
    rowNames = coeficients.Properties.RowNames;
    tempRownames=rowNames(5:7);
    rowNames(5:8) = rowNames(8:11);
    rowNames(9:11) = tempRownames;
    coeficients.Properties.RowNames = rowNames;
end
if Numvariables == 7 %if study 2
    % Define the rows to move
    rowsToMove = coeficients(3:5, :);
    % Shift rows 5 to 6 up
```

```
    coeficients(3:4, :) = coeficients(6:7, :);
    % Add rows 2, 3, 4 as the last three rows
    coeficients(5:7, :) = rowsToMove;
    % Update row names
    rowNames = coeficients.Properties.RowNames;
    tempRownames=rowNames(3:5);
    rowNames(3:4) = rowNames(6:7);
    rowNames(5:7) = tempRownames;
    coeficients.Properties.RowNames = rowNames;
end
end
%------------------------------------------------------------------------
%---------------------function to fortmat axes of graphs-------------------
function make_axis()
 set(gca,'box','off')%Removes right and upper axes
 set(gca,'FontSize',12);
 set(gca,'FontWeight','bold');
 set(gca,'Ticklength',[0.01 0.01]);
 set(gca,'TickDir', 'out');
end
%------------------------------------------------------------------------
function [a,R,N]=cronbach(X)  %downloaded from internet to calculate alpha value
% Writen by: Frederik Nagel
% Institute of Music Physiology and Musicians' Medicine
% Hanover University of Music and Drama
% Hannover
% Germany
%
% e-mail: frederik.nagel@hmt-hannover.de
% homepage: http://www.immm.hmt-hannover.de
if nargin<1 || isempty(X)
   error('You shoud provide a data set.');
else
   % X must be at least a 2 dimensional matrix
   if size(X,2)<2
      error('Invalid data set.');
   end
end
% Items
N=size(X,2);
```

```
% Entries of the upper triangular matrix
e=(N*(N-1)/2);
% Spearman's correlation coefficient
R = corr(X,'rows','pairwise','type','spearman');
% Coefficients from upper triangular matrix
R = triu(R,1);
% Mean of correlation coefficients
r = sum(sum(triu(R,1)))/e;
% If there are columns with zero variance, these have to be excluded.
if(isnan(r))
   disp('There are columns with zero variance!');
   disp('These columns have been excluded from the calculation of alpha!');
   disp([num2str(sum(sum(isnan(R)))) ' coefficients of ' num2str(N*N) ' have been excluded.']);
   % Correct # of items
   e = e-sum(sum(isnan(R)));

   % corrected mean of correlation coefficients
   r = nansum(nansum(R))/e;

   % corrected number of items
   N = N - sum(isnan(R(1,:)));
end
% Formular for alpha (Cronbach 1951)
a=(N*r)/(1+(N-1)*r);
end
%------------------------------------------------------------------------
%--------------------function to create actual regression table-----------
function Table = create_table (model,sheet)
%function to create an excel sheet having three models along with their significance
if model.first.NumCoefficients == 4 %then this model is from study 1
   data0 = {'Intercept'; 'Humanization'; 'Information'; 'Combined'; 'Outgroup Antipathy';...
      'Humanization × Antipathy'; 'Information × Antipathy'; 'Combined × Antipathy';...
      'Gender (1 = Male)'; 'Age'; 'Party ID (0–1)';...
      'N'; 'R-square'; 'adj. R-square'; 'Resid. sd'; 'pValue(model)'}; %these are rows to be shown in
first column of results table
   TotalRows = 11;  %total rows in shown table
elseif model.first.NumCoefficients == 2 %then this model is from study 2
   data0 = {'Intercept'; 'Illegal Condition'; 'Outgroup Antipathy'; 'Illegal Condition ×
Antipathy';...
      'Gender'; 'Age'; 'Party ID (0–1)';...
```

```
    'N'; 'R-square'; 'adj. R-square'; 'Resid. sd'; 'pValue(model)'}; %these are rows to be shown in
first column of results table
  TotalRows = 7;  %total rows in shown table exluding four summary rows
else
  disp ('error');
end

