Appendix for: "**Yikes! Are we disgusted by politicians?**"

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A. Methods

A.1 Details of the data collections

Lab-in-the-field: InScience Festival. The data collection at the InScience film festival took place in a theatre, in which we used two dressing rooms as our labs. In the dressing rooms was a large table next to a mirror which was covered with black paper, to create a clean and neutral environment. At the table stood the (1) stimulus laptop with mouse and noise canceling headphones, (2) the amplifier for the EMG and SCL electrodes, (3) the measurement laptop which was turned 90 degrees, out of sight of the participant (see Figure A1). Both dressing rooms had a door with a window, so we closed the doors during the experiment and kept an eye on the participant and the measurement laptops from the outside, without disturbing the participant. Next to the dressing rooms was a big room with a round table were we welcomed the participants. Here we explained about the experiment, gave them the informed consent, measured their level of alcohol permillage (40 of the 43 scored 0 [sober], while three respondents had some alcohol in their blood [see replication files]: we don't control for alcohol level in our models due to the small numbers), and let them fill in the questionnaire on an IPad.

All lab assistants were instructed to keep the noise down at all times. However, when explaining the experiment or welcoming participants there might have been some noise for those participants filling in the questionnaire in the big room next to the dressing rooms. Nevertheless, overall the procedure of the data collection at the festival was very similar to the data collection in the lab; participants were not disturbed during the experiment and the protocol of the physiological measurement was exactly the same.

The experiment was a shorter version than the one conducted in the lab (25 minutes). The lab version included an experiment of another research project. This additional experiment consisted of (1) some questionnaires and a response task, which were included in the questionnaire part of the current study (in Qualtrics), and (2) an experimental part (in which affective pictures were presented in combination with self-report valence and arousal). This latter part was added to the end of the current experiment and cannot affect the treatment effects reported here. In total, the combined experiments in the lab took 45 minutes.

Figure A1. Pictures of data collection at InScience festival. From left to right: lab setting in dressing room 1; view at participant and measurement laptop through window; lab setting in dressing room 2.

Lab at the University of Amsterdam. The lab of the University of Amsterdam consists of two adjacent rooms (see Figure A2). Participants were asked to take place in the participant room, in which there was a table with a computer, headphones, mouse, and the equipment for the physiological measurement. The other room was used by the lab assistants. Here they could monitor the participants in three ways. First, by checking what the participants are doing at the computer (e.g. what they are clicking at, how far they are in the experiment).

Second, the lab assistant kept an eye on any abnormalities in the measurement by checking the measurement computer. Third, a TV screen displayed the camera recordings of the participant room, on which the lab assistants could see whether participants e.g. moved their hand, touched their face, and whether the electrodes are still in place. Any abnormalities were written down in the logbook.

Figure A2. Pictures of the lab at the University of Amsterdam. Left, the room where the participant take the experiment. Right, the room for the lab assistant, to monitor the experiment.

Differences between pre-registered location and lab-in-the-field.

- Lab-in-the-field experiment took 25 minutes, the lab version 45 minutes (included an experiment of another research project)
- At the lab-in-the-field, the survey was taken in a room with others present (this might have led to some background noise and distraction)
- At the lab-in-the-field we measured alcohol permillage
- Participants in the lab-in-the-field were monitored by lab assistants checking their progress and the physiological measurement through the window of the door of the labs (i.e. the dressing rooms).

A.2 Pretest moral violations experiment

We used the pictures of Mark Rutte (VVD), Geert Wilders (PVV), Sybrand Buma (CDA), Rob Jetten (D66), Jesse Klaver (GroenLinks), Lillian Marijnissen (SP), Lodewijk Asscher (PvdA), Gert-Jan Segers (CU), Marianne Thieme (PvvD), Henk Krol (50Plus), Kees van der Staaij (SGP), Tunahan Kuzu (Denk) and Thierry Baudet (FvD). The pictures can be found on our OSF page.

The moral violations were pre-tested. We showed 17 adults – blind to the expectations in this study – eleven moral violations. After each violation, we asked them how morally acceptable this was on a scale from "totally unacceptable" (1) to "totally acceptable" (7) and how negative or positive this behavior was on a scale from "very negative" (1) to "very positive" (7). We chose these two moral violations because both were consistently evaluated as very morally unacceptable (*Sharing classified information*: Mean=1.42, SD=.80; *Luxury vacation*: Mean=1.47, SD=.80) and very negative (*Sharing classified information*: Mean=1.41, SD=.80; *Luxury vacation*: Mean=1.52, SD=.88). There were no statistical differences in how morally unacceptable and negative these two treatments are. Moreover, they were of approximately the same length.

