

# Evidence for the regulatory function of intergroup emotion: Emotional consequences of implemented or impeded intergroup action tendencies <sup>☆</sup>

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## Abstract

If intergroup emotions are functional, successfully implementing an emotion-linked behavioral tendency should discharge the emotion, whereas impeding the behavioral tendency should intensify the emotion. We investigated the emotional consequences of satisfying or thwarting emotionally induced intergroup behavioral intentions. Study 1 showed that if an attack on the ingroup produced anger, retaliation increased satisfaction, but if an attack produced fear, retaliation increased fear and guilt. Study 2 showed that outgroup-directed anger instigated via group insult dissipated when the ingroup successfully responded, but was exacerbated by an unsuccessful response. Responding in an emotionally appropriate way was satisfying, but ingroup failure to respond elicited anger directed at the ingroup. Study 3 showed that intergroup guilt following aggression was diminished when the ingroup made reparations, but was exacerbated when the ingroup aggressed again. Satisfying behavioral intentions associated with intergroup emotions fulfills a regulatory function.

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When the United States was attacked on September 11, 2001, Americans felt a host of emotions. Both fear of further attack and anger at the attackers were reported, often simultaneously (Skitka, Bauman, & Mullen, 2004). The anger experienced by many apparently translated into overwhelming support for military retaliation against those responsible (Langer, 2001; Skitka et al., 2004). Just after the United States' retaliation in Afghanistan, a majority of Americans were satisfied that the Bush administration had “done just about right” in responding to ter-

rorism (American Public Opinion, 2003). These events suggest that emotions can be powerful motivators of intergroup behavior, just as they are powerful forces behind individual actions. Anger instigated by an attack on the ingroup appeared to make retaliatory behavior against an outgroup seem appropriate and desirable. When such behavior occurred, anger was replaced with satisfaction.

The emotional consequences of executing or failing to execute desired behaviors provide evidence for the regulatory role of emotions. Although other processes such as rumination and cognitive reappraisal can also change an emotional experience (see Gross, 1999), the regulatory effects of emotion are clearly seen when successfully implementing an emotionally induced behavior dissipates the precipitating state, while failing to do so intensifies it. This paper reports three studies demonstrating such a regulatory role for intergroup emotion.

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### The regulatory role of emotion at the interpersonal level

Contemporary theories of emotion focus on the function emotions serve. For instance, evolutionary theorists claim that emotions have evolved to coordinate multiple adaptive responses to social or environmental challenges or threats (Levenson, 1994; Tooby & Cosmides, 1990). At the same time, social theorists contend that emotions function to resolve relationship problems in the context of ongoing social interaction (see Keltner & Haidt, 1999).

Such theories share the perspective of emotion as an integral part of a self-regulatory system that helps people detect and respond to environmental changes. Such a system monitors the environment for cues, which, when detected, elicit appropriate emotions. Emotions in turn predispose particular responses (Frijda, Kuipers, & ter Shure, 1989). When such responses are successful, a feedback loop signals the reestablishment of a benign environment and the originally eliciting emotion dissipates. In addition, the successful behavior is emotionally reinforced, typically in the form of satisfaction (Leary, 2004; Ortony, Clore, & Collins, 1988). However, failing to act, or acting unsuccessfully, fails to change the environmental signal eliciting emotion, and emotions remain activated to continue to motivate appropriate behavior. Evidence for the regulatory role of emotion in this process comes from two sources. First, specific emotions are expected to predict specific behavioral intentions. Second, emotions should dissipate when the behaviors they motivate have been successfully executed but not when such behaviors are not executed or are thwarted. In the latter case, the original emotion might intensify, or other emotions might be activated to help motivate behavior.

At the individual level, considerable evidence shows that distinct emotions elicit distinct behavioral intentions. Anger, for example, leads to a desire to aggress against another whereas fear leads to a desire to avoid the other (Frijda et al., 1989; Roseman, Wiest, & Swartz, 1994). Guilt motivates reparations to a harmed other or the desire to undo inappropriate behavior (Baumeister, Stillwell, & Heatherton, 1994; Niedenthal, Tangney, & Gavanski, 1994; Tangney, 1991). Researchers have also assumed that individual emotions wane when the behaviors they motivate are executed. Leary (2004), for example, claims that “threatening stimuli evoke fear that is accompanied by an action tendency to avoid or escape the feared stimulus, and such actions are reinforced by a decline in the aversive fearful feelings” (p. 376), although no empirical demonstrations of this effect are described.

