



Body of guilt: Using embodied cognition to mitigate backlash to reminders of personal & ingroup wrongdoing[☆]

Katie N. Rotella^{*}, Jennifer A. Richeson

Department of Psychology & Institute for Policy Research, Northwestern University, USA

HIGHLIGHTS

- An investigation of the effect of embodied guilt on intergroup relations.
- Holding a prototypical guilt pose enhances feelings of personal & collective guilt.
- Embodied guilt leads to greater reparative intentions for personal/ingroup misdeeds.
- Expressed guilt mediates the relation between posture and reparative intentions.

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ABSTRACT

Research demonstrates that people are sensitive to information that portrays either themselves or their ingroups in a negative light. Indeed, confronting individuals with their own past misdeeds or those committed by important ingroups can result in victim-blaming and refusals to apologize or make amends. Studies suggest that one reason why people demonstrate these backlash effects is that they immediately blunt the experience of guilt when confronted with either their own or group misdeeds from the past. The more individuals actually experience guilt, however, the more likely they are to respond to information about past wrongdoing with prosocial behavior (e.g., apologies, reparations, etc.). The present research sought to examine how subtle inductions of guilt shape responses to personal and group wrongdoing; namely, by manipulating individuals' body postures. Consistent with predictions, results suggest that embodiment-induced guilt reduces negative backlash and increases prosocial interpersonal and intergroup intentions.

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Introduction

During a recent meeting between representatives of the Chinese city of Nanjing and the mayor of the Japanese city of Nagoya, Mayor Takashi Kawamura raised an international furor by making comments that denied the 1937 campaign of rape and murder known as the Rape of Nanjing (Armstrong, 2012). Kawamura's statements were remarkable in their explicit denial of his country's controversial wartime past. Social psychologists have found that reminders of negative behaviors by the self or members of shared, important socio-cultural groups frequently trigger forms of backlash, including victim-blaming, minimization of the harm done, and denial (e.g., Branscombe, 2004; Branscombe & Miron, 2004; Doosje, Branscombe, Spears, & Manstead, 1998; Wohl, Branscombe, & Klar, 2006). Such reactions may buffer individuals from the aversive

experience of guilt (see Branscombe & Doosje, 2004; Peetz, Gunn, & Wilson, 2010) while allowing them to maintain positive self and/or group esteem.

The potential for backlash presents a serious problem for efforts to educate people about negative aspects of their group's history and, further, for memorializing the victims of those events. Hence, it is important to identify ways to circumvent defensive reactions to personal and group misdeeds. The purpose of the present work is to examine whether subtle inductions of emotions can attenuate defensive backlash in response to reminders of past personal and/or group wrongdoing. Specifically, the present studies investigate the possibility that embodied guilt may mitigate defensive reactions to reminders of wrongdoing, by promoting feelings of guilt, which, in turn, increase downstream prosocial behaviors (e.g., reparative intentions).

Reactions to personal & collective wrongdoing

Following the committing of an offense, people can react in a multitude of ways, including feeling guilty. The experience of guilt, in turn, serves a prosocial purpose; it motivates people to make amends and repair damaged social relationships (Baumeister, Stillwell, & Heatherton, 1994). In order to experience guilt, however, individuals

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^{*} Corresponding author at: Department of Psychology, Northwestern University, Swift Hall, 2029 Sheridan Road, Evanston, IL 60208, USA.

E-mail address: katierotella2013@u.northwestern.edu (K.N. Rotella).

have to feel responsible for the offense (Fisher & Exline, 2006, 2010). Because accepting responsibility for wrongdoing can threaten an individual's self-image, rather than doing so and subsequently experiencing guilt, individuals sometimes deny their culpability (Ditto, Scepansky, Munro, Apanovitch, & Lockhart, 1998; see also Leary, 2007).

Because important socio-cultural groups are viewed as a part of the self, people are similarly motivated to perceive them as good, moral, and deserving (Crocker & Luhtanen, 1990; Tajfel & Turner, 1986). Consequently, information that threatens individuals' beliefs in their groups' morality often prompts similarly defensive reactions (Doosje et al., 1998; Sullivan, Landau, Branscombe, & Rothschild, 2012). For instance, information suggesting the ingroup has been aggressive and has harmed outgroup members can lead to denial, minimization of harm done to victims, victim-blaming, and derogation of the victims (Bilali, Tropp, & Dasgupta, 2012; Noor, Shnabel, Halabi, & Nadler, 2012; Roccas, Klar, & Liviatan, 2004; Rotella & Richeson, *in press*). For example, White Americans reminded of their ingroup's mass-killing of American Indians tended to infra-humanize the injured outgroup—believing them less capable of “uniquely human” secondary emotions, such as humiliation and hope (Castano & Giner-Sorolla, 2006).

Thus, research suggests that reminders of ingroup wrongdoing can result in particularly insidious forms of backlash. What, then, might attenuate individuals' defensive reactions? Some research suggests that feeling angry at one's ingroup over its wrongdoing promotes more prosocial responses, possibly because anger stimulates approach-motivations and, thus, proactive challenges to injustice (Iyer, Schmader, & Lickel, 2007; Leach, Iyer, & Pedersen, 2006). Iyer et al. (2007) found, for instance, that American and British students' ingroup-directed anger over their countries' aggression in Iraq predicted their desire to compensate, confront those responsible, and withdraw troops. Most research on the role of emotions in shaping prosocial responses to collective misdeeds, however, has investigated the potentially beneficial roles of collective shame and guilt.