B. Results

B.1 Descriptive statistics

Socio-economic background. We measured the age of participants in years, gender (Male, Female, non-binary), highest level of completed education (primary school, preparatory secondary vocational [VMBO], secondary [HAVO/VWO], secondary vocational [MBO], higher vocational [HBO] and university). Next, we asked whether a participant is a student (yes or no).

Political knowledge. We measured political knowledge using five questions inspired by the American National Election Studies as well as []clifford2016cheating. We use the items: (1) "How long is the term of office for a member of the European Parliament?" (options: 2 years, 3, years; 4 years; 5 years [correct]; 6 years); (2) "Which party currently has the most seats in parliament?" (options: CDA; VVD [correct]; FVD; D66; PvdA); (3) "Who was the chairman of the European Commission in the last 2 years?" (Herman van Rompuy; Manfred Weber; Margrethe Vestager; Frans Timmermans; Jean-Claude Juncker [correct]); (4) "Who is currently the President of France?" (options: Marine Le Pen, Emmanuel Macron [Correct]; Jacques Chirac; Francois Hollande; Nicolas Sarkozy); (5) "Who is currently the Managing Director of the International Monetary Fund?" (options: Christine Lagarde [correct]; Ban Ki Moon; Nancy Pelosi; Janet Yellen; Theresa May). Scores were computed as the proportion of questions answered correctly, ranging from 0 to 1.

Table B1 provides the descriptive statistics for the variables included in our models (see main text).

Table B1. *Descriptive statistics covariates*

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Treatment order	108	0.43	0.50	0	0	1	1
Partisan Social Identity Strength	108	0.00	1.00	−2.84	−0.49	0.69	2.74
Moral disgust	108	−0.00	1.00	−3.53	−0.59	0.70	1.96
Sexual disgust	108	−0.00	1.00	−1.99	−0.73	0.70	2.12
Pathogen disgust	108	0.00	1.00	−2.14	−0.82	0.82	1.81
Age	108	32.84	16.95	18	21	39.2	83
Sex: Male	108	0.23	0.42	0	0	0	1
Sex: Female	108	0.76	0.43	0	1	1	1
Sex: Non-binary	108	0.01	0.10	0	0	0	1
Education: Secondary	107	0.38	0.49	0.00	0.00	1.00	1.00
Education: Secondary Vocational	107	0.03	0.17	0.00	0.00	0.00	1.00
Education: Higher Vocational	107	0.17	0.38	0.00	0.00	0.00	1.00
Education: University	107	0.42	0.50	0.00	0.00	1.00	1.00
Student	108	0.36	0.48	0	0	1	1
Political Knowledge	108	0.52	0.20	0.20	0.40	0.60	1.00
Location: Amsterdam	108	0.60	0.49	0	0	1	1
Reward: Credit	108	0.22	0.42	0	0	0	1
Reward: Money	108	0.37	0.49	0	0	1	1
Reward: Voluntary	108	0.41	0.49	0	0	1	1
Lab event	108	0.16	0.37	0	0	0	1

B.2 Factor structure DSR-21

As preregistered, we performed a confirmatory factor analysis to test the factor structure of the DSR-21. The factor structure is acceptable (CFI=.943, TLI=.936, RMSEA=.058 [95%CI=.039, .076], SRMR=.090 and the items load – with some degrees and regularities – high on the designated latent trait (see Table B2). Figure B3 shows the correlation coefficients between the three disgust dimensions from the Dutch DSR-21 tybur2013disgust are postive but not very strong. Moral disgust (α=.85), Sexual disgust (α=.79) and pathogen disgust (α=.79) were all three internally consistent – see Table B1 for the descriptive statistics.

Table B2. *DSR-21: Standardized Factor Loadings*

	Standardized Factor Loading	p-value
moral1	0.62	0.00
moral2	0.86	0.00
moral3	0.78	0.00
moral4	0.78	0.00
moral5	0.78	0.00
moral6	0.52	0.00
moral7	0.73	0.00
sexual1	0.77	0.00
sexual2	0.76	0.00
sexual3	0.76	0.00
sexual4	0.60	0.00
sexual5	0.71	0.00
sexual6	0.36	0.00
sexual7	0.61	0.00
pathogen1	0.68	0.00
pathogen2	0.60	0.00
pathogen3	0.79	0.00
pathogen4	0.58	0.00
pathogen5	0.65	0.00
pathogen6	0.46	0.00
pathogen7	0.59	0.00