There is evidence, however, that emotions remain active when their behavioral intentions are impeded. For instance, research testing catharsis theory (that behaving aggressively against an inanimate object will purge one’s desire to aggress against the target of one’s anger—see Geen & Quanty, 1977) shows that aggressing against an irrelevant target fails to reduce anger (Bushman, 2002). Similarly,

masking experienced emotions such as disgust, fear, or embarrassment not only fails to reduce the negative emotion (Gross, 1998; Gross & Levenson, 1997; Harris, 2001), but can also be costly to both the individual and to social interaction (Butler et al., 2003). Thus, at least some (negative) emotions appear to remain activated if they are not appropriately indulged.

Thus, emotions at the individual level both elicit specific action tendencies and remain activated when those action tendencies are not acted upon.

### The regulatory role of emotion at the intergroup level

Although emotion has long been considered an individually based phenomena, recent theories have claimed emotion as also a group level phenomenon with implications for intergroup behavior (Alexander, Brewer, & Hermann, 1999; Fiske, Cuddy, Glick, & Xu, 2002; Mackie, Devos, & Smith, 2000; Neuberg & Cottrell, 2002). According to Intergroup Emotions Theory (IET; Mackie et al., 2000; Mackie & Smith, 2002; Smith, 1993), for example, intergroup emotions are elicited by intergroup appraisals, and in turn elicit intergroup action tendencies. The appraisal process is triggered when group members detect environmental benefit or harm to groups to which they belong. These appraisals elicit intergroup emotions which alert the individual to critical features of the environment and motivate appropriate intergroup behavior in the form of action tendencies or behavioral intentions. As with individual level emotions, a regulatory role for intergroup emotions would be evidenced by distinct intergroup emotions eliciting distinct action tendencies, and by intergroup emotions waning when emotion-appropriate behavior is executed but not when such behavior is unsuccessful or fails to occur.

Distinct intergroup emotions certainly elicit distinct intergroup behavioral intentions. The experience of intergroup anger predicts a desire to harm the offending group (Mackie et al., 2000; Yzerbyt, Dumont, Wigboldus, & Gordijn, 2003), whereas the experience of intergroup fear leads to a desire to avoid the outgroup and support the ingroup (Dumont, Yzerbyt, Wigboldus, & Gordijn, 2003; Silver, Miller, Mackie, & Smith, 2001). The experience of collective guilt motivates a desire to compensate the harmed outgroup (Doosje, Branscombe, Spears, & Manstead, 1998). Finally, satisfaction with outgroup-directed action motivates a desire to engage in similar behavior in the future (Maitner, Mackie, & Smith, *in press*). Thus, a range of intergroup emotions have been shown to motivate specific intergroup behaviors.

If intergroup emotions are part of a regulatory system, there should also be predictable emotional consequences of executing or failing to execute emotionally derived behavioral tendencies. Specifically, when intergroup behavior successfully follows from an intergroup emotion-induced behavioral tendency, the eliciting emotion will have served its purpose and should dissipate. The initial emotion might be replaced by satisfaction resulting from a feedback

appraisal that the group has behaved appropriately. However, when behavior fails to fulfill an emotional desire or is unsuccessful, the initial eliciting emotion should remain activated as the eliciting challenge has yet to be effectively dealt with. The emotion-inducing state might even increase and/or be accompanied by other emotion states facilitative of the desired behavior.

To test these ideas we investigated the emotional consequences of satisfying or thwarting emotionally induced intergroup behavioral intentions. We predicted that responding in accord with the emotionally induced action tendency would dissipate that emotion and generate satisfaction, compared to responding inconsistently or unsuccessfully.