Although closely related, guilt and shame differ in key regards. While both emotions are linked to increased desire to make reparations (Brown, Gonzalez, Zagefka, Manzi, & Cehajic, 2008; Iyer et al., 2007; Lickel, Schmader, Curtis, Scarnier, & Ames, 2005; McGarty et al., 2005; Petz et al., 2010), the reasons for this differ. Shame is elicited by negative appraisals of the self or group that are global and stable, whereas guilt follows appraisals that are more specifically linked to controllable behaviors (Lickel, Steele, & Schmader, 2011; Robins, Nofle, & Tracy, 2007). As Lickel and colleagues explained, “you feel ashamed of who you are, but guilty for what you do,” (2011, p. 154). Shame further derives from public exposure of wrongdoing and the subsequent negative implications for one's self- or group-concept, while guilt is focused on the wrongdoing itself and its consequences, promoting reparations through increased empathy for those harmed (Brown & Cehajic, 2008; Brown, Gonzalez, et al., 2008; Brown, Wohl, & Exline, 2008; Lickel et al., 2011; Smith, Webster, Parrott, & Eyre, 2002). For these reasons, some researchers believe guilt is more likely to promote long-term prosociality. Indeed, in one study, Chileans' collective guilt toward the indigenous Mapuche predicted reparation attitudes longitudinally, while collective shame had little direct long-term effects (Brown, Gonzalez, et al., 2008; Brown, Wohl, et al., 2008).

Given collective guilt's role in promoting support for reparations, apology, and lasting intergroup reconciliation (Brown, Gonzalez, et al., 2008; Brown, Wohl, et al., 2008; Lickel et al., 2005; McGarty et al., 2005; Petz et al., 2010), engendering feelings of collective guilt should facilitate prosocial rather than defensive responses to group wrongdoing. That said, collective guilt is aversive, easily undermined, and perhaps an uncommon experience (Wohl et al., 2006). In order to feel collective guilt, individuals must first categorize and identify themselves as members of the perpetrator group, and must also perceive the offense as illegitimate (Iyer & Leach, 2008; Wohl et al.,

2006). However, if guilt could be activated even in the absence of strong group categorization and identification, or without clearly unjustified ingroup offenses, one may be able to sidestep such concerns. The present work investigates one possible method of subtly inducing collective guilt to examine this possibility—namely, embodied cognition.

Embodied cognition & emotions

Embodied cognition refers to the link between sensory or motor functions (i.e., physical properties) and more abstract concepts (Barsalou, 1999; Lakoff & Johnson, 1999; Meier & Robinson, 2004). Considerable research suggests, for instance, that feedback from bodily and facial behavior can impact emotions, evaluations, and how people process information. For example, Chandler and Schwarz (2009) found that people who were asked to raise their middle finger (i.e., “giving the finger”) while reading about an ambiguously aggressive man evaluated him as more hostile than people who read the passage while raising their thumb (i.e., “thumbs up”). Another study found that placing people into prototypically “powerful” postures (e.g., expansive, upright) versus “weak” postures (e.g., constricted) caused them to have higher levels of circulating testosterone, feel more powerful, and to take more risks (Carney, Cuddy, & Yap, 2010).

The present research considers the possible effects of embodied self-conscious emotions. Considerable research suggests that human and non-human primates display fairly prototypical bodily postures when experiencing guilt/shame and pride. Pride is often displayed with an upright posture, raised head and gaze, and shoulders back, whereas shame is often displayed through a slouched body, lowered head and gaze, and shoulders drawn down (Robins, Nofle, & Tracy, 2007; Tracy & Matsumoto, 2008). We believe this description of shame posturing is also likely reflected in prototypical guilt postures, although past research has not examined such an alternative interpretation. However, the same facial expressions appear to be labeled as shame and guilt by lay observers (Keltner & Buswell, 1996), suggesting postures for the two emotions may overlap substantially. Theoretically, without an audience to signal damage to public reputation (see Lickel et al., 2011; Smith et al., 2002) this pose may be more likely to evoke guilt than shame. Regardless, the principles of embodied cognition suggest that holding any such prototypical postures may facilitate the experience of self-conscious emotions. Indeed, people experience greater feelings of pride after an accomplishment if they are sitting upright (i.e., in a prototypical pride posture) rather than slouching (Stepper & Strack, 1993) and they decrease the height of their posture more while generating disappointment-related words than pride-related words (Oosterwijk, Rotteveel, Fischer, & Hess, 2009).

This previous research suggests that embodying the prototypical pride posture can facilitate feelings of pride, but whether embodiment facilitates the experience of guilt and/or shame is not yet known.¹ If manipulating posture is indeed sufficient to induce the experience of guilt as well as pride, however, then it may reduce (or exaggerate) backlash to information that threatens the personal or collective self, given the role of guilt in shaping individuals' behavior in response to reminders of individual or ingroup wrongdoing (Brown, Wohl, et al., 2008; Doosje et al., 1998; Lickel et al., 2005).

