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Social Cuing of Guilt by Anger and of Shame by Disgust

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Abstract

Scholars have proposed a conceptual structure for the self-critical moral emotions of guilt and shame and the other-critical emotions of anger and disgust. In this model, guilt is linked with anger and shame with disgust. This relationship may express itself in asymmetrical social cuing between emotions: In a social context, other people's angry facial expressions may communicate that the target should feel guilty, and other people's disgusted facial expressions may communicate that the target should feel ashamed. We conducted two experiments, one in the United Kingdom and the other in Spain, in which participants were shown pictures of faces expressing either anger or disgust. Participants rated the degree to which the faces would make them feel guilt or shame in a casual social encounter, and they answered questions about inferences concerning the emotional expressions. In both studies, angry expressions led to greater guilt and less shame than did disgusted expressions. This relationship was explained better by the type of norm violation inferred than by whether the violation was thought to involve the target's action or personality versus the target's character.

Keywords

emotions, social perception, morality

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Emotions provide output to the social environment through people's facial expressions, voices, and use of language. Emotional output can also act as input: Some research has revealed symmetrical phenomena in which an expressed emotion inspires the same emotion in other people (e.g., Hatfield, Cacioppo, & Rapson, 1994; Hess, Blairy, & Philippot, 1999). But an emotional expression can also asymmetrically cue a different emotion in its recipient. This can occur when one person signals greater power than another person, makes a moral claim on the other, or, in general, calls attention to relational differences rather than to similarities. For example, outside of any particular context, seeing angry human faces makes viewers afraid or anxious (Öhman, 2002) and evokes a reaction that favors the asymmetric flight response over the symmetric fight response.

We propose that, in the social context of a common group, other people's angry and disgusted faces can cue self-conscious negative emotions in their targets. This is because the target interprets anger and disgust as signals that he or she, unlike the expresser, has violated a social norm. This in turn leads to self-focused negative emotions that work to make the target more aware of the norm and more motivated to address the violation. This is the context in which our research tested a proposed correspondence between two pairs of asymmetric emotions: anger and disgust, on the one hand, and guilt and shame, on the other.

In Haidt's (2003) analysis of moral emotions, other-condemning emotions include disgust, anger, and contempt, and self-condemning emotions include shame and guilt. Haidt and other theorists have also drawn correspondences between pairs of emotions across the other-condemning and self-condemning line: Anger is linked with guilt, and disgust is linked with shame. For example, Roseman (1984) theorized that anger and guilt both focus on disapproval of an act, whereas disgust and shame focus on disapproval of the person. Nussbaum (2004) additionally linked this correspondence to the kind of norm violated; disgust and shame involve anxieties about body-relevant norms (sex, eating, and hygiene), but anger and guilt respond to norms about fairness and kindness.

In the research reported here, we sought to verify a previously untested hypothesis that can be derived from these theories: that expressions of anger from other people might preferentially cue guilt and disgusted expressions might preferentially

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cue shame. To test this cuing hypothesis, we showed participants pictures of facial expressions depicting strong anger or disgust directed at them in an imagined social context. Participants then rated their feelings of shame and guilt. We also included questions that allowed us to test why the correspondence between the tested emotions might occur. Participants rated the degree to which they would feel that they had done something wrong, as opposed to feeling like a bad person in general, after viewing these facial expressions. These person-versus-act judgments might mediate the effect of angry and disgusted faces on shame and guilt reactions. That is, people might feel shame because the facial message they received says that their character is bad (i.e., a disgusted face) rather than that they simply acted badly (i.e., an angry face). This hypothesis parallels independent findings by Tracy and Robins (2006) that shame reflects stable, uncontrollable attributions of a negative event, and guilt reflects unstable, controllable attributions. Likewise, Fischer and Roseman (2007) found that contempt (a social emotion related to disgust) accompanied more dispositional attributions of a fault to another person than anger did.