## Study 1

Study 1 tested this hypothesis by assessing emotional reactions to retaliation following group threat. Participants reacted emotionally to an attack against their ingroup, then read that the ingroup retaliated. We predicted that if the original attack elicited anger, then retaliation would fulfill the aggressive action tendency typically associated with that emotion (Mackie et al., 2000; Yzerbyt et al., 2003). Attack-instigated anger should thus be negatively related to post-retaliation anger and positively related to post-retaliation satisfaction. In contrast, we expected that if the original attack elicited fear, such fear would motivate a desire to avoid the perpetrator group (Silver et al., 2001). Since retaliation was inconsistent with the participants' emotional desires, we predicted that attack-induced fear would be positively related to post-retaliation fear and negatively related to post-retaliation satisfaction. To explore the possibility that other intergroup emotions might be recruited when the desired behavior did not occur, we also assessed post-retaliation guilt. We expected that behaving counter to one's behavioral intentions (retaliating when one is feeling fear) may relate to a desire to undo that inconsistent behavior, expressed emotionally as guilt.

## Method

### Participants and procedure

Participants were 318 American students at the University of California, Santa Barbara (UCSB). Participants completed a questionnaire designed to measure emotional reactions to hypothetical acts of terrorism between September 24th and September 28th, 2001, approximately two weeks after the September 11th attacks, but before US retaliation.

This questionnaire asked participants "How would you feel if a terrorist group from another country attacked your country, killing thousands of innocent civilians?" Participants were asked to indicate how much anger (angry, irritated, furious;  $\alpha = .79$ ) and fear (afraid, anxious, worried;  $\alpha = .77$ ) they believed they would experience by circling a number from 1 (*not at all*) to 7 (*completely*). Next,

participants were asked "If your country reacted by bombing the country you believed the terrorist group came from, how would you feel?" Participants reported how much anger ( $\alpha = .71$ ), fear ( $\alpha = .84$ ), guilt (guilty, regretful, sorry;  $\alpha = .82$ ), and satisfaction (satisfied, content, pleased;  $\alpha = .90$ ) they believed they would experience in response to retaliation on seven-point scales as above.

## Results and discussion

### Reactions to attack and retaliation

Participants reported high levels of both anger ( $M = 5.60$ ,  $SD = 1.21$ ) and fear ( $M = 5.06$ ,  $SD = 1.36$ ) to the hypothetical ingroup attack. These emotions were correlated,  $r = .363$ ,  $p < .001$ . In response to retaliation, participants reported feeling moderate to low levels of anger ( $M = 3.09$ ,  $SD = 1.59$ ), fear ( $M = 4.52$ ,  $SD = 1.62$ ), guilt ( $M = 3.75$ ,  $SD = 1.58$ ), and satisfaction ( $M = 2.61$ ,  $SD = 1.70$ ). Guilt, fear, and anger were all positively related (all  $r > .506$ ,  $p < .001$ ) and each related negatively to satisfaction (all  $r < -.289$ ,  $p < .001$ ).

### Prediction of post-retaliation emotions from post-attack emotions

Post-attack fear and anger were entered as simultaneous predictors of anger, fear, guilt, and satisfaction participants felt following retaliation in four separate analyses (see Tables 1 and 2). Consistent with predictions, post-attack anger was significantly and negatively related to post-retaliation anger and significantly and positively related to post-retaliation satisfaction. Thus intergroup behavior (retaliation) that fulfilled the action tendency associated with intergroup anger was associated with a reduction in that emotion and an increase in satisfaction. Anger following an attack on the ingroup also negatively predicted fear and guilt following retaliation. Thus, emotion-appropriate behavior apparently dampened emotions that might facilitate other behaviors.

Table 1

Regression coefficients quantifying the relation between post-attack anger and emotions experienced after retaliation against a terrorist group ( $\beta$ s control for post-attack fear)

Anger predicts	$\beta$	$p$	$sr^2$	$r$
Anger	-.176	.003	.03	-.06
Satisfaction	.504	.000	.22	.43
Fear	-.130	.000	.02	.01
Guilt	-.204	.000	.04	-.05

Table 2

Regression coefficients quantifying the relation between post-attack fear and emotions experienced after retaliation against a terrorist group ( $\beta$ s control for post-attack anger)

Fear predicts	$\beta$	$p$	$sr^2$	$r$
Anger	.305	.000	.08	.24
Satisfaction	-.216	.000	.04	.04
Fear	.727	.000	.37	.46
Guilt	.421	.000	.15	.35