Present research

Two studies investigate whether the subtle induction of guilt through embodiment can promote prosocial responses to past personal or group wrongdoing. Specifically, whether assuming prototypical

¹ Lee and Schwarz (2011) found, however, that guilt can be reduced through a different form of embodiment; namely, by cleansing one's hands, activating the metaphor of “wiping the slate clean.”

guilt and pride postures differentially shape feelings of personal and collective guilt, perceived justification of wrongdoing, and the desire to make reparations following reminders of past personal (Study 1) or ingroup (Study 2) wrongdoing. We predicted that adopting the prototypical guilt posture would facilitate greater feelings of personal and collective guilt, and, in turn, reduced justifications and greater desire to make reparations toward injured parties, compared with adopting the prototypical pride posture.

Study 1

Study 1 explores whether the embodiment of guilt, compared with pride, affects reactions to personal misdeeds. Subtly inducing guilt through embodiment may help to reduce individuals' defensive reactions by promoting the acceptance of culpability and desire to make reparations (Baumeister et al., 1994). Study 1 tests this hypothesis by asking participants to hold prototypical guilt or pride postures (Robins et al., 2007; Tracy & Matsumoto, 2008) while reading about "their" ambiguously aggressive behavior toward others. We predicted that participants in the guilt posture will experience more guilt, perceive their behaviors as less justified, and have stronger intentions to take reparative action toward those harmed, compared with participants in the pride posture.

Participants

Thirty-nine (27 female), undergraduate students (average age 19.05) participated in exchange for partial course credit or \$8.

Materials

Embodiment manipulation. Prototypical guilt and pride postures were developed based on research examining non-verbal representations of emotions (see Fig. 1; Carney et al., 2010; Robins et al., 2007). The pride posture involved standing upright, shoulders drawn back, chest expanded, with the head tilted upwards. The guilt posture involved slumped shoulders, constricted chest, and the head tilted downwards. The experimenter described the posture to each participant verbally and then provided him/her with a photograph of a model holding the posture to which he/she had been randomly assigned (see, again, Fig. 1).

Wrongdoing passage. Participants read a passage adapted from Srull and Wyer (1979) in which the protagonist recounts a recent day during which he performed a series of actions that are ambiguous in terms of how aggressive or, rather, reasonably assertive they are (e.g., purposefully not paying rent, but only after the landlord failed to make promised repairs to the apartment). The story was rewritten in the first-person voice and participants were instructed to read the passage while imagining themselves as the author.

State guilt, shame, and pride. State-level guilt, shame, and pride were assessed using the various subscales from the state shame and guilt scale (SSGS; Marschall, Sanftner, & Tangney, 1994). Each subscale consists of 5 items such as "I feel remorse, regret" (guilt subscale), "I feel like I am a bad person" (shame subscale), and "I feel good about myself" (pride subscale); participants rated each statement on how well it reflected their feelings "at this moment" on a 1 (*not feeling this way at all*) to 7 (*feeling this way very strongly*) Likert-type scale. Using both shame and guilt subscales should allow us to disentangle whether the prototypical "guilt" posture evokes guilt or the related construct of shame.

Justification appraisal. To evaluate whether participants perceived the actions as justified, participants rated their agreement with six statements such as "I feel like my actions were justified" and "My behavior was inappropriate" (reverse-coded), on 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scales.

Reparative intentions. Four items assessed participants' willingness to take reparative actions toward those 'they' had harmed in the passage. Participants rated their agreement with statements such as "I will apologize for my actions" and "I want to 'make up' for the things I did," on 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scales.

Procedure

Participants believed they were participating in a study investigating posture's effects on reading comprehension and linguistic ability. They were randomly assigned to either the embodied pride or guilt condition and asked to assume the posture for 1 min. While still holding the pose, participants were asked to read the passage (taking the perspective of the author) and complete the subsequent questionnaires