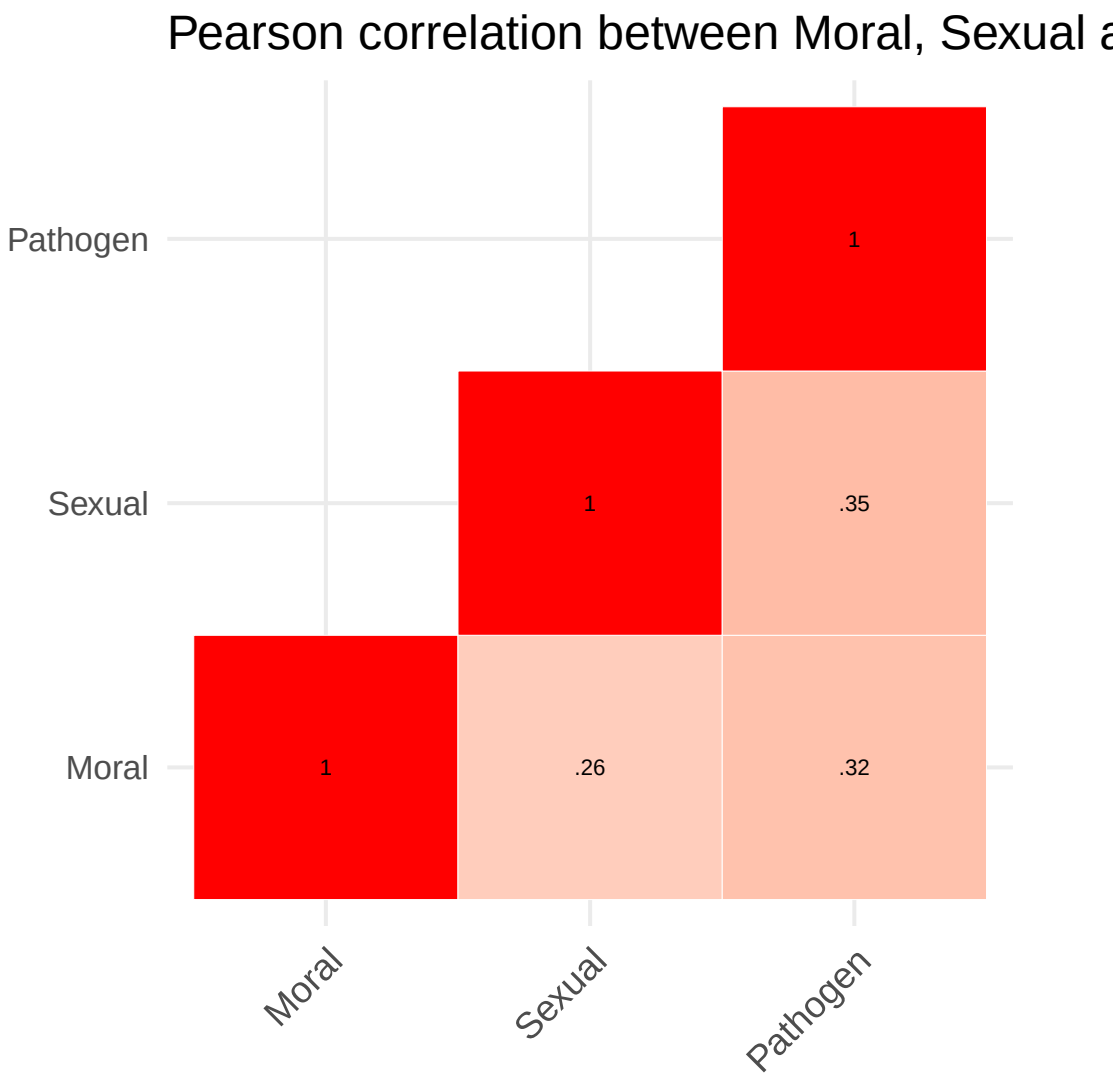

Figure B3. Pearson correlations between the three disgust dimensions from the DSR-21. Darker red background means that the correlation is strongly positive, darker blue strongly negative and white means that the correlation is close to zero.

B.3 Self-reported emotions in Moral violations experiment

Table B3 provides the descriptive statistics for the self-reported emotions and Table B4 the Cronbach alpha's belonging to each self-reported emotion in each condition. Finally, Figure B4 provides the correlation matrix of the inter-correlations between the four emotions in response to each of the treatments.