Another possibility is that different other-condemning emotions communicate what kind of norm the other person has violated and that different self-condemning emotions respond to this. Rozin, Lowery, Imada, and Haidt (1999) found primarily angry responses to violations of rights-related norms, such as respecting other people's rights and not hurting them, but they found primarily disgusted responses to violations of body-relevant norms, such as norms concerning what foods may be eaten and what sexual conduct is allowable. Likewise, Gutierrez and Giner-Sorolla (2007) manipulated different norm violations in the same scenario; rights violations evoked anger, but the mere violation of a food-relevant moral norm evoked disgust. Although there is little research on the responsiveness of guilt and shame to different norms, Nussbaum (2004) has proposed that concerns about the body are especially likely to lead to shame. So, cuing might work by informing the target what type of norm violation he or she stands accused of.

We performed the same experiment in the United Kingdom and in Spain. Our purpose was not to validate cross-cultural predictions but to show similarity of effects. Therefore, we treated the two samples in a similar way.

Method

Participants

Participants in the United Kingdom were 86 psychology undergraduate students (67 female and 19 male) recruited at a large university in the southeast of England; they completed the study in exchange for course credit. The Spanish experiment involved 70 volunteer undergraduate participants (44 female and 26 male) from a university in the Galicia region. Participants were assigned to one of two conditions, depending on which type of facial expression they viewed: anger or disgust.

Materials and procedure

The materials were developed in English, translated into Spanish by the second author, and retranslated into English and checked by a third person. The study was computer based, and the experimenter was blind to condition.

Participants were first asked to imagine walking into a room in their university dormitory and finding that people were looking at them. Below these instructions, one Asian and two Caucasian faces of the same gender as the participant appeared on the screen. A caption read, "They are looking at you with the following expression on their faces." The gender of faces was kept the same as the participant's to ensure the faces had a similar social meaning across the mixed subject sample. The faces were taken from the Montreal Set of Facial Displays of Emotion (Beaupré & Hess, 2005). They displayed either anger or disgust, according to the condition, at the 100% intensity level.

The faces stayed on the screen while participants answered a series of questions (there was only one trial). First, participants were asked whether they would feel more ashamed or more guilty as a result of viewing these faces. Following this, they were asked to rate their levels of shame and guilt on separate 7-point scales from *not at all* to *very much*.

Next, mediating variables were measured on 7-point scales. First, participants were asked how likely it was that, judging from the facial expressions, they themselves had committed a number of different acts. Eight questions measured participants' feelings of moral violation: Five questions assessed harm and rights violations (e.g., "giving you an unfair advantage over someone," "harming other people"), and three assessed body-norm violations (e.g., "violating a code of proper hygiene," "violating rules about what people can and can't eat").

The next five questions measured participants' attributions of the facial expressions to their person or to their acts. All five questions gave two alternative attributions that also provided anchors for a 7-point rating scale. For example, one rating scale read, "Would you think they are looking at you like this because of something that you have done or because of the way that you are?" (anchored with *because of something that you have done* and *because of the way that you are*), and another scale read, "Would you think they are looking at you like this because they don't like you or because they don't like something that you have done?" (anchored with *because they don't like you* and *because they don't like something that you have done*). All items were coded so that high numbers meant act inferences and low numbers meant person inferences.

Finally, we asked participants to indicate how disgusted and how angry each set of faces appeared to them, first categorically (disgusted or angry) and then with separate anger and disgust ratings on 7-point scales.

Results

Manipulation check

In both samples (United Kingdom and Spain), participants in the anger condition thought the faces looked more angry than disgusted—United Kingdom: $M = 5.69$ for anger, $M = 3.81$ for disgust, $t(84) = 4.89$, $d = 1.07$, $p < .001$; Spain: $M = 5.51$ for anger, $M = 2.25$ for disgust, $t(68) = -7.78$, $d = 1.89$, $p < .001$. Conversely, participants in the disgust condition thought the faces looked more disgusted than angry—United Kingdom: $M = 3.65$ for anger, $M = 6.15$ for disgust, $t(84) = -8.01$, $d = 1.75$, $p < .001$; Spain: $M = 2.20$ for anger, $M = 6.09$ for disgust, $t(68) = -11.936$, $d = 2.90$, $p < .001$. In other words, the faces distinctly communicated their respective emotions.