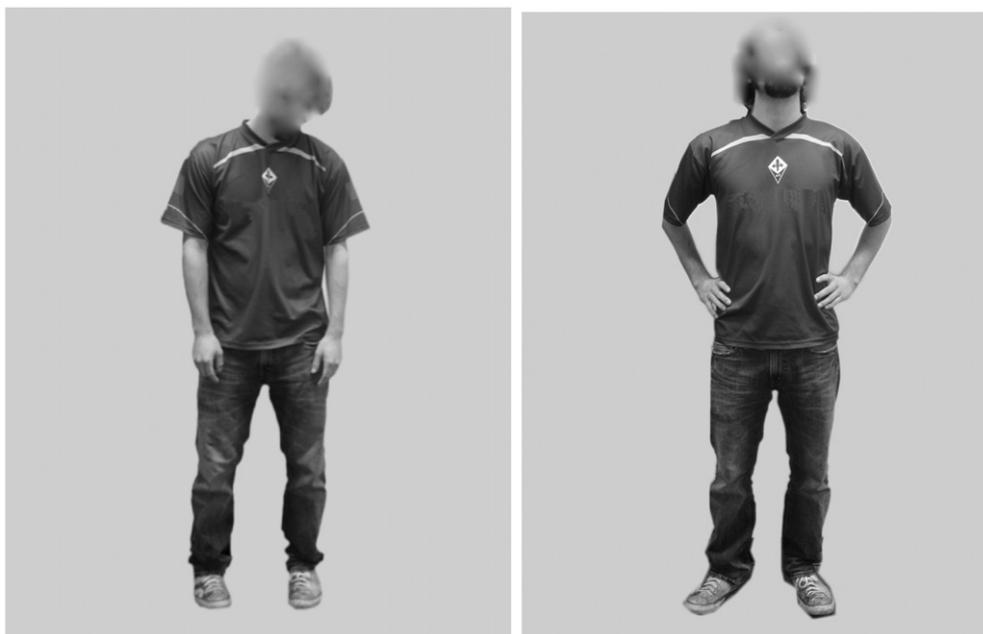


Fig. 1. Model demonstrating prototypical pride (left) and guilt (right) postures.

Table 1a

Means, standard deviations, and intercorrelations of dependent measures in Study 1 (asterisk indicates $p < .05$).

	SGSS Pride	SGSS Shame	SGSS Guilt	Perceived justification	Reparative intentions
<i>M(SD)</i>	3.48 (1.15)	3.31 (1.16)	3.38 (1.12)	2.58 (1.34)	3.39 (1.47)
SGSS Pride	–	–.08	–.60*	.54*	–.51*
SGSS Shame	–.08	–	.56*	–.27	.26
SGSS Guilt	–.60*	.56*	–	–.72*	.79*
Perceived justification	.54*	–.27	–.72*	–	–.84*

using a clipboard held at either the waist (guilt posture condition) or resting against a wall just above eye-level (pride posture condition), allowing them to remain in the assigned posture. Participants were then thanked, debriefed, and credited for their participation.²

Results

The descriptive statistics for each of the dependent variables and their inter-correlations are reported in Table 1a.

State guilt, shame, and pride. Responses to the SSGS pride ($\alpha = .84$), shame ($\alpha = .77$), and guilt ($\alpha = .86$) subscales were averaged and subjected to a 2 (Posture: pride, guilt) \times 3 (SSGS subscale: pride, guilt, and shame) mixed model ANOVA. Results revealed only a significant posture by subscale interaction, $F(2, 74) = 15.19, p < .001, \eta^2 = .28$. All simple effects, means, and standard deviations are reported in Table 2. As expected, participants in the “pride” posture condition reported feeling more pride than either guilt or shame (all p 's $< .05$), which did not differ from each other. Participants in the “guilt” posture condition reported feeling more guilt than either pride or shame (all p 's $< .01$), and, unsurprisingly, reported shame was greater than pride, $p < .05$. Further, scores on the pride subscale were higher among those holding the prototypical pride posture than the prototypical guilt posture, while the reverse pattern was observed for the guilt subscale (all p 's $< .001$). Responses to the shame subscale did not differ across conditions, suggesting the posture manipulation evoked guilt and *not* shame. In other words, the postures successfully induced the relevant emotions, suggesting the embodiment manipulation is specific to guilt and not shame.

Justification appraisal. Responses on the items concerning perceived justifiability ($\alpha = .91$) were averaged and examined for differences as a function of posture condition. Consistent with predictions, participants in the guilt posture condition ($M = 2.08, SD = 1.28$) perceived their actions as less justified than did participants in the pride posture condition ($M = 3.10, SD = 1.22$), $t(37) = 2.53, p < .05, d = .81$.

Reparative intentions. Responses to the reparative intentions items ($\alpha = .77$) were averaged and examined for differences as a function of posture condition. Participants who held the prototypical guilt posture ($M = 4.95, SD = 1.28$) expressed significantly stronger intentions to take reparative action than did participants who held the prototypical pride posture ($M = 3.79, SD = 1.43$), $t(37) = 2.66, p = .01, d = .85$.

Mediation analysis. The theory motivating the present work is that any effects that embodiment has on downstream processes, such as perceived justification and reparative intentions, are due to the subtle induction of emotion, most notably, guilt. To test the significance of the indirect pathway from the prototypical guilt (v. pride) posture condition to these constructs through state guilt, we used Preacher and Hayes (2004, 2008) bootstrapping method with the recommended

² Funneled debriefing indicated no participants guessed the hypotheses or perceived the poses as representing guilt or pride.

Table 1b

Means, standard deviations, and intercorrelations of dependent measures in Study 2 (asterisk indicates $p < .05$).