Table B3. *Descriptive statistics self-reported emotions Moral Violations experiment*

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Disgust ingroup	108	10.07	14.21	0.00	0.67	15.42	62.00
Disgust outgroup	108	50.27	24.17	0.00	36.25	67.33	98.67
Disgust ingroup + MV	108	43.69	23.22	0.00	23.42	59.50	95.33
Disgust outgroup + MV	108	55.76	25.03	0	39	73.2	99
Anxiety ingroup	108	8.01	9.99	0	0.3	12.2	50
Anxiety outgroup	108	29.84	22.34	0	8.8	47.7	87
Anxiety ingroup + MV	108	27.10	22.37	0.00	5.92	45.33	79.33
Anxiety outgroup + MV	107	30.17	23.64	0.00	9.17	49.00	86.33
Anger ingroup	108	7.73	12.14	0.00	0.33	10.17	52.00
Anger outgroup	108	38.86	23.17	0	18.9	57.2	90
Anger ingroup + MV	108	36.25	23.47	0	13.6	53.4	82
Anger outgroup + MV	108	44.30	24.50	0.00	26.33	61.08	98.00
Enthusiasm ingroup	108	46.60	21.01	0	33.3	61.8	98
Enthusiasm outgroup	108	15.35	15.35	0	1.7	20.8	59
Enthusiasm ingroup + MV	108	20.29	17.02	0	4.6	35.6	62
Enthusiasm outgroup + MV	108	13.42	14.86	0.00	0.67	22.33	61.33

Table B4. *Morival violation experiment: Cronbach's alpha's of the self-reported emotions*

Emotion + condition	Alpha
Disgust ingroup	0.78
Disgust outgroup	0.85
Disgust ingroup + MV	0.87
Disgust outgroup + MV	0.86
Anxiety ingroup	0.72
Anxiety outgroup	0.82
Anxiety ingroup + MV	0.86
Anxiety outgroup + MV	0.84
Anger ingroup	0.86
Anger outgroup	0.83
Anger ingroup + MV	0.86
Anger outgroup + MV	0.82
Enthusiasm ingroup	0.85
Enthusiasm outgroup	0.78
Enthusiasm ingroup + MV	0.86
Enthusiasm outgroup + MV	0.75