Cuing hypothesis

In the United Kingdom, a 2 (cue: anger or disgust; between subjects) × 2 (response: guilt or shame scale; within subjects) mixed-model analysis of variance showed a main effect of response, such that shame was felt more intensely overall than guilt, $F(1, 84) = 22.14$, $p < .001$, $\eta_p^2 = .21$. There was no main effect of cue, $F(1, 84) < 0.10$, n.s.; however, we found the predicted significant interaction between cue and response, $F(1, 84) = 24.03$, $p < .001$, $\eta_p^2 = .22$. Shame was higher for disgusted than for angry faces, $t(84) = -3.51$, $d = 0.77$, $p = .001$, and guilt was higher for angry than for disgusted faces, $t(84) = 2.93$, $d = 0.64$, $p = .004$ (Fig. 1).

We found similar results in the Spanish sample. Shame was overall stronger than guilt, $F(1, 154) = 9.06$, $p < .01$, $\eta_p^2 = .12$, and there was no main effect of cue, $F(1, 68) = 0.19$, n.s. The predicted interaction was significant, $F(1, 154) = 14.34$, $p < .001$, $\eta_p^2 = .17$. As in the United Kingdom, shame was higher for disgusted than for angry faces, $t(68) = -2.95$, $d = 0.72$, $p < .01$, and guilt was higher for angry than for disgusted faces, $t(68) = 2.12$, $d = 0.51$, $p = .04$ (Fig. 1).

Mediation analysis

The five items testing participants' attribution of the facial cues to their person or their acts were averaged into a scale (United Kingdom: $\alpha = .67$; Spain $\alpha = .67$). To create a comparable bipolar metric for the remaining items, we reverse-scored the three items testing inferences of body-norm violations and tested them as a scale together with the five items involving perceptions of harm and rights violations. After dropping an item about gender-appropriate behavior, which had a low item-total correlation (below .10 in both samples), these seven items had an alpha of .70 in the United Kingdom sample and of .65 in the Spanish sample. Higher numbers reflected more harm and rights violations, and lower numbers reflected more body-norm violations.

To increase statistical power, we combined the two samples in a mediation analysis. This analysis tested inferred moral violations, on the one hand, and act-versus-person attribution, on the other hand, as simultaneous mediators between the face manipulation (coded −1 for disgust and 1 for anger) and the tendency to feel guilt more than shame (guilt score minus shame score). After bootstrap sampling to test both paths simultaneously (Preacher & Hayes, 2008), the mediational pattern in Figure 2 emerged. Act-or-person attributions did