	CGS	Perceived justification	Reparative intentions
<i>M(SD)</i>	2.79 (1.28)	2.65 (1.35)	3.09 (1.19)
CGS	–	–.632*	.753*
Perceived justification	–.632*	–	–.626*

5000 resamples, using dummy coded conditions, and including state pride and shame as additional possible mediators to help rule out alternative explanations. The analysis for justification appraisals revealed that the indirect effect through state guilt was significant, $\beta = -1.13$, while the direct effect of posture dropped to non-significance, and the bias-corrected bootstrap estimate had a 95% confidence interval reliably different from zero, 95% CI [.09, 1.05]. State shame and pride did not emerge as significant mediators, 95% CI [–.05, .44] and [–.69, .26], respectively. This suggests that state guilt mediated the relationship between posture and perceived justification, even after taking the other emotions into account.³

The same analysis was conducted to assess the effect of posture on reparative intentions through state guilt. As depicted in Fig. 2, the indirect effect of posture on reparative intentions through state guilt was significant, $\beta = 1.62$, while the direct effect was non-significant. The bias-corrected bootstrap estimate of the indirect effect through state guilt had a 95% confidence interval that was reliably different from zero, 95% CI [.72, 2.91], indicating that state guilt mediated the effect of posture on reparative intentions. Again, state shame and pride did not emerge as significant mediators, 95% CI [–.60, .78] and [–.53, .35], respectively.

Discussion

As predicted, participants who held a prototypical guilt posture experienced greater state-level guilt, believed their actions were less justified, and had stronger intentions to make reparations to those harmed, than those holding the prototypical pride posture. Importantly, we found that the effect of posture on these latter outcomes was mediated by self-reported guilt. Thus, the present results offer compelling support for the theoretical model of embodied guilt, demonstrating that embodying prototypical postures can invoke feelings of guilt (& pride) and alter evaluations of past events. Importantly, it appears the prototypical guilt pose promotes feelings of guilt more than the related emotion of shame. Study 1 also provides initial support for the hypothesis that embodiment-induced guilt may help mitigate the backlash associated with reminders of wrongdoing, facilitating prosocial responses instead. The aim of Study 2 is to examine this possibility in the face of actual, rather than imagined, wrongdoing and at the collective level of identity.

Study 2

The results of Study 1 suggest that embodying guilt can facilitate prosocial responses to wrongdoing by increasing feelings of guilt. Although compelling, it is important to ascertain whether embodied guilt can attenuate defensive responses to past group-level wrongdoing, acts for which current group members are not directly responsible (unlike their individual acts). Study 2, therefore, considers whether the embodiment of guilt can increase feelings of collective guilt in response to a past incident of wrongdoing committed by members of an ingroup, and whether this guilt can facilitate reparative intentions. Because group identification predicts both defensive

³ These findings should be interpreted cautiously, however, as we found partial mediation when justification appraisals was entered as the mediator and state guilt as the outcome variable, $\beta = 0.51, 95\% \text{ CI } [0.102, 1.05]$.

Table 2

Scores on the SGSS subscales across prototypical posture conditions. Different letter superscripts within each row and different number superscripts within each column indicate statistically significant between-condition differences ($p < .05$).

	Pride posture (N = 19)	Guilt posture (N = 20)
	M(SD)	M(SD)
SGSS Pride subscale	4.11 (1.03) ^{a,1}	2.89 (.95) ^{b,1}
SGSS Guilt subscale	3.16 (1.15) ^{a,2}	4.37 (.69) ^{b,2}
SGSS Shame subscale	3.07 (1.26) ^{a,2}	3.53 (1.05) ^{a,3}

reactions and collective guilt in response to group misdeeds (see Branscombe & Doosje, 2004; Doosje et al., 1998), half the participants in Study 2 were primed to be higher in group (i.e., American) identification prior to reading about a past incident wherein the group (i.e. Americans) was responsible for harming a national outgroup. Specifically, participants read about the atomic bombing of Hiroshima, Japan. Similar to Study 1, prior to and while reading about the event, participants assumed either the prototypical guilt or pride posture (or neither in a control condition) and then reported on their collective guilt and reparative intentions. We predicted that embodying guilt would increase feelings of collective guilt and reparative intentions more than either embodying pride or the no pose control condition.

Participants

One-hundred twenty-eight (59 female) undergraduate students (average age of 18.58) participated in exchange for partial course credit or \$8. All participants were White, U.S. citizens, born in the United States, and residing in the country for at least 5 years.

Materials

Group identity manipulation. To manipulate participants' level of identification with the national ingroup, we used subliminal priming procedures, exposing participants to either U.S. (higher identity condition) or Australian (lower identity condition) flags (Hassin, Ferguson, Shidlovsky, & Gross, 2007; Seger, Smith, & Mackie, 2009).⁴ Stimuli were randomly presented to the left or right of a central fixation point on a computer screen, and participants identified image location by button-press. During a practice round, all stimuli were pictures of QR codes (two-dimensional barcodes). During the 50 priming trials, either the U.S. or Australian flag appeared for 16 ms, immediately followed by a 300 ms mask (QR codes).

Embodiment manipulation. We employed the same prototypical guilt and pride postures from Study 1, plus a control condition in which the participants were asked simply to sit normally in a chair and complete measures on a computer.

Ingroup wrongdoing passage. Participants read a one-page passage ostensibly excerpted from a textbook. The passage detailed the atomic bombing of Hiroshima by the United States in 1945 and its resulting aftermath for Hiroshima. The passage also reported various historical facts and opinions why modern scholars either deem the bombing a tragic necessity or as unnecessarily devastating.