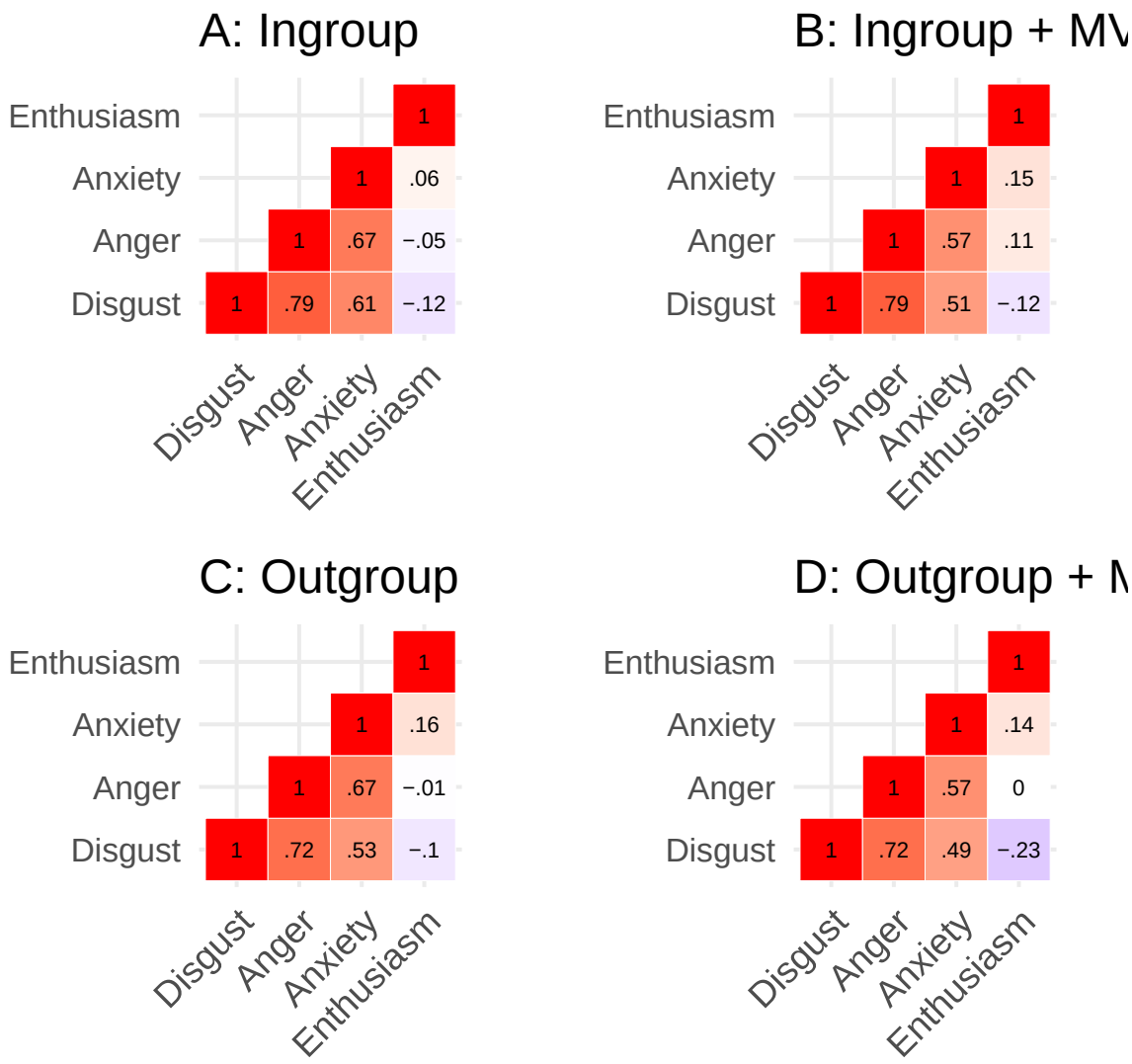

Figure B4. Correlation matrices with the Pearson correlation coefficients between the self-reported emotions (disgust, anger, anxiety and enthusiasm) in response to the in-group (panel A), in-group + moral violation (panel B), out-group (panel C) and the out-group + moral violation. Darker red background means that the correlation is strongly positive, darker blue strongly negative and white means that the correlation is close to zero.

B.4 Results belonging to the manipulation check

Table B5. *Manipulation check: Responses (Labii, self-report, corrugator and skin conductance)*

	Dependent variable:					
	Labii	Labii: exp	Self-report	Corrugator	Corrugator: exp	SCL
	(1)	(2)	(3)	(4)	(5)	(6)
Mug	0.45	0.37	−6.64**	0.41	0.09	−0.01
	(1.91)	(0.58)	(2.01)	(1.13)	(0.68)	(0.05)
Lamp	−0.09	0.43	−6.78**	0.46	−0.14	−0.08
	(2.51)	(0.74)	(2.11)	(1.25)	(0.65)	(0.06)
Spoon	−1.73	0.05	−7.65**	2.13	1.14	−0.06
	(2.81)	(0.60)	(2.02)	(1.37)	(0.70)	(0.05)
Poop	0.26	1.04	54.85**	1.54	1.23	−0.02
	(2.19)	(0.65)	(2.99)	(1.17)	(0.75)	(0.05)
Vomit	0.03	2.02**	57.47**	1.31	1.01	0.04
	(4.03)	(0.63)	(3.15)	(1.47)	(0.88)	(0.05)
Worms	1.68	1.88**	54.36**	3.06**	2.17**	0.06
	(1.90)	(0.67)	(3.19)	(1.32)	(0.78)	(0.06)
Treatment order	0.09	−0.09	0.94**	0.08	0.08	0.004
	(0.41)	(0.10)	(0.39)	(0.14)	(0.11)	(0.01)
Amsterdam	0.43	−1.14	6.78**	−6.74**	−5.69**	0.01
	(1.91)	(1.11)	(2.72)	(2.35)	(1.83)	(0.03)
Constant	6.40**	7.21**	5.81**	13.23**	12.81**	−0.04
	(2.28)	(0.94)	(2.65)	(2.44)	(1.59)	(0.03)

Note: Untandardized OLS regression coefficients
*p<.1, **p<.05

B.5 Preregistered t-tests compared to 0

The first basic test of our hypotheses is to test disgust responses in each treatment (in-party image; out-party image; in-party + moral violation; out-party + moral violation) against a null-effect, and against each other using paired samples t-tests. Table B6 shows that for the preregistered labii, the winsorized labii response variable and the self-reported disgust the response patterns differ significantly from zero.

