The Distinct Social Function of Disgust and Anger in the Moral Domain

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Abstract

Recent research has drawn a distinction between moral judgments directly focused on a transgressor's act and judgments focused on a transgressor's character. Functional-evolutionary theories of emotion posit that bad character should elicit disgust (a withdrawal emotion) because stable, negative traits are unlikely to change, so the best course of action may be to avoid those with bad character. By contrast, the transgressions themselves should elicit anger (an approach emotion), which may serve to change the transgressor's future behavior. The current study aimed to provide further evidence for these hypotheses by manipulating a transgressor's character and testing how this affects feelings of disgust and anger. To manipulate character, we provided information about the transgressor' prior good deeds, compared to a control condition in which no positive information was provided. Participants rated the transgressor's character and the wrongness of their act, and also reported on disgust and anger.

Keywords: morality, character, anger, disgust

Word count:

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Recent research has drawn a distinction between moral judgments directly focused on a transgressor's act and judgments focused on a transgressor's character. Functional-evolutionary theories of emotion posit that bad character should elicit disgust (a withdrawal emotion) because stable, negative traits are unlikely to change, so the best course of action may be to avoid those with bad character. By contrast, the transgressions themselves should elicit anger (an approach emotion), which may serve to change the transgressor's future behavior. The current study aimed to provide further evidence for these hypotheses by manipulating a transgressor's character and testing how this affects feelings of disgust and anger.

Methods

In order to test this hypothesis, 212 participants sampled from Amazon's Mechanical Turk completed an online survey programmed using Qualtrics software. All participants read a fabricated "news artcle" describing a high school principal who either sexually harassed a waitress or was pulled over by a cop for using cocaine (counterbalanced). To manipulate moral character of a transgessor, one independent variable of Domain (Different vs. Control vs. Same) was used. Participants in the "Different Domain" condition first read a fabricated "news article" that described the principal's benevolant actions in a domain other than that in which he transgressed (e.g., a principal who campaigned against drug use was caught harassing a woman, and vise versa). Participants in the "Same Domain" condition first read a fabricated "news article" that described the principal's benevolant actions in the same domain in which he transgressed (e.g., a principal who campaigned against drug use was pulled over for using cocaine, and vise versa). Participants in the "Control" condition did not read any article about the principal's benevolant actions. The principal who committed a transgression in a different domain should be rated as having better character than the

principal who did not have any benevolant actions (control). The principal who committed a trangression in the same domain should have worse character than principal who did not have any benevolant actions (control) due to the added effect of hypocrisy.

Participants completed measures on 6 dependent variables: (1) Act Judgments of the principal, (2) Character Judgments of the principal, (3) Emotion towards the principal in endorsements of words, (4) Emotion towards the principal in endorsement of photographed faces, (5) Hypocrisy Judgments of the principal, and (6) Disgust-Scale Ratings.

Results

A 2x2 ANOVA showed that there was a main effect of Domain (control vs different) on Judgment, $F(1, 114) = 17.37$, $MSE = 1.11$, $p < .001$, $\hat{\eta}^2_G = .102$. There was no main effect of Judgment Type (character vs. act) on Judgment, $F(1, 114) = 1.05$, $MSE = 0.38$, $p = .308$, $\hat{\eta}^2_G = .002$. However, there was a significant interaction effect such that Character Judgments were more influenced by Domain than Act Judgments, $F(1, 114) = 25.83$, $MSE = 0.38$, $p < .001$, $\hat{\eta}^2_G = .054$.

A 2x2 ANOVA of Domain (control vs different) and Emotion Type (disgust vs. anger) showed that contrary to predictions, Domain did not have a stronger effect on disgust than on anger, $F(1, 114) = 1.44$, $MSE = 0.59$, $p = .232$, $\hat{\eta}^2_G = .003$. This analysis also showed that anger was felt more strongly than disgust, $F(1, 114) = 7.54$, $MSE = 0.59$, $p = .007$, $\hat{\eta}^2_G = .014$. There was no main effect of Domain, $F(1, 114) = 2.08$, $MSE = 2.12$, $p = .152$, $\hat{\eta}^2_G = .014$.

A whole-sample multiple regression analysis with Character as the DV and Disgust and Anger as the predictors was used to analyze the hypothesis that Disgust should predict character ratings better than anger ratings. This analysis showed that Disgust significantly predicted Character ratings, $b = 0.23$, 95% CI [0.06, 0.40], $t(113) = 2.74$, $p = .007$, but anger

did not, $b = 0.14$, 95% CI [−0.04, 0.32], $t(113) = 1.50$, $p = .137$.