Collective guilt. Collective guilt was measured using an adaptation of the collective guilt scale (CGS; Branscombe, Slugoski, & Kappen, 2004)—the most widely used measure of collective guilt. Participants rated their agreement with 5 items, including “I feel regret for America's harmful past actions toward Hiroshima” and “I can easily feel guilty for the bad

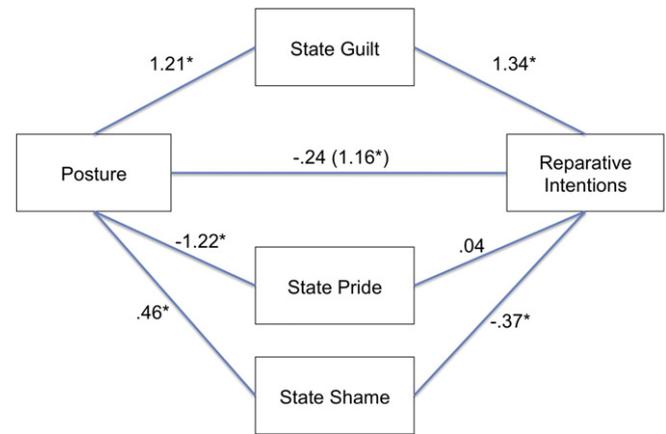


Fig. 2. State guilt, shame, and pride as mediators for the prototypical guilt posture's effect on reparative intentions. Path values represent the unstandardized regression coefficients. The values inside of the parentheses indicate the total effect prior to inclusion of the mediators.

outcomes brought about by America's actions,” on 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scales.

Justification appraisal. We assessed appraisals of the bombing's justification with six statements such as, “I feel like the dropping of the bomb was a justified action” and “I think that, given the circumstances, America made the correct decision regarding the use of the atomic bomb in the war with Japan,” rated on 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type agreement scales.

Reparative intentions. Nine items assessed participants' willingness to perform symbolic and financial reparations. Participants rated their agreement with statements such as “I think the Japanese people deserve an apology for the bombing of Hiroshima” and “I support giving some kind of financial reparations to Japan because of the bombing of Hiroshima,” on 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scales.

Group identity manipulation check. To test the effectiveness of the group identity manipulation, participants completed the importance to identity subscale (4 items) of the collective self-esteem scale (CSES; Luhtanen & Crocker, 1992). Items such as “Being American is an important reflection of who I am,” and “In general, being American is an important part of my self-image,” were rated on 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scales.

Procedure

Participants believed they were taking part in a study investigating posture's effect on reading comprehension and linguistic ability. Participants were told they would read a passage while in a particular posture and then complete a comprehension task following a delay, during which time they would fill out additional opinion items of interest. The group identification manipulation was explained as a measure of visual acuity and attention, factors to be controlled for in the analyses of linguistic skill. Participants were randomly assigned to either the high or low group identity condition as well as randomly assigned to the prototypical pride, prototypical guilt, or no-pose control posture condition. Participants first completed the group identity manipulation. Those in the guilt and pride posture conditions then completed the embodiment manipulation and other measures on paper according to the procedure described in Study 1, with the exception of the CSES which was completed on the computer. Participants in the control condition received no specific instructions regarding posture; they read the passage and answered all questionnaires on a computer while seated in a chair. Participants then completed the “comprehension” task

⁴ The Australian flag was chosen due to its similar colors and motifs as the U.S. flag.

that tested memory for the passage before being thanked, debriefed, and credited for their participation.⁵

Results

The descriptive statistics for each of the dependent variables and their inter-correlations are reported in Table 1b.

Group identity manipulation check. We subjected participants' ratings on the CSES's importance to identity subscale ($\alpha = .88$) to a 2 (Flag prime condition: Australian, US) \times 3 (Posture: guilt, pride, and control) ANOVA. There was a significant main effect of priming condition, $F(1, 122) = 4.04, p < .05, \eta^2 = .03$, such that those primed with the U.S. flag ($M = 4.27, SD = .18$) reported significantly higher identity collective self-esteem than did those primed with the Australian flag ($M = 3.77, SD = .18$), suggesting the manipulation was successful. There was neither a main effect of posture nor a prime by posture condition interaction on group identification scores (all F 's < 2.00 , all p 's $> .10$).

Collective guilt. Items on the CGS ($\alpha = .89$) were averaged and subjected to the same 2 \times 3 ANOVA. Results revealed a significant main effect of posture condition, $F(2, 122) = 3.12, p < .05, \eta^2 = .05$. Tukey's post-hoc test revealed that participants in the guilt posture condition ($M = 3.17, SD = 1.24$) reported significantly higher levels of collective guilt than did participants in the pride posture condition ($M = 2.47, SD = 1.23, p = .01$), and somewhat more collective guilt than participants in the control condition ($M = 2.76, SD = 1.31$), although this difference was not reliable ($p = .14$). The collective guilt of participants in the pride and control posture conditions did not differ ($p = .28$). Neither the main effect of group identity nor the group identity by posture interaction approached significance, however (all F 's $< .9$, all p 's $> .41$).