Table B6. *T-test of differences in disgust (Labii and self-report) compared to 0 (pre-registered and exploratory)*

Preregistered	Condition	Measure	t-value	df	Mean	lower CI (2.5)	upper CI (97.5)	p-value
Pre-registered	Ingroup	Labii	2.918	99	5.496	1.759	9.234	0.004
Pre-registered	Outgroup	Labii	6.820	99	9.518	6.748	12.287	0.000
Pre-registered	Ingroup + MV	Labii	10.368	99	6.817	5.512	8.122	0.000
Pre-registered	Outgroup + MV	Labii	6.116	99	7.781	5.256	10.305	0.000
Exploratory	Ingroup	Labii	12.334	99	6.695	5.618	7.772	0.000
Exploratory	Outgroup	Labii	12.577	99	8.383	7.060	9.705	0.000
Exploratory	Ingroup + MV	Labii	14.799	99	6.601	5.716	7.487	0.000
Exploratory	Outgroup + MV	Labii	12.725	99	6.672	5.632	7.713	0.000
Pre-registered	Ingroup	Self-report	7.364	107	10.071	7.360	12.782	0.000
Pre-registered	Outgroup	Self-report	21.615	107	50.265	45.655	54.876	0.000
Pre-registered	Ingroup + MV	Self-report	19.558	107	43.694	39.266	48.123	0.000
Pre-registered	Outgroup + MV	Self-report	23.145	107	55.756	50.981	60.532	0.000

B.6 Full regression tables Figure 5

Hypothesis 1 (Table 7), Hypothesis 2 (Table 8), Hypothesis 3 (Table 9), Hypothesis 4 (Table 10)

Table 7. *Hypothesis 1: Out-party politicians should elicit stronger disgust responses than in-party politicians.*

	Dependent variable:		
	Preregistered Labii	Exploratory Labii	Preregistered Self-report
	(1)	(2)	(3)
Out-party	4.033	1.677*	40.109*
	(2.196)	(0.849)	(2.714)
Treatment order	−0.735	−1.206	1.137
	(3.282)	(1.268)	(4.001)
Age	−0.049	−0.060	−0.003
	(0.116)	(0.045)	(0.136)
Female	2.102	1.680	3.413
	(3.006)	(1.162)	(3.686)
Edu: Secondary vocational	17.854*	7.810*	−2.448
	(8.131)	(3.142)	(8.574)
Edu: Higher vocational	3.541	2.800	3.458
	(3.900)	(1.507)	(4.858)
Edu: University	−1.479	−0.143	4.340
	(2.895)	(1.119)	(3.582)
Student	−1.059	0.620	−6.259
	(4.081)	(1.577)	(5.094)
Temperature	11.913	9.026	1.986
	(11.884)	(4.593)	(10.625)
Knowledge	8.909	6.395*	−14.240
	(6.626)	(2.561)	(7.960)
Amsterdam	−63.540*	5.860	−4.794
	(11.650)	(4.502)	(14.786)
Reward: Money (ref: credits)	−0.151	0.341	−7.951*
	(3.210)	(1.240)	(3.932)
Reward: Voluntary	−99.708*	−21.912	−9.683
	(36.673)	(14.172)	(35.560)
Lab event	1.877	1.840	1.088
	(3.207)	(1.240)	(4.040)
Constant	−172.792	−182.691*	−18.073
	(238.783)	(92.279)	(212.653)
Observations	198	198	214
R^2	0.209	0.125	0.539

Note: Untandardized OLS regression coefficients
*p<.05

Table 8. *Hypothesis 2a/b: Out-party (In-party) politicians accused of moral violations should elicit stronger disgust responses than in-party (Out-party) politicians accused of moral violations..*

	Dependent variable:		
	Preregistered Labii	Exploratory Labii	Preregistered Self-report
	(1)	(2)	(3)
Out-party	−3.031	−1.576*	−28.016*
	(2.078)	(0.760)	(3.046)
Treatment order	−1.466	−0.343	8.783
	(3.106)	(1.137)	(4.490)
Age	−0.001	0.035	0.073
	(0.110)	(0.040)	(0.152)
Female	−1.606	−0.781	5.143
	(2.845)	(1.041)	(4.137)
Edu: Secondary vocational	8.082	−1.727	−4.036
	(7.697)	(2.816)	(9.623)
Edu: Higher vocational	−4.794	−2.886*	0.543
	(3.692)	(1.351)	(5.453)
Edu: University	−1.001	−0.797	−8.194*
	(2.741)	(1.003)	(4.021)
Student	4.941	1.651	4.317
	(3.863)	(1.414)	(5.717)
Temperature	−12.802	−11.042*	−4.345
	(11.250)	(4.116)	(11.925)
Knowledge	−4.528	−3.822	21.313*
	(6.273)	(2.295)	(8.934)
Amsterdam	77.990*	4.395	3.776
	(11.028)	(4.035)	(16.595)
Reward: Money (ref: credits)	0.925	0.540	4.903
	(3.038)	(1.112)	(4.413)
Reward: Voluntary	113.954*	36.212*	19.629
	(34.715)	(12.702)	(39.910)
Lab event	−0.295	−1.287	−3.601
	(3.036)	(1.111)	(4.534)
Constant	182.705	218.573*	94.697
	(226.033)	(82.705)	(238.671)
Observations	198	198	214
R^2	0.266	0.118	0.340
Note:			Untandardized OLS regression coefficients
			*p<.05