A whole-sample multiple regression analysis with Act as the DV and Disgust and Anger as the predictors was used to analyze the hypothesis that both Disgust and Anger should predict character ratings. This analysis showed that, as expected, Act Ratings were significantly predicted by both disgust, $b = 0.31$, 95% CI [0.18, 0.43], $t(113) = 4.73$, $p < .001$, and anger, $b = 0.22$, 95% CI [0.08, 0.36], $t(113) = 3.19$, $p = .002$.

Simulation-Based Power Analysis

We first estimate the overall mean judgment, and the standard deviation of these judgments from the data. The overall mean was 3.64, and the overall standard deviation was 0.93.

To conduct the simulation we generate data for each subject using the rnorm function. Each subject made a judgment of the principal's act and character. There were 60 subjects in each Domain condition (control vs different). For each act and character judgment, we sample 1 score from each participant, producing 2 total scores from each participant. To model the effect of Domain condition, we systemically increase the mean of the Character judgments by a proportion of the standard deviation. We use effect-sizes of 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, and 1; which range from small to large. For each effect-size, we run 100 simulated experiments, and save p-value for the main effect of congruency for each simulated experiment. Then, for each effect-size, we find the proportion of experiments that resulted in $p < 0.05$. The proportion of experiments that reject the null is the power of the design to detect an effect of each size. The simulation below finds that this design had power of 0.84, to detect an effect of d = 0.4. It had power of 0.94 to detect effects of d = 0.8. The full power-curve for this design is displayed in Figure 3.

Discussion

The hypotheses of the experiment were generally supported, and the analyses completed in SPSS were successfully recreated using R.

References

Table 1

ANOVA table for Hypothesis 1

Effect	F	df_1	df_2	MSE	p	$\hat{\eta}^2_G$
Domain	17.37	1	114	1.11	$< .001$	.102
Judgment type	1.05	1	114	0.38	.308	.002
Judgment type $\times$ Domain	25.83	1	114	0.38	$< .001$	.054

Table 2

ANOVA table for Hypothesis 2

Effect	F	df_1	df_2	MSE	p	$\hat{\eta}^2_G$
Domain	2.08	1	114	2.12	.152	.014
Emotion type	7.54	1	114	0.59	.007	.014
Emotion type × Domain	1.44	1	114	0.59	.232	.003