Justification appraisal. Items on the justification appraisal measure ($\alpha = .89$) were averaged and subjected to the same 2 \times 3 ANOVA. However, the ANOVA results revealed no significant main effects or interactions (all F 's $< 2.20, p$'s $> .11$).

Reparative intentions. Items on the reparative intentions measure ($\alpha = .67$) were averaged and subjected to the same 2 \times 3 ANOVA. Again, we found only a significant main effect of posture condition, $F(2, 122) = 6.26, p < .01, \eta^2 = .09$ (all other F 's $< 1.76, p$'s $> .17$). As depicted in Fig. 3, Tukey's post-hoc test revealed that participants in the guilt posture condition reported significantly greater willingness to make reparations than those in the pride posture condition ($p < .01$), and expressed marginally greater willingness than control condition participants ($p = .09$). Reparative intentions among participants in the pride and control conditions did not differ ($p = .28$).

Mediation analysis. As in Study 1, we investigated the proposed role of state-level guilt as a mediator of the relation between the assumption of the guilt posture and reparative intentions.⁶ We used Preacher and Hayes (2004, 2008; see also Hayes & Preacher, in press) bootstrapping method with 5,000 resamples. We created two contrast codes in order to represent all three conditions—the first involved a new variable representing the guilt posture condition vs. the other two conditions (pride posture and control), and the second compared the pride posture to the control condition. The indirect effect of the guilt posture condition (versus non-guilt posture conditions) on reparative intentions was significant, $\beta = .57$, while the direct effect became non-significant, and the bias-corrected bootstrap estimate of the indirect effect through

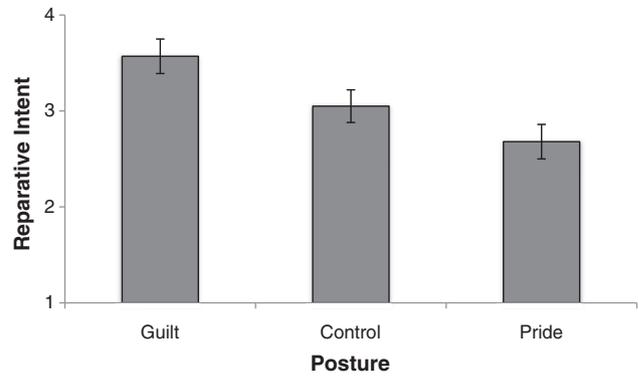


Fig. 3. Reparative intentions across posture conditions. Error bars represent $+1/-1$ standard error.

collective guilt had a 95% confidence interval that was reliably different from zero, 95% CI [.255, .898]. As seen in Fig. 4, this suggests that state collective guilt mediated the effect of posture on reparative intentions. As expected, there was no reliable evidence of mediation by collective guilt in the contrast of the prototypical pride and control conditions, 95% CI [-.68, .34].

Discussion

Study 2 offers striking evidence that embodied guilt can heighten feelings of collective guilt in response to past group wrongdoing thus increasing individuals' desire to make symbolic and financial reparations. Compared with participants who held a pride posture (and marginally with those who did not hold any pose), participants who embodied the guilt posture, experienced more collective guilt and expressed greater reparative intent for the bombing of Hiroshima. Particularly compelling, collective guilt mediated the relationship between posture and reparative intentions, suggesting that the subtle activation of collective guilt through its physical embodiment can promote prosocial responses to collective wrongdoing.

Perhaps surprising is the absence of any effects of group identification. Based on previous work, we thought that group identification might moderate the effects of posture (e.g., Doosje et al., 1998), however, no such effect emerged. One possibility is that the effects of posture trumped the effects of group identification, muting its influence. Given that there were no differences by group identification in the no-pose, control condition, however, this explanation seems unlikely. A second possibility is that the flag manipulation, although strong enough to change participants' collective self-esteem scores, was insufficient to alter individuals' self-categorization as "American." Alternatively, the bombing of Hiroshima is an event well-known to participants and that has been justified to them repeatedly during their schooling, and thus may not have been of sufficient moral disrepute to threaten high and low identifiers differentially. Despite this surprisingly weak effect of group identification, the results of the present study offer strong evidence for the potential role of embodiment as a tool in combating backlash in response to ingroup wrongdoing.

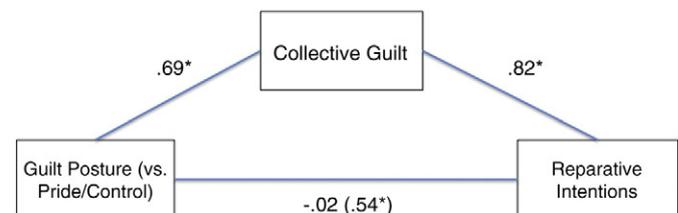


Fig. 4. Collective guilt as a mediator for the prototypical guilt posture's effect on reparative intentions. Path values represent the standardized regression coefficients. The values inside of the parentheses indicate the total effect prior to inclusion of the mediator.

⁵ Memory did not differ between conditions and in a funneled debriefing no participants recognized that the postures represented guilt or pride (or any other emotion), nor did any participants correctly guess the specific hypotheses.

⁶ We did not investigate mediation of perceived justification as this measure did not differ significantly by posture condition.