Also as predicted, post-attack fear (typically motivating a desire to avoid) was strongly and positively related to continued fear when the ingroup attacked rather than withdrew. When behavior incompatible with the emotion occurred, the emotion remained activated. In addition, fear of the initial attack was also related to greater guilt about and less satisfaction with retaliation. When the ingroup acts inappropriately, guilt may be recruited to motivate group members to make amends to the outgroup or fix their inappropriate behavior. Unexpectedly, post-attack fear also predicted anger following retaliation. Given that fear predicted fear, guilt, and reduction of satisfaction, this fear-predicted anger might reflect anger directed at the ingroup, punishing it for inappropriate behavior (just as satisfaction is expected to reward the group for appropriate behavior). Because we did not assess the target of the emotion, we cannot further interpret this unpredicted finding, although we did explore this hypothesis in Study 2.

These results were confirmed by repeated measures ANOVA. As expected, the reduction in anger from post-attack ( $M = 5.60$ ) to post-retaliation ( $M = 3.09$ ) was significantly greater than the reduction in fear from post-attack ( $M = 5.06$ ) to post-retaliation ( $M = 4.52$ ), yielding a significant interaction,  $F(1, 209) = 339.34, p < .001$ .

Study 1 provided evidence that the behavioral response of retaliation dissipated an intergroup emotion that motivated that response (anger). Emotion-appropriate behavior also induced satisfaction, whereas emotion-inappropriate behavior induced guilt and anger.

## Study 2

Study 2 replicated and extended these findings in two ways. First, we experimentally manipulated whether intergroup behavior consistent with an induced intergroup emotion occurred, and whether emotion consistent behavior was successful or not. We induced intergroup anger via group insult, and then told participants that their ingroup confronted the insulting group (with varying levels of success) or failed to do so. Since anger at the outgroup was expected to regulate and be regulated by appropriate intergroup behavior, we expected anger at the insulting group to decrease only when the ingroup appropriately confronted the outgroup, causing the outgroup to relent. Only in this case should a feedback loop signal that the environmental challenge had been eliminated, decreasing outgroup-directed anger and increasing satisfaction. If the outgroup refused to retract its insults, however, we expected anger toward the outgroup to continue or even to increase, presumably with the function of motivating further behavior designed to successfully meet the outgroup challenge.

Second, we extended our analysis of the regulatory role of intergroup emotion by assessing emotions directed toward the ingroup. Because anger induces the desire for confrontation, we expected failure to confront the insulting outgroup to result in emotion regulatory of ingroup behavior—namely an increase in anger at and decrease in satis-

faction with the ingroup. We expected appropriate responding, on the other hand, to be reinforced by ingroup-directed satisfaction.

## Method

### Participants

Participants were 118 UCSB students who participated for cash payment or course credit.

### Procedure

Participants were told that the study investigated reactions to current events. They were randomly assigned to one of the three levels of the response condition (all other factors were within subjects) and completed the study in individual cubicle spaces.

*Induction of intergroup anger.* Participants first read about a letter written by a group of UCSB professors that ostensibly appeared in the *Santa Barbara News Press*. In the editorial, faculty called current UCSB students, “spoiled, immature, unintelligent, and irresponsible,” and claimed that they take little responsibility for their education, instead spending their time “partying, doing drugs, and wasting their potential.”

After reading about this editorial, participants reported how angry they felt toward the group of UCSB professors who wrote the letter (angry at, furious with, and irritated with letter authors,  $\alpha = .86$ ) and how angry they felt toward UCSB students (angry at, furious with, and irritated with UCSB students,  $\alpha = .80$ ). They also reported how satisfied (satisfied, pleased, content) they were with the letter authors ( $\alpha = .83$ ) and with UCSB students ( $\alpha = .88$ ). Participants reported their emotions using 7-point Likert-type scales anchored at 1 (*Not at all*) and 7 (*Extremely*).

*Manipulation of ingroup response.* Participants in the confrontation conditions were then told, “UCSB students who have been made aware of the letter have responded strongly. Students have strongly refuted the claims made in the article and pointed out positive attributes of UCSB students.” Participants in the successful confrontation condition were additionally told, “Because of the strong student response, the faculty authors of the letter have retracted their comments, apologizing for the content of the letter.” Participants in the unsuccessful confrontation condition were additionally told, “Despite the strong student response, the faculty authors of the letter have refused to retract their comments or apologize for the content of the letter.” Participants in the non-confrontation condition were told, “UCSB students who have been made aware of the letter have largely ignored it. Students have made no attempt to question or respond to its criticisms or provide defense of fellow students.”