% Concatenate "estimate" and "SE" columns into a new column with brackets
data1 = cellstr(strcat(num2str(round(model.first.Coefficients.Estimate,3)),
findstar(model.first.Coefficients),'(', num2str(round(model.first.Coefficients.SE,2)), ')'));
data2 = cellstr(strcat(num2str(round(model.second.Coefficients.Estimate,3)),
findstar(model.second.Coefficients), '(', num2str(round(model.second.Coefficients.SE,2)), ')'));
%Matlab automatically keeps interaction effects at last of coeficieint table so bring them up to
align with table presnted in paper
Coefficients=swapRows(model.third);
data3 = cellstr(strcat(num2str(round(Coefficients.Estimate,3)), findstar(Coefficients), '(',
num2str(round(Coefficients.SE,2)), ')'));

%caluclated 4 keys results like N, R square, adjusted R square, Residual SD
fourValues.s2.emp.first = {round(model.first.NumObservations,2);
round(model.first.Rsquared.Ordinary,2); round(model.first.Rsquared.Adjusted,2);
round(nanstd(model.first.Residuals.Raw),2)};
fourValues.s2.emp.second = {round(model.second.NumObservations,2);
round(model.second.Rsquared.Ordinary,2); round(model.second.Rsquared.Adjusted,2);
round(nanstd(model.second.Residuals.Raw),2)};
fourValues.s2.emp.third = {round(model.third.NumObservations,2);
round(model.third.Rsquared.Ordinary,2); round(model.third.Rsquared.Adjusted,2);
round(nanstd(model.third.Residuals.Raw),2)};

%find p values to add in separate column-----
p1=cellfun(@(x) sprintf('%.4f', x), num2cell(model.first.Coefficients.pValue), 'UniformOutput',
false);
p2=cellfun(@(x) sprintf('%.4f', x), num2cell(model.second.Coefficients.pValue),
'UniformOutput', false);
p3=cellfun(@(x) sprintf('%.4f', x), num2cell(Coefficients.pValue), 'UniformOutput', false);

% Pad the shorter columns with empty strings
p1= [p1; repmat("", TotalRows-length(data1)+5, 1)];
p2= [p2; repmat("", TotalRows-length(data2)+5, 1)];
p3= [p3; repmat("", TotalRows-length(data3)+5, 1)];
```

```
% Pad the shorter columns with empty strings
data1 = [data1; repmat("", TotalRows-length(data1), 1); fourValues.s2.emp.first];
data2 = [data2; repmat("", TotalRows-length(data2), 1); fourValues.s2.emp.second];
data3 = [data3; repmat("", TotalRows-length(data3), 1); fourValues.s2.emp.third];

%add regression model p value at the end of data column, i.e., last row
data1= [data1; sprintf('%.4f', model.first.ModelFitVsNullModel.Pvalue)];
data2= [data2; sprintf('%.4f', model.second.ModelFitVsNullModel.Pvalue)];
data3= [data3; sprintf('%.4f', model.third.ModelFitVsNullModel.Pvalue)];

% % Create the table
% Table= table(data0, data1, data2, data3, 'VariableNames', {' ','M1', 'M2', 'M3'});
 Table= table(data0, data1, p1, data2, p2, data3, p3, 'VariableNames',{' ','M1', 'p1', 'M2', 'p2',
'M3', 'p3'});

% Write the table to an Excel file
writetable(Table, 'regression.xls', 'Sheet', sheet);

