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Disgust Sensitivity Relates to Moral Foundations Independent of Political Ideology

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## Abstract

1  
2 Moral judgments seem related to the emotion disgust. Evolutionary considerations might  
3 illuminate the psychological processes underlying this relation. Several studies have noted  
4 that individuals who are more disgust sensitive condemn moral violations more strongly.  
5 However, this association could result from both disgust sensitivity and moral judgment  
6 being correlated with political ideology. To clarify the relationship between disgust  
7 sensitivity and moral judgment, we analyzed data from multiple published and unpublished  
8 datasets that included the Three-Domain Disgust scale, the Moral Foundations Questionnaire,  
9 and a measure of ideology (total  $N = 2,478$ ). Results showed that associations between  
10 disgust sensitivity and moral judgment remained when controlling for ideology. Each of the  
11 three types of disgust sensitivity uniquely predicted at least one of the five moral foundations.  
12 Moral disgust predicted scores for all moral foundations (largest effect for  
13 Fairness/reciprocity). Sexual disgust predicted scores for all moral foundations except  
14 Fairness/reciprocity (largest effect for Purity/sanctity). Pathogen disgust had small predictive  
15 effects for Ingroup/loyalty, Authority/respect, and Purity/sanctity. All effects were positive  
16 (i.e., higher levels of disgust sensitivity were associated with greater moral foundation  
17 endorsement). These findings suggest specific relations between disgust sensitivity and moral  
18 judgment that are not explained by ideology, shedding further light on the functions of  
19 disgust and morality.

20

21 Keywords: disgust; three-domain disgust scale; moral judgment; moral foundations

22 questionnaire; political ideology; conservatism

23

24 Disgust Sensitivity Relates to Moral Foundations Independent of Political Ideology

25 1. Introduction

26 Sentimentalist theories of moral psychology hold that moral judgments are influenced  
27 by emotions (Haidt, 2001). The emotion disgust seems particularly relevant for moral  
28 judgments (e.g., Rozin, Haidt, & McCauley, 2008; Tybur, Lieberman, Kurzban, & DeScioli,  
29 2013). For instance, many morally condemned behaviors involve food, treatment of bodily  
30 wastes, and sex—stimuli which can elicit disgust independent of moral condemnation. Some  
31 studies have reported that experimentally manipulating state disgust (e.g., via an odor)  
32 increases moral condemnation (e.g., Schnall, Haidt, Clore, & Jordan, 2008). Although a  
33 recent meta-analysis suggests that effects of state disgust on moral judgment may be weaker  
34 than previously assumed (Landy & Goodwin, 2015), another line of research indicates that  
35 individuals who are more prone to experiencing disgust also condemn moral violations more  
36 strongly (Chapman & Anderson, 2013). Further, because disgust sensitivity and moral  
37 judgment are multidimensional, exactly how dispositional variation in disgust sensitivity  
38 relates to moral condemnation remains unclear.

39

40 1.1. How do moral judgments relate to disgust?

41 Recent evolutionary psychological perspectives argue that moral judgments are the  
42 output of specific adaptations, which may be illuminated by the specific effects of disgust on  
43 moral judgment (Haidt & Graham, 2007; DeScioli & Kurzban, 2013). Recent research shows  
44 that disgust varies across pathogen, sexual, and moral domains (Tybur, Lieberman, &  
45 Griskevicius, 2009) and that moral judgment varies across five foundations (Graham et al.,  
46 2011). One perspective suggests that one moral foundation—purity—evolved from pathogen-  
47 avoidance mechanisms and that the key relationship between disgust sensitivity and moral

48 judgment should concern pathogen disgust and moral judgments related to purity (Haidt,  
49 2012); some data are consistent with this perspective (Horberg, Oveis, Keltner, & Cohen,  
50 2009). Other perspectives imply a less specific relationship between disgust and morality  
51 (Chapman & Anderson, 2013; Tybur et al., 2013); some data are consistent with this  
52 alternative perspective, with higher (pathogen) disgust sensitivity being related to moral  
53 judgments of harm and fairness violations (Chapman & Anderson, 2014) and with incidental  
54 disgust (from gustatory or olfactory inductions) amplifying moral condemnation outside of  
55 the purity domain (Landy & Goodwin, 2015).