*Reassessment of intergroup emotion.* Participants were next asked, “Having read the additional information, please tell

us how you feel as a UCSB student.” They again reported anger at and satisfaction with UCSB students and the group of UCSB professors who wrote the letter using the same scales described above (all  $\alpha > .85$ ) before being fully debriefed and thanked for participation.

### Results and discussion

#### Emotional reactions to group insult

We subjected participants’ emotional responses following the insult to a 2 (ingroup or outgroup target)  $\times$  2 (anger vs. satisfaction)  $\times$  3 (successful, unsuccessful, or no confrontation) mixed-model ANOVA. There was a significant main effect of target,  $F(1,115) = 8.89$ ,  $p = .003$ , that was qualified by the predicted target  $\times$  emotion interaction,  $F(1,115) = 91.94$ ,  $p < .001$  (see Table 3). No other effects were significant. As intended, participants reported significantly more outgroup-directed anger than any other emotion.

#### Regulation of intergroup emotion

To investigate changes in participants’ reported emotion as a function of ingroup response we conducted a 2 (ingroup vs. outgroup target)  $\times$  2 (anger vs. satisfaction)  $\times$  3 (successful, unsuccessful, or no confrontation)  $\times$  2 (reaction to insult vs. reaction to group response) mixed-model ANOVA. Analysis yielded a highly significant four-way interaction,  $F(2,115) = 34.81$ ,  $p < .001$ , that we examined separately by emotion and target.

#### Outgroup-directed emotion

We first submitted participants’ reported emotions toward the outgroup to 3 (successful, unsuccessful, or no confrontation)  $\times$  2 (reaction to insult vs. reaction to group response) mixed-model ANOVAs. We expected that participants’ anger toward the outgroup would be decreased when the ingroup responded successfully and exacerbated when the ingroup responded but the outgroup refused to yield. Likewise, satisfaction with the outgroup should only increase when it yielded to an ingroup response.

**Outgroup anger.** Analysis revealed main effects of response,  $F(2,115) = 4.38$ ,  $p = .015$ , and time,  $F(1,115) = 11.46$ ,  $p = .001$ , qualified by a response  $\times$  time interaction,

Table 3  
Means and standard deviations of self-reported emotional reactions to group insult

	Outgroup-directed	Ingroup-directed
Anger		
<i>M</i>	4.26 <sub>a</sub>	2.58 <sub>c</sub>
<i>SD</i>	1.63	1.30
Satisfaction		
<i>M</i>	2.52 <sub>c</sub>	3.81 <sub>b</sub>
<i>SD</i>	1.12	1.31

Note. Means that do not share a common subscript differ significantly at  $p < .02$ .

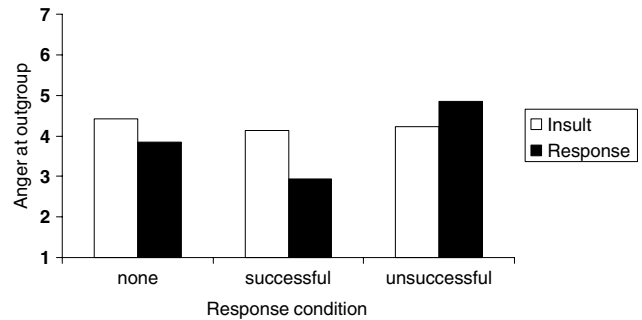


Fig. 1. Anger experienced toward the outgroup after insult, and after learning about the ingroup’s response or lack thereof.

$F(2,115) = 22.82$ ,  $p < .001$  (see Fig. 1). As predicted, participants reported significantly less anger toward the outgroup when their group responded to insult and the outgroup yielded ( $p < .001$ ). Also as predicted, anger toward the outgroup significantly increased when it refused to yield to the ingroup’s confrontation ( $p = .001$ ). When the ingroup successfully responded, outgroup-directed anger was regulated, but when the ingroup responded unsuccessfully outgroup-directed anger was exacerbated. Participants anger toward the outgroup also decreased when their ingroup failed to respond ( $p = .003$ ), although this decrease was significantly less than the decrease found when the outgroup yielded to ingroup response (as evidenced by a significant response—successful vs. no confrontation— $\times$  time interaction,  $F(1,77) = 4.84$ ,  $p = .031$ ).