General discussion

The present work suggests that pride and guilt are embodied in prototypical postures, and, thus, embodiment can be used to induce prosocial responses to personal or collective misdeeds. Specifically, holding a prototypical guilt posture subtly increases the experience of state-level guilt in response to wrongdoing leading to increased intentions to make symbolic and financial reparations. These findings have theoretical implications as well as practical implications for education and intergroup relations.

Theoretical implications

The present findings not only provide convergent evidence for the embodiment of pride (Robins et al., 2007; Stepper & Strack, 1993; Tracy & Matsumoto, 2008), but also novel evidence for the embodiment of guilt. Both studies demonstrated that embodying pride and guilt triggers the respective emotional experience in individuals. Intriguingly, Study 2's results suggest that embodying guilt as an individual can facilitate the experience of collective guilt, even among individuals who have no actual culpability for the misdeed. This adds to the body of work underscoring one of the basic tenets of self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987); individuals can become sufficiently identified with their group memberships so as to assume responsibility for the acts of unrelated group members (see Wohl et al., 2006). Nevertheless, future research should investigate whether the subtle activation of guilt at the individual level through other means can also facilitate collective guilt.

The current work also has important implications for research on collective guilt. Our work underscores the role that collective guilt plays in determining whether learning about past ingroup misdeeds leads to defensive backlash or reparative action (Brown, Gonzalez, et al., 2008; Brown, Wohl, et al., 2008; Doosje et al., 1998; Lickel et al., 2005). The present studies are also the first (to our knowledge) to manipulate feelings of guilt directly, rather than the level of threat associated with ingroup wrongdoing (e.g., providing additional mitigating information). That a manipulation of emotion, rather than threat, can impact downstream reparative intentions provides some of the strongest, direct support for the mediating role of collective guilt in promoting intergroup reconciliation.

Practical & applied implications

That physically embodying guilt and pride can affect downstream thoughts and behavior also offers an interesting, practical direction for the memorialization of intergroup conflict. As many memorials' and museums' mission statements call for the education of members of the perpetrator groups, those designing such spaces may wish to employ principles of embodied cognition. For example, a Holocaust memorial in Germany may better prevent defensive backlash among Germans if it is built low to the ground, prompting visitors to gaze downward and assume a pose resembling the prototypical guilt posture. This could foster a greater sense of collective guilt while individuals' absorb the information about their ingroup's misdeeds, and, thus, decrease defensive responding, ultimately making the memorial more effective. One limitation is the practicality of coaxing people to assume prototypical guilt postures. Future research should examine methods to lead individuals to assume guilt-like postures, without their awareness. For example, is it possible to achieve the same results found here by simply printing historical information that is potentially threatening to the ingroup near the bottom of textbook pages? Such research may reveal simple, low-investment strategies for improving education and intergroup relations.

Limitations & future directions

Although the present work is compelling, several limitations exist. First, we only examined our effects among Americans in the Midwest, but pride and guilt can be evoked and experienced very differently across cultures (Bierbrauer, 1992). For example, in "cultures of honor" presenting an image of pride and toughness is important, and insults

to one's honor are serious offenses (Cohen & Nisbett, 1994). It is possible that members of such cultures would experience greater social identity threat following reminders of ingroup wrongdoing, and thus our subtle manipulation may be less effective.

Another limitation is that our methods used only ambiguous (Study 1) or ambivalent (Study 2) descriptions of wrongdoing, so it remains unclear whether similar effects would be observed for more unambiguously negative events or among people who already hold strong views on the event. For instance, the subtle manipulation of posture may not affect feelings of guilt for the deaths of Axis soldiers during World War II, as nearly all Americans may view these losses as unambiguously justifiable. Future research, in other words, should investigate the boundary conditions of embodiment's impact on defensive responding to both personal and group misdeeds.

Further, our studies focused on only a select few emotions, but other emotions, such as ingroup-directed anger, may also strongly influence responses to ingroup wrongdoing (see Iyer et al., 2007). While the results from Study 1 suggest that what we called the prototypical guilt posture did not increase shame, we did not directly test this on the collective level, nor did we test its effect on anger. Although anger is likely to be embodied differently than guilt, given its very different emotional profile (see Harmon-Jones & Peterson, 2009; Keltner & Buswell, 1996), future research should test this possibility and also whether embodied guilt may subsequently facilitate the experience of emotions such as anger.

Conclusions

The present research suggests guilt and pride are embodied in specific bodily postures, and manipulating those postures can promote reparative intentions for personal and group misdeeds. Given that expressions of guilt increase forgiveness—which benefits both victims and perpetrators (McCullough, 2000; Philpot & Hornsey, 2008)—subtle changes to the physical environment that lead to embodied guilt may promote a broad range of positive intergroup outcomes. For instance, expressions of collective guilt may make victimized groups more likely to trust the intentions of perpetrator groups (Philpot & Hornsey, 2008), in turn promoting intergroup reconciliation (Nadler & Liviatan, 2006). Thus, by employing principles of embodied cognition, educators, architects, and curators may be able to elicit emotional reactions that promote intergroup reconciliation—precisely the function so many memorials and museums state they hope to serve.

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