end
```

Appendix 4: Comparison of main results, original results and replication results

Table G.8: Regression of Humanization on Treatments × Antipathy (Dichotomous), Controls, Study 1

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.51*** (0.01)	0.59*** (0.01)	0.67*** (0.03)	0.51*** (0.01)	0.59*** (0.01)	0.67*** (0.03)	0.52*** (0.09)	0.71*** (0.02)	0.76*** (0.02)	0.512*** (0.01)	0.587*** (0.01)	0.675*** (0.03)
Humanization	0.13*** (0.01)	0.10*** (0.02)	0.10*** (0.02)	0.13*** (0.01)	0.10*** (0.02)	0.09*** (0.02)	0.21*** (0.13)	0.07 (0.03)	0.08 (0.03)	0.135*** (0.01)	0.096*** (0.02)	0.096*** (0.02)
Information	-0.03* (0.01)	-0.05** (0.02)	-0.05** (0.02)	-0.03* (0.01)	-0.05** (0.02)	-0.05** (0.02)	-0.04* (0.01)	-0.12* (0.03)	-0.12* (0.03)	-0.023† (0.01)	-0.046** (0.02)	-0.045** (0.02)
Combined	0.13*** (0.01)	0.10*** (0.02)	0.10*** (0.02)	0.13*** (0.01)	0.10*** (0.02)	0.10*** (0.02)	0.22*** (0.1)	0.10* (0.03)	0.10* (0.03)	0.134*** (0.01)	0.104*** (0.02)	0.098*** (0.02)
Outgroup Antipathy		-0.15*** (0.02)	-0.15*** (0.02)		-0.15*** (0.02)	-0.15*** (0.02)		-0.35*** (0.04)	-0.34*** (0.04)		-0.152*** (0.02)	-0.146*** (0.02)
Humanization x Antipathy		0.08** (0.02)	0.07** (0.03)		0.08** (0.02)	0.08** (0.03)		0.15** (0.05)	0.15** (0.05)		0.077** (0.03)	0.074** (0.03)
Information x Antipathy		0.05* (0.02)	0.05† (0.02)		0.05* (0.02)	0.05† (0.02)		0.10* (0.05)	0.10† (0.05)		0.05* (0.02)	0.045† (0.02)
Combined x Antipathy		0.05* (0.02)	0.06* (0.03)		0.05* (0.02)	0.06* (0.03)		0.12* (0.05)	0.12* (0.05)		0.052* (0.03)	0.056* (0.03)
Gender (1 = Male)			-0.04*** (0.01)			-0.04*** (0.01)			-0.06*** (0.01)			-0.038*** (0.01)
Age			-0.00*** (0.00)			-0.00*** (0.00)			-0.07*** (0.00)			-0.001*** (0.00)
Party ID (0-1)			0.02 (0.02)			0.02 (0.02)			0.04* (0.02)			0.013 (0.02)
N	3309	3305	3134	3309	3305	3134	3149	3149	3149	3278	3278	3117
R^2	0.08	0.12	0.13	0.08	0.12	0.13	0.08	0.15	0.16	0.08	0.12	0.13
adj. R^2	0.08	0.12	0.13	0.08	0.12	0.13	0.08	0.14	0.15	0.08	0.12	0.13
Resid. SD	0.26	0.25	0.25	0.26	0.25	0.25				0.25	0.25	0.25

Standard errors in parentheses

† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table G.9: Regression of Empathic Concern on Treatments × Antipathy (Continuous), Controls, Study 1

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.27***	0.30***	0.20***	0.27***	0.30***	0.20***	0.27***	0.30***	0.20***	0.265***	0.289***	0.192***
	(0.01)	(0.02)	(0.03)	(0.01)	(0.02)	(0.03)	(0.01)	(0.02)	(0.03)	(0.01)	(0.02)	(0.03)
Humanization	0.35***	0.56***	0.56***	0.35***	0.56***	0.56***	0.55***	0.87***	0.88***	0.36***	0.568***	0.567***
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.03)	(0.01)	(0.02)	(0.02)
Information	0.09***	0.24***	0.24***	0.09***	0.24***	0.24***	0.14***	0.38***	0.39***	0.088***	0.242***	0.243***
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Combined	0.34***	0.55***	0.55***	0.34***	0.55***	0.55***	0.53***	0.85***	0.86***	0.348***	0.557***	0.554***