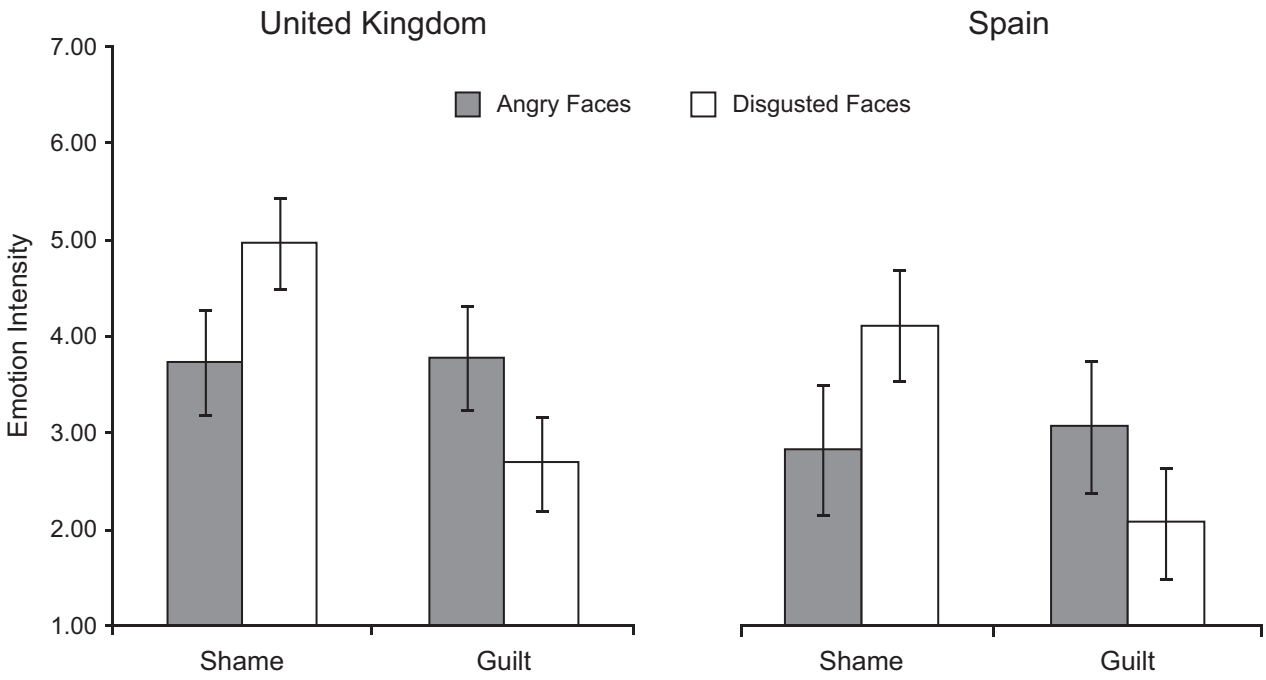

Fig. 1. Mean ratings of shame and guilt in the angry- and disgusted-faces conditions. Subjects in both the United Kingdom and Spain rated the emotional intensity of each feeling on a separate scale from 1, *not at all*, to 7, *very much*. Error bars represent ±2 *SEM*.

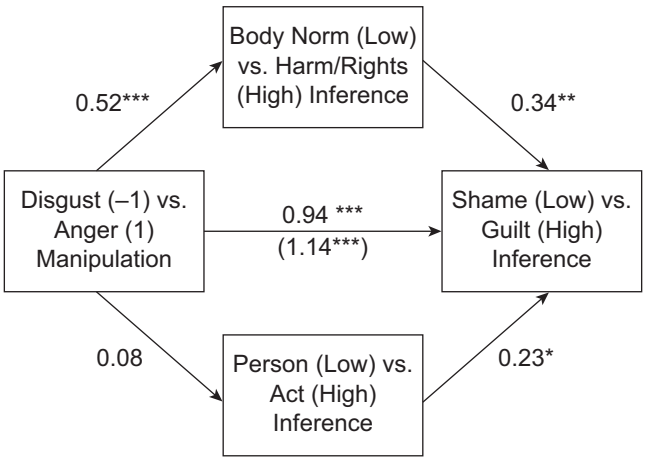

Fig. 2. Mediation analysis of effects in the combined subject sample. This path diagram shows the effect of the face manipulation (disgust or anger) on subjects' emotional state (shame or guilt). The mediators included in the model were inferences about moral violations (body-norm vs. harm and rights violations) and participants' attributions of the facial expressions to their person or to their acts. Unstandardized coefficients (*b*) are reported. The coefficient in parentheses represents the zero-order effect of the independent variable on the dependent variable. Asterisks indicate significant coefficients (*$p < .05$; **$p < .01$; ***$p < .001$).

predict guilt or shame feelings independently of inferred moral violations. But such attributions were not affected by the face manipulation, and the mediating path was not significant ($b = 0.02$, confidence interval including zero). However, the face manipulation did influence inferences about moral violations: Angry faces caused a stronger inference of harm and rights violations than of body-norm violations. Completing the path, stronger inferences of harm and rights violations were associated with more guilt than shame, and the mediating path was significant ($b = 0.17$, confidence interval not including zero).