**Outgroup satisfaction.** Analysis again revealed main effects of response,  $F(2,115) = 12.14$ ,  $p < .001$ , and time,  $F(1,115) = 5.54$ ,  $p = .02$ , qualified by the predicted response  $\times$  time interaction,  $F(2,115) = 32.22$ ,  $p < .001$  (see Fig. 2). As expected, participants felt more satisfaction with the outgroup when ingroup action had the desired effect ( $p < .001$ ) and felt less outgroup satisfaction when the outgroup was unmoved by the ingroup response ( $p = .006$ ). Outgroup satisfaction remained low and unchanging when the ingroup failed to act ( $p = .307$ ).

#### Ingroup-directed emotion

We expected participants to feel anger at the ingroup when it failed to behave in line with the experienced

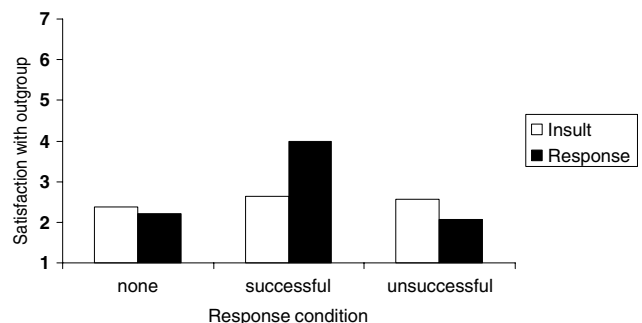


Fig. 2. Satisfaction experienced with the outgroup after insult, and after learning about the ingroup’s response or lack thereof.

emotion, and to feel satisfaction with the ingroup when it did so.

**Ingroup anger.** Analysis revealed main effects of response,  $F(2, 115) = 15.67$ ,  $p < .001$ , and time,  $F(1, 115) = 7.14$ ,  $p = .009$ , qualified by the predicted response  $\times$  time interaction,  $F(2, 115) = 37.10$ ,  $p < .001$  (see Fig. 3). When the ingroup failed to respond, ingroup-directed anger increased ( $p < .001$ ). When the ingroup responded in line with the outgroup-directed emotion, whether successfully or unsuccessfully, anger toward the ingroup decreased (both  $p < .001$ ).

**Ingroup satisfaction.** Satisfaction with the ingroup was also affected by response,  $F(2, 115) = 12.19$ ,  $p < .001$ , and time,  $F(1, 115) = 18.69$ ,  $p < .001$ , again qualified by the predicted response  $\times$  time interaction,  $F(2, 115) = 33.73$ ,  $p < .001$  (see Fig. 4). When the ingroup responded to insult, satisfaction with the ingroup increased (both  $p < .001$ ). Regardless of outcome, emotion-appropriate behavior resulted in satisfaction. When the ingroup failed to respond, participants' satisfaction with the ingroup decreased ( $p < .001$ ).

These results were strongly consistent with our predictions. A group insult induced anger toward the insulting group. An effective response to this challenge dissipated outgroup-directed anger and increased outgroup-directed satisfaction. In contrast, a response spurned by the outgroup further increased outgroup anger and further decreased outgroup satisfaction. When the ingroup failed to respond, anger toward the outgroup dissipated some-

what although satisfaction with the outgroup remained low. This may reflect a baseline effect of homeostasis given that no further consequence of inaction took place. On the other hand, it might reflect a reappraisal of the event in the light of social comparison—given that no ingroup members had responded, the event may have been reinterpreted as less harmful or even justified.

Ingroup-directed emotion was regulated differently. Emotion-appropriate behavior, successful or unsuccessful, was followed by satisfaction with the ingroup. When the ingroup failed to act in line with the induced intergroup emotion, ingroup anger increased and ingroup satisfaction decreased, presumably as a way to help motivate action. Thus, whether or not appropriate action was taken was more important in regulating ingroup-directed emotion, whereas the success of the behavior was more critical to the regulation of outgroup-directed emotion (since only successful behavior removed the threat). Failed behavior actually increased the outgroup-directed anger that motivated a response in the first place.