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.03)	(0.01)	(0.02)	(0.02)
Outgroup Antipathy		-0.05†	-0.07*		-0.05†	-0.07*		-0.05†	-0.06*		-0.046	-0.063*
		(0.03)	(0.03)		(0.03)	(0.03)		(0.03)	(0.03)		(0.03)	(0.03)
Humanization x Antipathy		-0.40***	-0.40***		-0.40***	-0.40***		-0.37***	-0.36***		-0.405***	-0.397***
		(0.04)	(0.04)		(0.04)	(0.04)		(0.04)	(0.04)		(0.04)	(0.04)
Information x Antipathy		-0.29***	-0.29***		-0.29***	-0.29***		-0.28***	-0.28***		-0.29***	-0.293***
		(0.04)	(0.04)		(0.04)	(0.04)		(0.04)	(0.04)		(0.04)	(0.04)
Combined x Antipathy		-0.40***	-0.40***		-0.40***	-0.40***		-0.36***	-0.36***		-0.413***	-0.405***
		(0.04)	(0.04)		(0.04)	(0.04)		(0.04)	(0.04)		(0.04)	(0.04)
Gender (1 = Male)			-0.03***			-0.03***			-0.06***			-0.032***
			(0.01)			(0.01)			(0.08)			(0.01)
Age			0.00***			0.00***			0.08***			0.002***
			(0.00)			(0.00)			(0.00)			(0.00)
Party ID (0-1)			0.05**			0.05**			0.04**			0.049**
			(0.02)			(0.02)			(0.02)			(0.02)
N	3439	3433	3239	3439	3433	3239	3454	3448	3254	3362	3354	3184
R^2	0.32	0.42	0.43	0.32	0.42	0.43	0.32	0.42	0.43	0.32	0.42	0.44
adj. R^2	0.32	0.42	0.43	0.32	0.42	0.43	0.31	0.42	0.43	0.32	0.42	0.44
Resid. SD	0.23	0.21	0.21	0.23	0.21	0.21				0.23	0.21	0.21

Standard errors in parentheses

† significant at p < .10; * p < .05; ** p < .01; *** p < .001

Table G.10: Regression of Empathic Concern on Treatments × Antipathy (Dichotomous), Controls, Study 1

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.27*** (0.01)	0.28*** (0.01)	0.21*** (0.02)	0.27*** (0.01)	0.28*** (0.01)	0.21*** (0.02)				0.265*** (0.01)	0.271*** (0.01)	0.21*** (0.02)
Humanization	0.35*** (0.01)	0.43*** (0.01)	0.44*** (0.02)	0.35*** (0.01)	0.43*** (0.01)	0.44*** (0.02)				0.36*** (0.01)	0.437*** (0.02)	0.439*** (0.02)
Information	0.09*** (0.01)	0.14*** (0.01)	0.15*** (0.01)	0.09*** (0.01)	0.14*** (0.01)	0.14*** (0.01)				0.088*** (0.01)	0.145*** (0.01)	0.147*** (0.01)
Combined	0.34*** (0.01)	0.42*** (0.01)	0.42*** (0.01)	0.34*** (0.01)	0.42*** (0.01)	0.42*** (0.01)				0.348*** (0.01)	0.424*** (0.01)	0.424*** (0.01)
Outgroup Antipathy		-0.02 (0.01)	-0.02 (0.02)		-0.02 (0.01)	-0.02 (0.02)					-0.011 (0.02)	-0.014 (0.02)
Humanization x Antipathy		-0.16*** (0.02)	-0.16*** (0.02)		-0.16*** (0.02)	-0.16*** (0.02)					-0.16*** (0.02)	-0.158*** (0.02)
Information x Antipathy		-0.11*** (0.02)	-0.12*** (0.02)		-0.11*** (0.02)	-0.11*** (0.02)					-0.111*** (0.02)	-0.116*** (0.02)
Combined x Antipathy		-0.16*** (0.02)	-0.16*** (0.02)		-0.16*** (0.02)	-0.16*** (0.02)					-0.168*** (0.02)	-0.164*** (0.02)
Gender (1 = Male)			-0-0.4*** (0.01)			-0-0.4*** (0.01)						-0.034*** (0.01)
Age			0.00*** (0.00)			0.00*** (0.00)						0.002*** (0.00)
Party ID (0-1)			0.01 (0.02)			0.01 (0.02)						0.01 (0.02)
N	3439	3433	3239	3439	3433	3239				3362	3362	3189