56 In addition, moral disgust might reflect a different process. Rather than an effect of  
57 emotions on moral judgment, moral disgust might reflect the use of emotional behaviors for  
58 navigating social interactions by communicating and coordinating moral condemnation  
59 (Tybur et al., 2013). From this perspective, individual differences in moral disgust sensitivity  
60 reflect motivations to avoid actions that might impose costs on oneself (e.g., being exploited)  
61 and tendencies to use disgust as a means of communicating one's condemnation of such  
62 actions.

63 In sum, the relationship between disgust sensitivity and moral condemnation could  
64 vary across domains of both constructs, and the literature reports conflicting findings  
65 regarding which domains of disgust sensitivity relate to which moral foundations. Here, we  
66 seek to clarify how disgust sensitivity relates to moral judgment. Further, we test whether and  
67 how disgust sensitivity relates to moral judgment independent of a third variable that  
68 purportedly relates to disgust and moral judgment: political ideology.

69

## 70 1.2. Both moral judgments and disgust sensitivity correlate with political ideology

71 In some—but not all—societies the ideologies of many people can be described in  
72 terms of a dimension ranging from left-wing liberalism to right-wing conservatism (e.g., Jost,

73 Federico, & Napier, 2009). Liberals and conservatives vary on both moral foundation  
74 endorsement (Graham, Haidt, & Nosek, 2009) and disgust sensitivity (Inbar, Pizarro, &  
75 Bloom, 2009; Tybur, Merriman, Caldwell Hooper, McDonald, & Navarrete, 2010).  
76 Covariation between ideology and moral foundations could be argued to reflect  
77 conservatives' higher investment in avoiding outgroups (e.g., Fincher & Thornhill, 2012) and  
78 consolidating ingroup cohesion (Haidt, 2012). Covariation between ideology and pathogen  
79 disgust sensitivity could be argued to reflect a similar behavioral strategy—that by avoiding  
80 outgroups and consolidating ingroup cohesion one lowers the likelihood of pathogenic  
81 infection (Tybur et al., 2010). Furthermore, covariation between ideology and sexual disgust  
82 sensitivity could be argued to reflect a sexual strategy. That is, ideology could reflect  
83 people's endorsement of rules that benefit their own reproductive strategies (Tybur, Inbar,  
84 Güler, & Molho, 2015; Weeden & Kurzban, 2014).

85       Hence, any correlations between disgust sensitivity and moral foundations could be a  
86 byproduct of a shared relationship with ideology. If disgust sensitivity and moral judgment  
87 are correlated because of their shared relationship with conservatism, then controlling for  
88 conservatism should reduce any associations between disgust sensitivity and moral judgment,  
89 which has implications for evolutionary models that draw direct links between disgust and  
90 morality. Thus, the current study tested whether and how disgust sensitivity relates to moral  
91 foundation endorsement, independent of ideology.

92

## 93 2. Method

94       We aggregated data from studies that included the Three-Domain Disgust Scale  
95 (TDDS; Tybur et al., 2009), the Moral Foundations Questionnaire (MFQ; Graham et al.,  
96 2011), and a measure of ideology. The TDDS measures three types of disgust sensitivity—  
97 moral, sexual, and pathogen—which reflect tendencies to be disgusted by moral violations,

98 sexual activities, and infectious substances, respectively. The MFQ measures five types of  
99 moral concerns: Harm/care, Fairness/reciprocity, Ingroup/loyalty, Authority/respect, and  
100 Purity/sanctity. Across samples, different versions of the MFQ were used. For all samples,  
101 scores for the MFQ subscales were the average item scores. Across the samples, ideology  
102 was measured with variables of different ranges, so scores for this variable were standardized  
103 for each sample before aggregation. As sex differences have been observed for both moral  
104 foundations (Graham et al., 2011) and disgust sensitivity (Tybur, Bryan, Lieberman, Caldwell  
105 Hooper, & Merriman, 2011), we controlled for participant sex in all analyses.