Studies 1 and 2 both provided evidence for the regulatory role of intergroup anger and satisfaction. In Study 3 we extended our analysis to a third emotion, intergroup guilt, in an experimental context where the ingroup was portrayed as the aggressor rather than the victim. We also ensured in this study that appropriate behavioral intentions followed from inducement and changes in intergroup emotion.

### Study 3

We induced a sense of collective ingroup guilt (typically associated with a desire to make reparations, Doosje et al., 1998) by describing instances of ingroup aggression (Maitner et al., in press), and ensured that the emotion appropriate action tendency had been induced. We then told participants that their ingroup had either made reparations (behavior consistent with the action tendency associated with guilt) or had aggressed further (inconsistent behavior). We predicted that guilt would be reduced and satisfaction increased following intergroup reparations compared to further intergroup aggression, and that behavioral intentions would track these emotional changes.

### Method

#### Participants and design

Participants were 60 students at UCSB who responded to questionnaires in individual cubical spaces. They were randomly assigned to the cells of a 3 (scenario replication)  $\times$  2 (response consistent or inconsistent with guilt) between subjects design.

#### Procedure

**Induction of intergroup guilt.** Participants were told that the study was concerned with reactions to group action. Participants read one of three minimal historically accurate

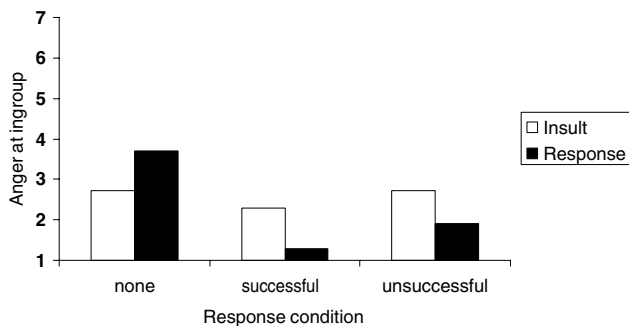


Fig. 3. Anger experienced toward the ingroup after insult, and after learning about the ingroup's response or lack thereof.

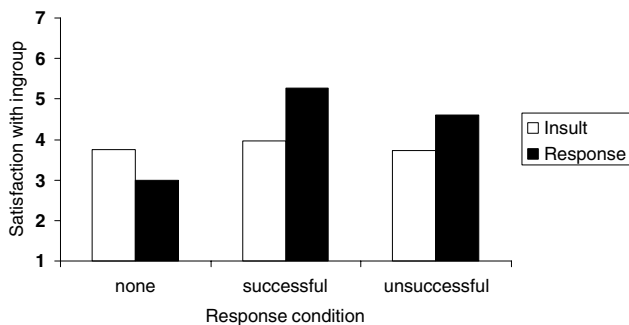


Fig. 4. Satisfaction experienced toward the ingroup after insult, and after learning about the ingroup's response or lack thereof.

descriptions of negative actions taken by the US against another non-specified nation (“The United States used missiles to destroy a factory in an African country; many people died;” “The United States supported a coup in a South American country that resulted in many deaths;” or “The United States conducted air raids on an Asian country. Many people died.”) Participants reported guilt and satisfaction as in Study 1. Participants also reported behavioral intentions using a 7-point Likert-type scale where high numbers indicated a greater desire to avoid similar behavior in the future.

*Manipulation of ingroup response and intergroup emotion reassessment.* Participants were then told either, “The United States sent money and personnel to help the country rebuild following this action,” or “The United States sent a second wave of attacks following this action.” Participants reported again how much guilt and satisfaction they felt following this second action, and the extent to which they wanted the United States to avoid similar behavior.

### Results and discussion

#### *Emotional reactions and behavioral response to intergroup aggression*

Participants reported feeling moderate guilt ( $M = 4.24$ ,  $SD = 1.21$ ) and minimal satisfaction ( $M = 2.00$ ,  $SD = 1.15$ ) in response to ingroup aggression. Guilt and satisfaction were negatively correlated ( $r = -.342$ ,  $p = .008$ ). As expected given the reported guilt, participants also reported a strong desire to avoid similar behavior in the future ( $M = 5.15$ ,  $SD = 1.59$ ). Thus we successfully induced guilt and its associated behavioral tendency.