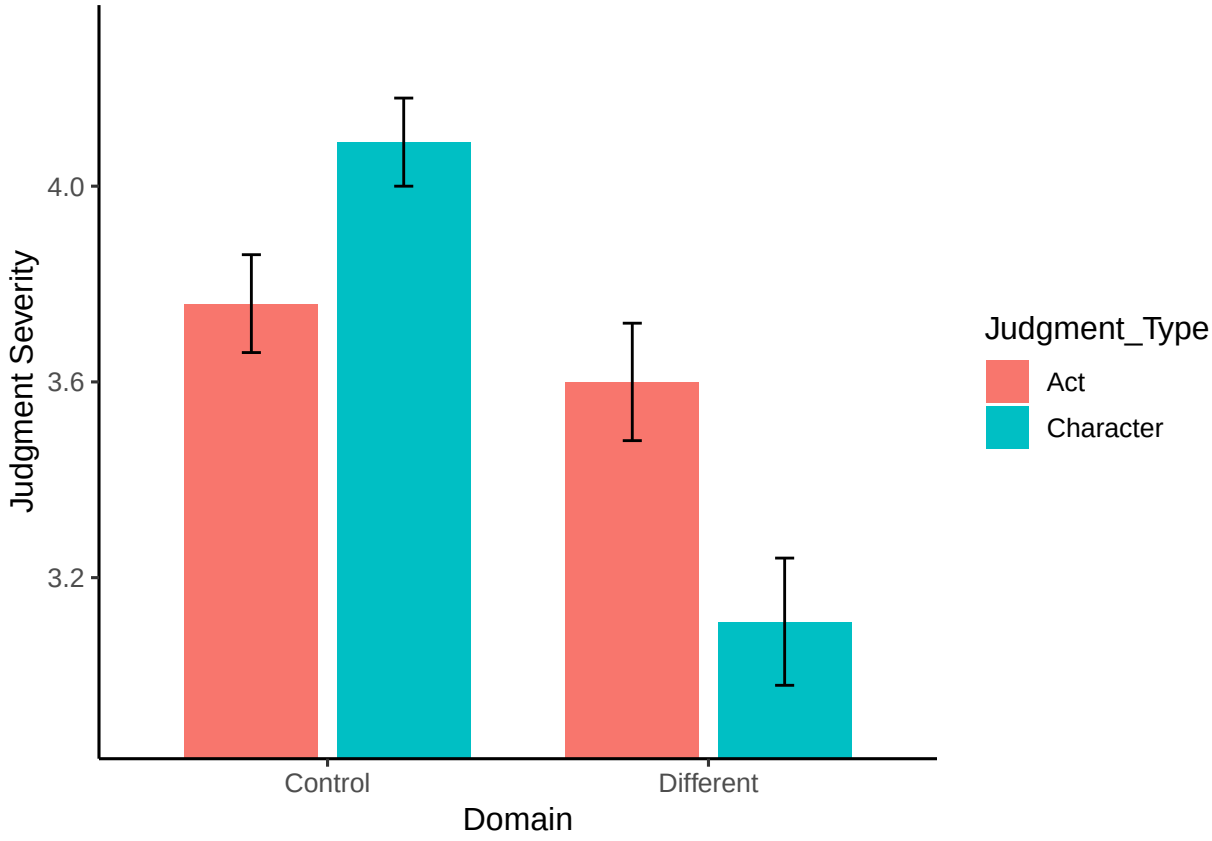
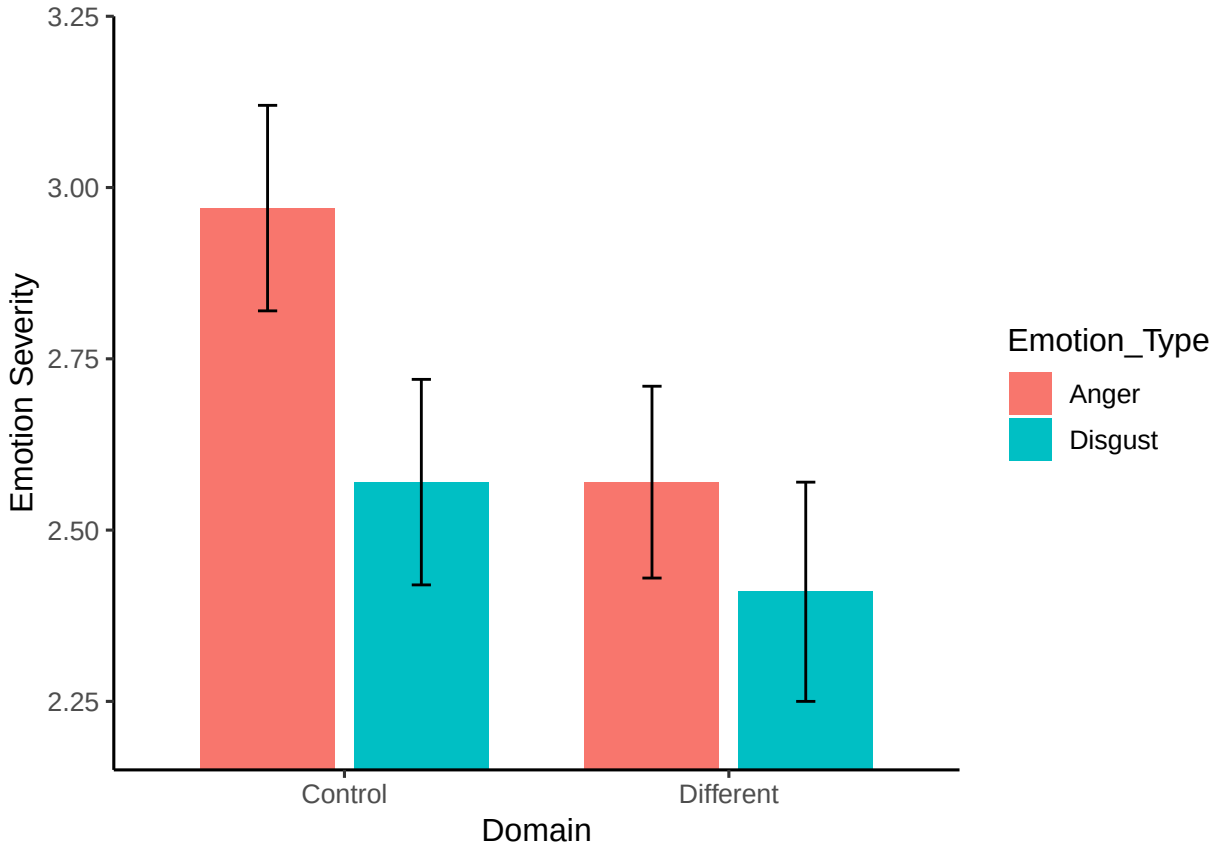