106 We compiled three new datasets and five already published datasets:

- 107 • One sample was from an unpublished study by Van Leeuwen and Park (2013). The  
108 sample consisted of 273 students (158 females, 115 males; age  $M = 20.5$  years,  $SD =$   
109  $3.97$ ) from a UK university who completed multiple questionnaires as part of  
110 experimental sessions that also included unrelated tasks. The majority ( $n = 224$ ) were  
111 British; the others were from China ( $n = 12$ ) and a variety of other countries. Participants  
112 completed the TDDS, MFQ-30, and indicated their political orientation on a 7-point  
113 scale (1 = *very liberal*, 7 = *very conservative*).
- 114 • Two samples were from an unpublished Master thesis (Dukes, 2011). One sample  
115 consisted of 47 individuals residing in the USA (32 females, 15 males; age  $M = 35.9$   
116 years,  $SD = 11.97$ ); another sample consisted of 83 individuals residing in India (31  
117 females, 52 males; age  $M = 29.4$ ,  $SD = 8.46$ ). Both samples were recruited via Amazon  
118 Mechanical Turk. Participants completed the TDDS, MFQ-20, and, as a measure of  
119 ideology, the 16-item SDO scale (Pratto, Sidanius, Stallworth, & Malle, 1994). The SDO  
120 items were rated on a 7-point scale (1 = *very negative*, 7 = *very positive*) and showed  
121 high reliability in both samples (USA  $\alpha = .93$ , India  $\alpha = .90$ ). In both samples the study  
122 materials were in English.

- 123 • Two samples were from Kurzban, Duker, and Weeden (2010). One sample consisted of  
 124 students at a US university ( $N = 521$ ); another consisted of US residents recruited via  
 125 Amazon Mechanical Turk ( $N = 479$ ). Participants completed the TDDS and the MFQ-43  
 126 (scores were transformed to range from 0 to 5), and they indicated their political  
 127 orientation on a 7-point scale (1 = *very liberal*, 7 = *very conservative*).
- 128 • Three samples were from Quintelier, Ishii, Weeden, Kurzban, and Braeckman (2013),  
 129 which included students from Belgium ( $N = 493$ ), the Netherlands ( $N = 285$ ), and Japan  
 130 ( $N = 297$ ). Participants completed the TDDS, the MFQ-30, and ideology measures that  
 131 differed across countries. In the Japanese sample, ideology was measured with a 7-point  
 132 scale (1 = *strongly support left wing*, 7 = *strongly support right wing*). In the Belgian and  
 133 Dutch samples, ideology was measured with a 4-point scale reflecting political party  
 134 preference. The scale was coded so that lower values indicate progressivism and higher  
 135 values indicate conservatism. In the Belgian and Dutch samples the materials were in  
 136 Dutch; in the Japanese sample the materials were in Japanese.

137

### 138 3. Results

139 Reliabilities for the disgust sensitivity scales were high in all samples ( $\alpha$ s ranging  
 140 from .74 to .93, see Supplemental Materials S1). Reliabilities for the moral foundations  
 141 subscales differed across samples, ranging from low ( $\alpha = .42$ ) to high ( $\alpha = .88$ ; Median  $\alpha =$   
 142 .67; see Supplemental Materials S1).

143 Consistent with previous research (e.g., Graham et al., 2009) conservatism correlated  
 144 negatively with the Harm/care and Fairness/reciprocity foundations and positively with the  
 145 Ingroup/loyalty, Authority/respect, and Purity/sanctity foundations (see Table 1). Consistent  
 146 with Tybur et al. (2010), conservatism showed a small positive correlation with sexual



147 disgust sensitivity, but showed almost no correlation with moral and pathogen disgust  
 148 sensitivity.  
 149

Table 1: Correlations between all included variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Moral disgust	-								
2. Sexual disgust	.40*	-							
3. Pathogen disgust	.32*	.45*	-						
4. Harm	.29*	.23*	.20*	-					
5. Fairness	.20*	.05	.12*	.54*	-				
6. Ingroup	.10*	.14*	.19*	.25*	.39*	-			
7. Authority	.17*	.19*	.24*	.25*	.34*	.65*	-		
8. Purity	.29*	.44*	.31*	.37*	.29*	.52*	.60*	-	
9. Conservatism	.04	.13*	.02	-.10*	-.12*	.15*	.21*	.19*	-
10. Female	.11*	.42*	.19*	.20*	.08*	-.04	-.00	.10*	-.04

Note. Cases with missing data were excluded pairwise. *N*s ranged from 2278 to 2389. \*  $p < .01$ .