R^2	0.32	0.38	0.40	0.32	0.38	0.40				0.32	0.39	0.4
adj. R^2	0.32	0.38	0.39	0.32	0.38	0.39				0.32	0.39	0.4
Resid. SD	0.23	0.22	0.21	0.23	0.22	0.21				0.23	0.22	0.21

Standard errors in parentheses

† significant at p < .10; * p < .05; ** p < .01; *** p < .001

Table G.11: Regression of Empathic Concern on Treatments × Antipathy (Dichotomous), Controls, Study 2

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.63***	0.69***	0.65***	0.63***	0.69***	0.65***				0.631***	0.686***	0.658***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)				(0.01)	(0.01)	(0.02)
Illegal Condition	-0.04***	-0.02*	-0.02*	-0.04***	-0.02*	-0.02*				-0.044***	-0.023*	-0.024*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)				(0.01)	(0.01)	(0.01)
Outgroup Antipathy		-0.14***	-0.14***		-0.14***	-0.14***					-0.141***	-0.138***
		(0.01)	(0.01)		(0.01)	(0.01)					(0.01)	(0.01)
Illegal Condition x Antipathy		-0.05**	-0.05*		-0.05**	-0.05*					-0.056*	-0.057**
		(0.02)	(0.02)		(0.02)	(0.02)					(0.02)	(0.02)
Gender			0.04***			0.04***						0.039***
			(0.01)			(0.01)						(0.01)
Age			0.00***			0.00***						0.001***
			(0.00)			(0.00)						(0)
Party ID (0-1)			-0.03			-0.03						-0.034†
			(0.02)			(0.02)						(0.02)
N	1977	1977	1962	1977	1977	1962				1957	1955	1941
R^2	0.01	0.16	0.17	0.01	0.16	0.17				0.01	0.16	0.17
adj. R^2	0.01	0.16	0.17	0.01	0.16	0.17				0.01	0.16	0.17
Resid. SD	0.22	0.20	0.20	0.22	0.20	0.20				0.22	0.2	0.2

Standard errors in parentheses

† significant at p < .10; * p < .05; ** p < .01; *** p < .001

Table G.12: Regression of Dissonance on Treatments × Antipathy (Dichotomous), Controls, Study 2

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.27***	0.24***	0.30***	0.27***	0.24***	0.30***				0.264***	0.243***	0.303***
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)				(0.01)	(0.01)	(0.02)
Illegal Condition	0.04***	0.02†	0.02*	0.04***	0.02†	0.02*				0.045***	0.025†	0.026*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)				(0.01)	(0.01)	(0.01)
Outgroup Antipathy		0.05***	0.06***		0.05***	0.06***					0.053***	0.057***
		(0.01)	(0.01)		(0.01)	(0.01)					(0.01)	(0.01)
Illegal Condition x Antipathy		0.05*	0.05*		0.05*	0.05*					0.049*	0.05*
		(0.02)	(0.02)		(0.02)	(0.02)					(0.02)	(0.02)
Gender			-0.03**			-0.03**						-0.024*
			(0.01)			(0.01)						(0.01)
Age			-0.00***			-0.00***						-0.001***
			(0.00)			(0.00)						(0.00)
Party ID (0-1)			-0.01			-0.01						-0.017
			(0.02)			(0.02)						(0.02)
N	1982	1982	1966	1982	1982	1966				1963	1961	1945
R^2	0.01	0.04	0.05	0.01	0.04	0.05				0.01	0.04	0.05
adj. R^2	0.01	0.04	0.05	0.01	0.04	0.05				0.01	0.04	0.05
Resid. SD	0.22	0.22	0.22	0.22	0.22	0.22				0.22	0.22	0.22

Standard errors in parentheses

† significant at p < .10; * p < .05; ** p < .01; *** p < .001

Table G.13: Regression of Policy Harm on Treatments × Antipathy (Continuous), Controls, Study 1