Table 9. *Hypothesis 3: Strong partisans have stronger disgust responses to out-party leaders compared to in-party leaders than weak partisans.*

	Dependent variable:		
	Preregistered Labii	Exploratory Labii	Preregistered Self-report
	(1)	(2)	(3)
Partisan Social Identity Strength	1.381	0.411	6.060*
	(1.538)	(0.476)	(2.499)
Treatment order	5.785	1.933	11.401
	(4.222)	(1.307)	(7.026)
Age	−0.108	0.010	−0.209
	(0.150)	(0.046)	(0.240)
Female	2.256	0.442	−0.257
	(3.867)	(1.197)	(6.478)
Edu: Secondary vocational	−8.698	3.614	−27.712
	(10.541)	(3.263)	(15.069)
Edu: Higher vocational	−1.594	0.577	9.219
	(5.046)	(1.562)	(8.642)
Edu: University	4.418	1.498	9.165
	(3.727)	(1.154)	(6.293)
Student	6.742	0.893	0.924
	(5.278)	(1.634)	(8.980)
Temperature	−1.295	−2.201	0.452
	(15.413)	(4.772)	(18.719)
Knowledge	6.876	−1.042	−13.126
	(8.543)	(2.645)	(14.109)
Amsterdam	164.566*	22.466*	−2.864
	(15.008)	(4.646)	(25.985)
Reward: Money (ref: credits)	−5.208	0.403	−19.040*
	(4.130)	(1.279)	(6.917)
Reward: Voluntary	164.966*	28.911	−2.477
	(47.440)	(14.687)	(62.533)
Lab event	0.404	1.480	−6.703
	(4.133)	(1.279)	(7.095)
Constant	−141.147	20.578	45.487
	(309.839)	(95.922)	(374.916)
Observations	99	99	107
R^2	0.616	0.287	0.218
Note:			Untandardized OLS regression coefficients
			*p<.05

Table 10. *Hypothesis 4: Individuals higher on moral disgust sensitivity, compared to those lower on moral disgust sensitivity, have a stronger disgust response to our moral violation treatments.*

	Dependent variable:		
	Preregistered Labii	Exploratory Labii	Preregistered Self-report
	(1)	(2)	(3)
Moral disgust	−0.130	0.581	−1.364
	(1.156)	(0.421)	(1.680)
Out-party	−3.031	−1.576*	−28.016*
	(2.084)	(0.759)	(3.048)
Treatment order	−1.483	−0.265	8.706
	(3.119)	(1.135)	(4.495)
Age	0.002	0.020	0.103
	(0.114)	(0.042)	(0.157)
Female	−1.637	−0.644	4.849
	(2.866)	(1.043)	(4.156)
Edu: Secondary vocational	8.137	−1.977	−3.743
	(7.734)	(2.815)	(9.638)
Edu: Higher vocational	−4.751	−3.080*	0.911
	(3.722)	(1.355)	(5.476)
Edu: University	−1.055	−0.551	−8.696*
	(2.791)	(1.016)	(4.071)
Student	4.941	1.651	4.388
	(3.874)	(1.410)	(5.723)
Temperature	−12.918	−10.524*	−4.160
	(11.327)	(4.123)	(11.937)
Knowledge	−4.499	−3.956	21.799*
	(6.295)	(2.292)	(8.962)
Amsterdam	78.024*	4.243	4.211
	(11.062)	(4.027)	(16.618)
Reward: Money (ref: credits)	0.915	0.588	4.689
	(3.048)	(1.110)	(4.425)
Reward: Voluntary	114.219*	35.022*	18.479
	(34.889)	(12.700)	(39.970)
Lab event	−0.282	−1.342	−3.483
	(3.046)	(1.109)	(4.540)
Constant	184.949	208.518*	90.134
	(227.526)	(82.821)	(238.942)
Observations	198	198	214
R^2	0.266	0.127	0.342

Note: Untandardized OLS regression coefficients
*p<.05

B.7 Pre-registered robustness checks: Pathogen and Sexual Disgust Sensitivity

Figure 5 provides the results of the preregistered robustness checks.