150

151 Participants were nested within samples, and failing to account for this nesting could  
 152 yield spurious correlations (Kievit, Frankenhuus, Waldorp, & Borsboom, 2013). For example,  
 153 four samples may on average have low disgust sensitivity and low moral judgment, and four  
 154 samples may on average have high disgust sensitivity and high moral judgment. To account  
 155 for the nested data structure, we analyzed the data using maximum-likelihood hierarchical  
 156 linear regression. Moral foundation scores were regressed on sex, conservatism, moral  
 157 disgust sensitivity, sexual disgust sensitivity, and pathogen disgust sensitivity (all level 1),  
 158 and cases were nested within samples (level 2). Moral, sexual, and pathogen disgust  
 159 sensitivity were centered within samples. Intercepts were allowed to vary across samples, as  
 160 were slopes for conservatism (allowing slopes for sex and the disgust sensitivity variables to  
 161 vary across samples yielded models that either did not converge or demonstrated no  
 162 significant variability in slopes). We also computed models that did not include conservatism  
 163 as a predictor. We computed standardized coefficients as  $\beta = (\text{unstandardized coefficient} \times$   
 164  $SD_{\text{predictor}}) / SD_{\text{outcome}}$  (Hox, 2010).

165 On the whole, the three domains of disgust sensitivity were positively related to the  
 166 five moral foundations (see Table 2). Controlling for conservatism had little effect on the  
 167 relationship between disgust sensitivity and moral foundations. The largest change was for  
 168 the effect of sexual disgust sensitivity on Authority/respect, where  $\beta$  was reduced from 0.15  
 169 to 0.10.

170 Results indicated that the TDDS moral domain was uniquely related to all five MFQ  
 171 domains, with the strongest relationships with Harm/care and Fairness/reciprocity ( $\beta$ s = 0.19  
 172 and 0.23) and smaller relationships with Ingroup/loyalty, Authority/respect, and  
 173 Purity/sanctity ( $\beta$ s ranged from 0.08 to 0.11). The TDDS sexual domain was related to four of  
 174 the MFQ domains, with the strongest relationship with Purity/sanctity ( $\beta$  = 0.32), smaller  
 175 relationships with Harm/care, Ingroup/loyalty, and Authority/respect ( $\beta$ s ranged from 0.06 to  
 176 0.11), and no relationship with Fairness/reciprocity ( $\beta$  = 0.01). Finally, the TDDS pathogen  
 177 domain was uniquely related to three of the MFQ domains, with weak relationships with  
 178 Ingroup/loyalty, Authority/respect, and Purity/sanctity ( $\beta$ s ranged from 0.07 to 0.13), and no  
 179 relationship with Harm/care and Fairness/reciprocity ( $\beta$ s = 0.03 and 0.04).

180

Table 2: Standardized regression coefficients (with 95% confidence intervals) for predicting moral foundation scores from TDDS moral, sexual, and pathogen factors, participant sex, and political conservatism. For each TDDS domain, the left column shows the coefficients when *not* controlling for political conservatism. Participants (level 1) were nested within samples (level 2).

Moral Foundation	Moral disgust		Sexual disgust		Pathogen disgust	
	$\beta$ [95% CI]	$\beta$ [95% CI]	$\beta$ [95% CI]	$\beta$ [95% CI]	$\beta$ [95% CI]	$\beta$ [95% CI]
	Politics Excluded	Politics included	Politics excluded	Politics included	Politics excluded	Politics included
Harm	0.21*** [0.17, 0.25]	0.19*** [0.15, 0.24]	0.05 [-0.00, 0.09]	0.06* [0.01, 0.11]	0.04 [-0.00, 0.08]	0.03 [-0.01, 0.07]
Fairness	0.25*** [0.21, 0.29]	0.23*** [0.19, 0.27]	-0.01 [-0.05, 0.04]	0.01 [-0.03, 0.06]	0.04* [0.00, 0.08]	0.04 [-0.00, 0.08]
Ingroup	0.08*** [0.04, 0.12]	0.08*** [0.04, 0.12]	0.14*** [0.09, 0.18]	0.11*** [0.06, 0.16]	0.09*** [0.05, 0.14]	0.09*** [0.05, 0.13]
Authority	0.11*** [0.07, 0.15]	0.10*** [0.06, 0.14]	0.15*** [0.10, 0.20]	0.10*** [0.06, 0.15]	0.13*** [0.08, 0.17]	0.13*** [0.09, 0.18]