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.71*** (0.01)	0.57*** (0.01)	0.39*** (0.02)	0.71*** (0.01)	0.57*** (0.01)	0.39*** (0.02)	0.71*** (0.01)	0.36*** (0.01)		0.706*** (0.01)	0.359*** (0.01)	0.256*** (0.02)
Humanization	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0.00 (0.01)	-0.00 (0.01)	-0.01 (0.01)	-0,02 (0.02)		-0.011 (0.01)	-0.008 (0.02)	-0.008 (0.02)
Information	0.01 (0.01)	0.03* (0.01)	0.03* (0.01)	0.01 (0.01)	0.03* (0.01)	0.03* (0.01)	0.03 (0.01)	0,07* (0.02)		0.012 (0.01)	0.031† (0.02)	0.036* (0.02)
Combined	-0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	-0.01 (0.01)	0.01 (0.01)	0.00 (0.01)	-0.02 (0.01)	-0.00 (0.02)		-0.014 (0.01)	-0.005 (0.02)	-0.006 (0.02)
Outgroup Antipathy		0.27*** (0.01)	0.25*** (0.01)		0.27*** (0.01)	0.25*** (0.01)		0,73*** (0.02)			0.67*** (0.02)	0.644*** (0.02)
Humanization x Antipathy		-0.01 (0.02)	-0.01 (0.02)		-0.01 (0.02)	-0.01 (0.02)		0.00 (0.03)			-0.007 (0.03)	-0.005 (0.03)
Information x Antipathy		-0.03† (0.02)	-0.03† (0.02)		-0.03† (0.02)	-0.03† (0.02)		-0,06† (0.03)			-0.048 (0.03)	-0.055† (0.03)
Combined x Antipathy		-0.02 (0.02)	-0.02 (0.02)		-0.02 (0.02)	-0.02 (0.02)		-0,01 (0.03)			-0.002 (0.03)	0.001 (0.03)
Gender			0.00 (0.01)			0.00 (0.01)						-0.002 (0.01)
Age			0.00 (0.00)			0.00 (0.00)						0.00 (0.00)
Party ID (0-1)			0.19*** (0.01)			0.19*** (0.01)						0.121*** (0.01)
N	3489	3482	3281	3489	3482	3281	3505	3498		3478	3467	3284
R^2	0.00	0.33	0.36	0.00	0.33	0.36	0.00	0.51		0.00	0.51	0.52
adj. R^2	0.00	0.33	0.36	0.00	0.33	0.36	0.00	0.51		0.00	0.51	0.52
Resid. SD	0.22	0.18	0.18	0.22	0.18	0.18				0.22	0.15	0.15

Standard errors in parentheses

† significant at p < .10; * p < .05; ** p < .01; *** p < .001

Table G.14: Regression of Policy Harm on Treatments × Antipathy (Dichotomous)[1], Controls, Study 2

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.62*** (0.01)	0.52*** (0.01)	0.36*** (0.02)	0.62*** (0.01)	0.52*** (0.01)	0.36*** (0.02)				0.616*** (0.01)	0.519*** (0.01)	0.358*** (0.02)
Illegal Condition	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)				-0.03** (0.01)	-0.035** (0.01)	-0.033** (0.01)
Outgroup Antipathy		0.25*** (0.01)	0.22*** (0.01)		0.25*** (0.01)	0.22*** (0.01)					0.247***(0.01)	0.222*** (0.01)
Illegal Condition x Antipathy		0.02 (0.02)	0.01 (0.02)		0.02 (0.02)	0.01 (0.02)					0.019(0.02)	0.014(0.02)
Gender			-0.02** (0.01)			-0.02** (0.01)						-0.025** (0.01)
Age			0.00*** (0.00)			0.00*** (0.00)						0.001*** (0.00)
Party ID (0-1)			0.20*** (0.02)			0.20*** (0.02)						0.202*** (0.02)
N	1982	1982	1966	1982	1982	1966				1961	1959	1944
R^2	0.00	0.30	0.35	0.00	0.30	0.35				0	0.29	0.35
adj. R^2	0.00	0.30	0.35	0.00	0.30	0.35				0	0.29	0.35
Resid. SD	0.23	0.19	0.19	0.23	0.19	0.19				0.23	0.19	0.19

Standard errors in parentheses
† significant at p < .10; * p < .05; ** p < .01; *** p < .001
[1] Please note that this table is labelled, in the original manuscript, as Antipathy (CONTINUOUS)