Judgment Severity
4.0
3.6
3.2
Control
Different
Domain
Judgment_Type
Act
Character

Figure 1


3.25
3.00
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2.50
2.25
Emotion Severity
Control
Different
Domain
Emotion_Type
Anger
Disgust

Figure 2

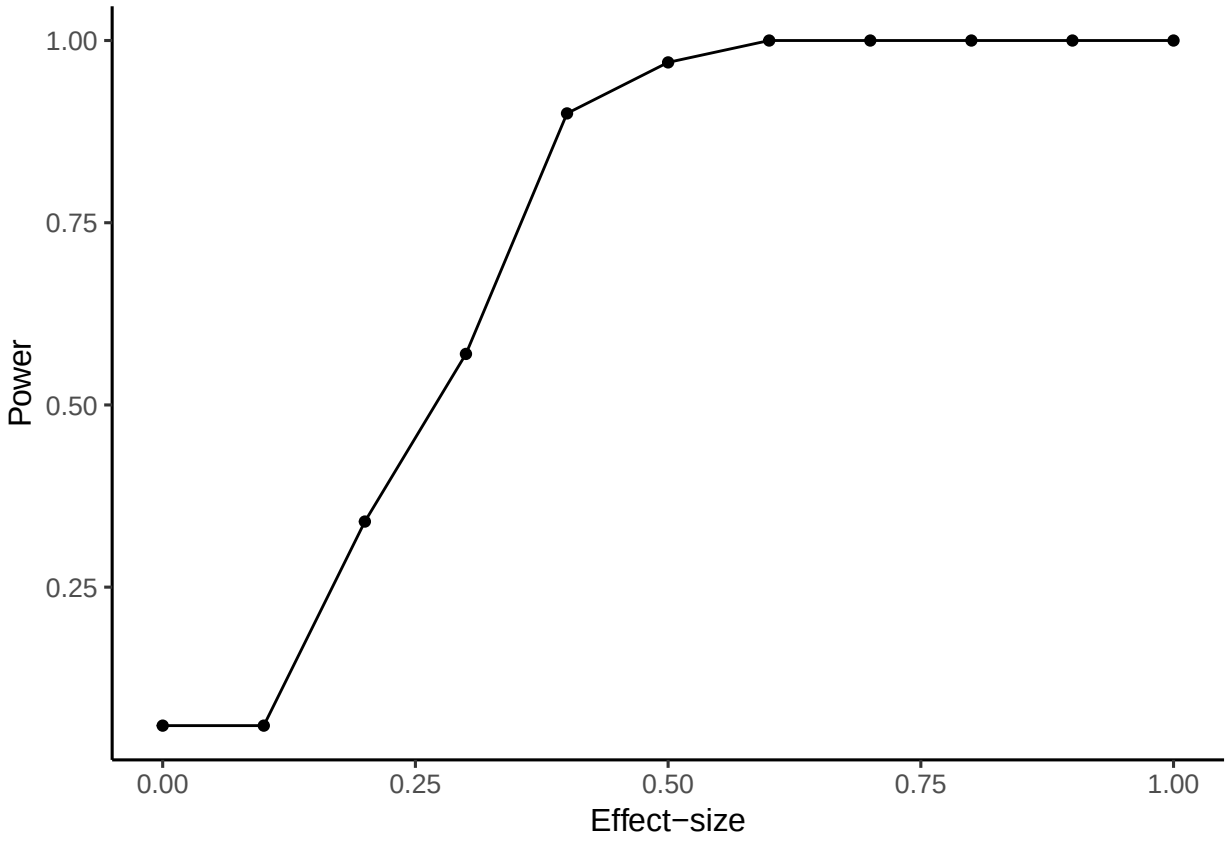

Figure 3. Simulation-based power curve for this design