Purity	0.11*** [0.08, 0.15]	0.11*** [0.07, 0.15]	0.36*** [0.31, 0.40]	0.32*** [0.28, 0.36]	0.06*** [0.03, 0.10]	0.07*** [0.03, 0.11]
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*Note.* Cases with missing data were excluded listwise. For models that did not include conservatism,  $N$ s = 2273; 2285; 2270; 2274; 2279, respectively. For models that included conservatism,  $N$ s = 2187; 2197; 2186; 2188; 2191, respectively. Standardized coefficients for the fixed effect of conservatism were -0.16 [-0.31, -0.01], -0.22 [-0.44, -0.01], 0.10 [-0.11, 0.31], 0.16 [0.03, 0.30], and 0.11 [-0.05, 0.28], respectively. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

181

182 To verify whether this analysis—which aggregated across different measures of  
 183 conservatism administered in different political contexts—had not yielded results that  
 184 diverged from those in the samples when analyzed separately, we regressed each of the moral  
 185 foundations on the three disgust sensitivities, conservatism, and sex for each of the samples  
 186 separately. These regression analyses showed that the effects of conservatism differed across  
 187 samples (see Supplemental Materials S2). Nevertheless, for each kind of disgust sensitivity,  
 188 the strongest predictive effects were usually observed in multiple samples (see Supplemental  
 189 Materials S3).

190

#### 191 4. Discussion

192 Results showed that moral judgments for each foundation were uniquely related to at  
 193 least one domain of disgust sensitivity, even when controlling for ideology and sex. All  
 194 effects were positive (i.e., higher levels of disgust sensitivity were associated greater moral  
 195 foundation endorsement). Many of the effects were small, perhaps due in part to the  
 196 inadequate reliabilities of the moral foundations scores. As the regression coefficients  
 197 indicate unique effects, these effects cannot be attributed to (1) general acquiescence on  
 198 either of the questionnaires, or (2) the disgust sensitivity scores reflecting a general tendency  
 199 to evaluate social events negatively. That disgust sensitivity and moral judgment remained  
 200 associated when controlling for ideology suggests that—at least across these samples—  
 201 ideology did not confound correlations between disgust sensitivity and moral judgment.

202           Across the samples, ideology was assessed with different measures, which might have  
203 yielded differences in measurement accuracy (e.g., liberal vs. conservative in the USA  
204 samples might have captured ideology better than did left-wing vs. right-wing in the Japanese  
205 sample). Therefore, the analyses might have controlled for ideology better in some samples  
206 than in others. In addition, the contents of ideology are different across cultures. However,  
207 even for the samples in which ideology was presumably measured appropriately (e.g., the  
208 USA and UK samples), we observed multiple positive associations between disgust  
209 sensitivity and the moral foundations (see Supplemental Material S3). Nevertheless, further  
210 research may explore whether associations between disgust sensitivity and the moral  
211 foundations are robust to controlling for culturally appropriate multi-dimensional measures of  
212 ideology. Further research might also verify that the same pattern of associations is observed  
213 when using another measure of moral judgments. Such research might show whether the  
214 small effect sizes observed here genuine or are an artifact of the MFQ.

215           A related issue is whether the associations between disgust sensitivity and the moral  
216 foundations are similar across countries. The current findings suggest that the effects  
217 observed for moral disgust sensitivity and sexual disgust sensitivity are not limited to USA  
218 and UK populations (as these predictors showed similar effects in the Belgian and Dutch  
219 samples). However, the results suggest that the effects observed for pathogen disgust  
220 sensitivity might be limited to USA and UK populations. Further research could explore  
221 whether the strongest effect observed for pathogen disgust sensitivity (its association with  
222 Authority) is observed across cultures.