Table G.15: Regression of Policy Harm on Treatments × Antipathy (Dichotomous), Controls, Study 1

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.71*** (0.01)	0.36*** (0.01)	0.26*** (0.02)	0.71*** (0.01)	0.36*** (0.01)	0.26*** (0.02)				0.706*** (0.01)	0.574*** (0.01)	0.392*** (0.02)
Humanization	-0.01 (0.01)	-0.00 (0.02)	-0.01 (0.02)	-0.01 (0.01)	-0.00 (0.02)	-0.01 (0.02)				-0.011 (0.01)	-0.003 (0.01)	-0.006 (0.01)
Information	0.01 (0.01)	0.04* (0.02)	0.04* (0.02)	0.01 (0.01)	0.04* (0.02)	0.04* (0.02)				0.012 (0.01)	0.025* (0.01)	0.027* (0.01)
Combined	-0.01 (0.01)	-0.00 (0.02)	-0.00 (0.02)	-0.01 (0.01)	-0.00 (0.02)	-0.00 (0.02)				-0.014 (0.01)	0.008 (0.01)	0.004 (0.01)
Outgroup Antipathy		0.67*** (0.02)	0.65*** (0.02)		0.67*** (0.02)	0.65*** (0.02)					0.267*** (0.01)	0.25*** (0.01)
Humanization x Antipathy		-0.01 (0.03)	-0.01 (0.03)		-0.01 (0.03)	-0.01 (0.03)					-0.011 (0.02)	-0.007 (0.02)
Information x Antipathy		-0.06† (0.03)	-0.06† (0.03)		-0.06† (0.03)	-0.06† (0.03)					-0.03† (0.02)	-0.032† (0.02)
Combined x Antipathy		-0.01 (0.03)	-0.01 (0.03)		-0.01 (0.03)	-0.01 (0.03)					-0.021 (0.02)	-0.016 (0.02)
Gender (1 = Male)			-0.00 (0.01)			-0.00 (0.01)						0.003 (0.01)
Age			0.00 (0.00)			0.00 (0.00)						0.001* (0.00)
Party ID (0-1)			0.12*** (0.01)			0.12*** (0.01)						0.192*** (0.01)
N	3489	3482	3281	3489	3482	3281				3478	3478	3292
R^2	0.00	0.51	0.52	0.00	0.51	0.52				0.00	0.32	0.36
adj. R^2	0.00	0.51	0.52	0.00	0.51	0.52				0.00	0.32	0.36
Resid. SD	0.22	0.15	0.15	0.22	0.15	0.15				0.22	0.18	0.18

Standard errors in parentheses

† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Table G.16: Regression of Policy Harm on Treatments × Antipathy (Continuous)[1], Controls, Study 2

Replication	Original study			R1: Comp. Repl. In R			R2: Comp. Repl. In SPSS			R3: Comp. Repl. In Matlab		
Equation	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.62*** (0.01)	0.25*** (0.01)	0.19*** (0.02)							0.616*** (0.01)	0.247*** (0.01)	0.189*** (0.02)
Illegal Condition	-0.03** (0.01)	-0.04* (0.02)	-0.04* (0.02)							-0.03** (0.01)	-0.047** (0.02)	-0.046** (0.02)
Outgroup Antipathy		0.85*** (0.03)	0.80*** (0.03)								0.846*** (0.03)	0.796*** (0.03)
Illegal Condition x Antipathy		0.03 (0.03)	0.03 (0.04)								0.036(0.04)	0.036(0.04)
Gender			-0.02* (0.01)									-0.017* (0.01)
Age			0.00** (0.00)									0.001** (0.00)
Party ID (0-1)			0.09*** (0.01)									0.089*** (0.01)
N	1982	1982	1966							1961	1959	1944
R^2	0.00	0.53	0.54							0	0.52	0.54
adj. R^2	0.00	0.52	0.53							0	0.52	0.53
Resid. SD	0.23	0.16	0.16							0.23	0.16	0.16

Standard errors in parentheses
† significant at $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$
[1] Please note that this table is labelled, in the original manuscript, as Antipathy (DICHOTOMOUS)

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