Discussion

These experiments demonstrated social cuing of shame by disgust and of anger by guilt. When asked to imagine being targeted by facial expressions of their peers in a social setting, participants reported that they would feel more guilt in response to angry expressions and more shame in response to disgusted expressions. This effect was partially mediated by inferences about the specific norm that had been violated. Angry expressions were more likely than disgusted expressions to cue inferences that participants had violated a norm about fairness or rights rather than a norm about the use of the body. It is notable that the mere sight of angry or disgusted faces in a common social context led to specific inferences of wrongdoing; this suggests that those expressions convey norm violation implicitly.

The emotions of guilt and shame have different implications for future behavior and feelings that go beyond the cuing effect (Tangney & Dearing, 2002). For example, guilt's action tendencies promote reparation and the reestablishment of relationships, but shame induces withdrawal. This implies not only that anger is expressed more often within closer relationships (Clark, Fitness, & Brissette, 2004; Fischer & Roseman, 2007), but also that it motivates its target to restore and maintain those relationships. A similar point has been made in relationship research by Clark, Pataki, and Carver (1996) and in evolutionary psychology by Sell, Tooby, and Cosmides (2009): Anger expressed in a relationship or group communicates a claim that others should value the welfare of the angry individual. This function can be generalized to moral anger, which need not be self-interested but serves as a cue for the target to care more about other people, an aim that is achieved functionally through such emotions as guilt. Disgust, on the contrary, is a distancing emotion that encourages its target to withdraw. Also, the fact that shame is a more painful feeling than guilt implies that disgust is a stronger sanction than anger.

We should also recognize some possible limits to this effect. Because we were interested in studying categorical correspondences between anger and guilt and between shame and disgust, the study's design measured only guilt and shame responses. The consistent pattern of dominant responses, with intensities averaging near to or above the midpoint of 4 on a 7-point scale, shows that guilt and shame were seen as appropriate responses. However, other emotional responses are possible. For example, people might respond with anger instead of guilt or shame if social sanctions are seen as illegitimate (Nugier, Niedenthal, Brauer, & Chekroun, 2007). Outside the social context of peers in a shared space, the presentation of unknown angry faces might also be an occasion for fear (Öhman, 2002). Furthermore, if faces expressing disgust come from a culture holding different hygiene and eating norms, they might not cue shame. Norms about fairness and harm may be universal and reliably communicated by angry expressions across cultures.

Although inferences about act-versus-person judgments predicted guilt or shame feelings, in line with the results of previous studies (e.g., Tangney & Dearing, 2002; Tracy & Robins, 2006), they were not affected by the angry or disgusted nature of the triggering facial expressions. One reason might be that disgust expressions showing disapproval of a whole person are reserved for, as Rozin, Haidt, and McCauley (1999) put it, "people who reveal themselves to have deep characterological flaws that make them unfit for participation in society" (p. 436). If people find it unlikely that they would be seen this way, they may instead attribute the disgust expressions to more transient, body-norm violations that they may consider physically gross but not an indication of bad character.

Also, the act-versus-person distinction might emerge more strongly in a study including contemptuous expressions of disapproval. Although the contemptuous facial expression is difficult to name verbally (Alvarado & Jameson, 1996), contemptuous facial expressions are reliably identified with situations evoking contempt (Matsumoto & Ekman, 2004). Like disgust, contempt is a more character-based emotion of disapproval than is anger (Fischer & Roseman,

2007). However, contemptuous expressions also accompany violations of group cohesion and loyalty (Rozin, Lowery, et al., 1999). Therefore, it is uncertain whether contempt expressions would cue shame as much as disgust expressions would, and whether that effect would be mediated more by person-versus-act inferences or by the type of norm violation inferred.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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