223           The finding that multiple types of disgust sensitivity predicted multiple moral  
224 foundations is consistent with disgust being elicited by moral condemnation and with disgust  
225 amplifying and/or producing moral condemnation (Landy & Goodwin, 2015; Rozin et al.,  
226 2008; Tybur et al., 2013). Consistent with the notion that condemnation is sometimes

227 expressed with disgust, individuals more prone to expressing disgust vis-à-vis moral  
228 violations were also more likely to moralize across all foundations. The current findings thus  
229 support the notion that disgust sometimes is an output of moral judgments. Furthermore,  
230 consistent with the notion that people sometimes condemn disgusting actions, individuals  
231 more easily disgusted by situations involving pathogens or sex were also more likely to  
232 moralize Ingroup/loyalty, Authority/respect, and Purity/sanctity. Thus, although our results  
233 do not inform about the specific issue of whether disgust produces *or* merely increases moral  
234 condemnation, the current findings do support the broader notion that sexual and pathogen  
235 disgust sometimes serves as input to moral decisions.

236         That sexual disgust predicted Purity/sanctity is unsurprising as some items assessing  
237 the latter explicitly mention disgust or sexual acts. However, that sexual disgust predicted  
238 Purity/sanctity more strongly than did pathogen disgust suggests an inconsistency between  
239 theory and research on the moral foundations. The observed pattern suggests that either the  
240 Purity/sanctity foundation is more based on concerns about sexual reproduction than on  
241 concerns about infectious disease (cf. Haidt & Graham, 2007; Tybur et al., 2015), or the  
242 subscale assessing endorsement of the Purity/sanctity foundation does not accurately capture  
243 the intended construct.

244         In summary, we observed unique associations between individual differences in  
245 disgust sensitivity and moral judgment. Further research may examine whether these  
246 associations are confounded by a currently unknown variable. It is possible that these  
247 predictive effects of trait disgust are genuine and do not translate to corresponding  
248 experimental effects of state disgust (cf. Landy & Goodwin, 2015). For functional traits  
249 requiring prolonged learning or development, momentary experimental manipulations cannot  
250 always be expected to exert analogous effects on the outcomes.

251

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## Disgust Sensitivity Relates to Moral Foundations Independent of Political Ideology

## Supplemental Materials S1

Table S1.1: Cronbach's  $\alpha$ s for the disgust sensitivity and moral foundations subscales across the eight samples.

	Sample							
	USA-1	USA-2	UK	USA-3	IN	BE	NL	JP
Moral Disgust	.86	.88	.78	.93	.89	.80	.79	.81
Sexual Disgust	.84	.86	.86	.88	.89	.79	.83	.86
Pathogen Disgust	.80	.83	.76	.86	.85	.81	.80	.74
Harm	.73	.71	.53	.49	.68	.53	.46	.67
Fairness	.68	.67	.58	.66	.76	.54	.56	.54
Ingroup	.67	.71	.64	.72	.64	.54	.54	.62
Authority	.78	.78	.59	.73	.51	.65	.67	.54
Purity	.83	.88	.70	.82	.53	.68	.68	.42

Note. Sample coding: USA-1 = USA undergraduate sample from Kurzban et al. (2009); USA-2 = USA Mechanical Turk sample from Kurzban et al. (2009); UK = UK student sample from Van Leeuwen and Park (2013); USA-3 = USA Mechanical Turk sample from Dukes (2011); IN = India Mechanical Turk sample from Dukes (2011); BE = Belgian sample from Quintelier et al. (2013); NL = Dutch sample from Quintelier et al. (2013); JP = Japan sample from Quintelier et al. (2013).

## Supplemental Materials S2

Table S2.1: Standardized regression coefficients of conservatism across samples. Effects were estimated in OLS regression models that included predictors for all three disgust sensitivities, conservatism, and sex. Significant effects ( $p < .05$ ) are marked with an \*.

Outcome	USA-1	USA-2	UK	USA-3	IN	BE	NL	JP
Harm	-.06	-.11*	-.22*	-.24	-.45*	-.03	-.01	-.18*
Fairness	-.09	-.05	-.32*	-.25	-.65*	-.10	-.15*	-.14*
Ingroup	.03	.21*	.34*	.43*	-.41*	-.05	.11	.10
Authority	.15*	.28*	.33*	.37*	-.25*	.18*	.16*	.12*
Purity	.07	.25*	.28*	.35*	-.42*	.03	.26*	-.02

Note. Sample coding: USA-1 = USA undergraduate sample from Kurzban et al. (2009); USA-2 = USA Mechanical Turk sample from Kurzban et al. (2009); UK = UK student sample from Van Leeuwen and Park (2013); USA-3 = USA Mechanical Turk sample from Dukes (2011); IN = India Mechanical Turk sample from Dukes (2011); BE = Belgian sample from Quintelier et al. (2013); NL = Dutch sample from Quintelier et al. (2013); JP = Japan sample from Quintelier et al. (2013).