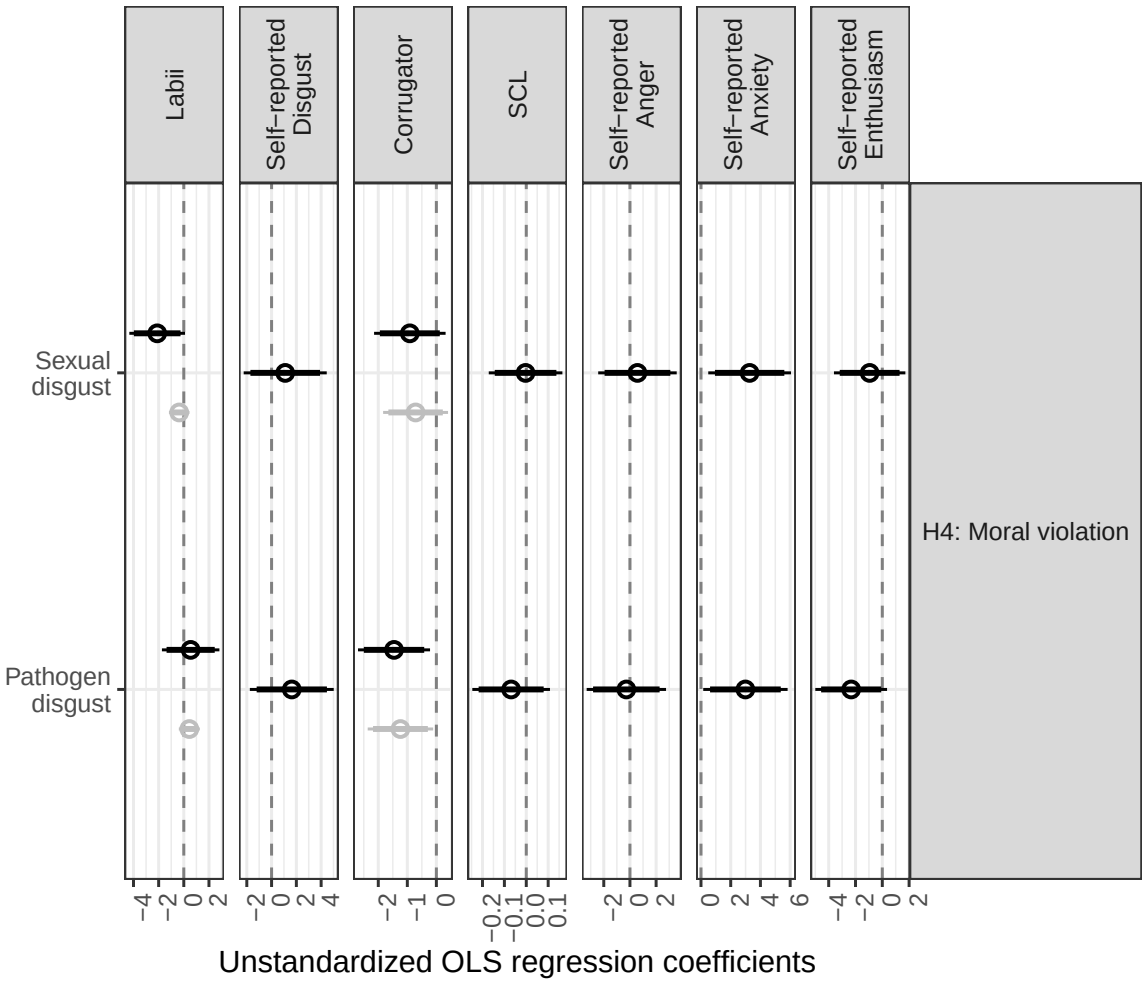

Figure 5. Results of pre-registered robustness checks. Plot of the unstandardized OLS regression coefficients of the preregistered hypothesis tests (in black) – and exploratory models for the labii and corrugator (in grey-scale) – for the effect of pathogen disgust and sexual disgust on labii activity, self-reported disgust, corrugator activity, skin conductance (SCL), self-reported anger, self-reported anxiety and self-reported enthusiasm. The point estimates with 95 (thin-line) and 90 (thick line) percent confidence intervals are plotted. Full regression output can be derived from the replication files.