## Supplemental Materials S3

The strongest predictive effects of disgust sensitivity reported in Table 2 were usually observed in multiple samples. In particular, moral disgust sensitivity was a significant positive predictor of Harm and Fairness in six of the eight samples (Table S3.1). Sexual disgust sensitivity was a significant positive predictor of Ingroup and Authority in four samples and a significant positive predictor of Purity in five samples (Table S3.2). For pathogen disgust sensitivity associations were more variable across the samples (Table S3.3). Pathogen disgust sensitivity was a significant positive predictor of Authority in five samples, but significant predictive effects for Ingroup and Purity were observed in only 3 samples (only in samples from the USA or UK).

Table S3.1: Standardized regression coefficients of moral disgust sensitivity across samples. Effects were estimated in models that included predictors for all three disgust sensitivities, conservatism, and sex. Significant effects ( $p < .05$ ) are marked with an \*.

Outcome	USA-1	USA-2	UK	USA-3	IN	BE	NL	JP
Harm	0.20*	0.15*	0.31*	0.20	0.33*	0.18*	0.13	0.32*
Fairness	0.24*	0.29*	0.20*	0.18	0.19	0.26*	0.24*	0.24*
Ingroup	0.06	-0.004	0.24*	0.24	0.25	0.11*	0.07	0.08
Authority	0.08	0.13*	0.16*	0.05	0.15	0.08	0.15*	-0.04
Purity	0.10*	0.10*	0.15*	0.22	0.32	0.17*	-0.02	0.21*

Table S3.2: Standardized regression coefficients of sexual disgust sensitivity across samples. Effects were estimated in models that included predictors for all three disgust sensitivities, conservatism, and sex. Significant effects ( $p < .05$ ) are marked with an \*.

Outcome	USA-1	USA-2	UK	USA-3	IN	BE	NL	JP
Harm	0.13*	0.10*	-0.10	0.15	0.07	0.02	0.18*	-0.13
Fairness	0.06	0.05	-0.02	0.16	-0.11	0.05	0.05	-0.17*
Ingroup	0.19*	0.13*	0.04	-0.12	-0.09	0.28*	0.22*	-0.02
Authority	0.18*	0.06	0.17*	0.03	0.07	0.19*	0.23*	-0.03
Purity	0.34*	0.37*	0.47*	0.03	-0.12	0.43*	0.55*	0.11

Table S3.3: Standardized regression coefficients of pathogen disgust sensitivity across samples. Effects were estimated in models that included predictors for all three disgust sensitivities, conservatism, and sex. Significant effects ( $p < .05$ ) are marked with an \*.

Outcome	USA-1	USA-2	UK	USA-3	IN	BE	NL	JP
Harm	0.14*	0.04	0.09	-0.01	-0.13	0.06	-0.17*	-0.08
Fairness	0.13*	0.04	0.06	0.23	0.08	-0.09	-0.10	0.05
Ingroup	0.10*	0.18*	0.16*	0.15	-0.09	0.01	0.04	0.09
Authority	0.15*	0.16*	0.05	0.41*	0.002	0.14*	0.04	0.20*
Purity	0.15*	0.09*	-0.02	0.45*	-0.14	0.07	-0.07	0.03

Note. Sample coding: USA-1 = USA undergraduate sample from Kurzban et al. (2009); USA-2 = USA Mechanical Turk sample from Kurzban et al. (2009); UK = UK student sample from Van Leeuwen and Park (2013); USA-3 = USA Mechanical Turk sample from Dukes (2011); IN = India Mechanical Turk sample from Dukes (2011); BE = Belgian sample from Quintelier et al. (2013); NL = Dutch sample from Quintelier et al. (2013); JP = Japan sample from Quintelier et al. (2013).