#### *Emotional reactions to ingroup response*

To test the hypotheses, we conducted 3 (stimulus replication)  $\times$  2 (response)  $\times$  2 (time of assessment) ANOVAs. Stimulus replication exerted no effects. For guilt, main effects of ingroup response and time, both  $F(1, 53) > 11.49$ ,  $p < .001$ , were qualified by a response  $\times$  time interaction,  $F(1, 53) = 43.23$ ,  $p < .001$ . Simple main effects tests indicated that as predicted aggression-induced guilt ( $M = 4.28$ ) was significantly reduced by reparations ( $M = 2.57$ ;  $p < .001$ ). In contrast, aggression-induced guilt ( $M = 4.24$ ) increased marginally in the face of further aggression ( $M = 4.70$ ;  $p = .062$ ). Thus, behaving in line with behavioral intentions effectively purged emotion, whereas acting contrary to them intensified the emotion.

For satisfaction, ANOVA also revealed main effects of both ingroup response and time, both  $F(1, 53) > 20$ ,  $p < .001$ , again qualified by the predicted response  $\times$  time interaction,  $F(1, 53) = 85.91$ ,  $p < .001$ . Participants felt more satisfaction after reparations ( $M = 4.36$ ) than they felt initially ( $M = 2.00$ ;  $p < .001$ ). Participants felt marginally less satisfaction after engaging in further aggression ( $M = 1.63$ ) than they did initially ( $M = 2.01$ ;  $p = .084$ ).

We also assessed the effects of the manipulations on behavioral intentions. ANOVA revealed the predicted interaction,  $F(1, 53) = 47.49$ ,  $p < .001$ . The desire that participants felt to avoid similar behavior after the initial ingroup aggression ( $M = 2.98$ ) decreased somewhat when the outgroup was helped ( $M = 2.56$ ;  $p = .135$ ). As guilt declined, so too did the desire to avoid aggression. In contrast, the desire to avoid similar behavior following the initial aggression ( $M = 3.06$ ) was increased when the ingroup continued to aggress ( $M = 5.27$ ;  $p < .001$ ). When the appropriate behavior did not occur, guilt increased as did the desire to avoid further aggression.

Thus, consistent with the results from Studies 1 and 2, intergroup behavior that matched the behavioral intentions elicited by an intergroup emotion dissipated that emotion and replaced it with satisfaction, presumably reinforcing the behavior. When intergroup behavior contradicted the behavioral intention elicited by intergroup emotion, group members continued to experience the emotion and the behavioral response that accompanied it.

### General discussion

Our results provide new evidence for the functional role of intergroup emotions in regulating intergroup behavior. Previous research has shown that intergroup emotions predict specific action tendencies. Our results demonstrate that intergroup emotion also waxes and wanes depending on whether the behavior it motivates is successfully implemented or not. Study 1 showed correlationally that intergroup emotion is purged and replaced with satisfaction only when the intergroup behavior the emotion motivates is implemented. When emotion-inappropriate behavior occurs, the initial intergroup emotion remains activated, and is joined by guilt and anger, all of which seem to reinforce the initial behavioral desire.

Study 2 replicated these findings experimentally, showing in addition that outgroup and ingroup-directed emotions can regulate different aspects of behavior differently. Outgroup anger and satisfaction were regulated by emotion-induced action that effectively removed the outgroup challenge. When ingroup action failed to redress the outgroup's insult, outgroup-directed anger increased even further. In contrast, ingroup-directed anger was elicited by failure to act appropriately (confirming the prediction generated by Study 1) whereas satisfaction with the ingroup reinforced emotion-consistent ingroup action regardless of its outcome. Thus, when the ingroup took action but the outgroup continued to be a threat, the ingroup was regarded with satisfaction but the outgroup with increased anger.

Study 3 investigated the regulation of guilt when the ingroup was the aggressor rather than the victim. Once again, the motivating emotion was regulated when the ingroup responded appropriately. Whereas Study 2 assessed the consequences of failing to act consistently with action tendencies, Study 3 provided the experimental

analog of Study 1 and demonstrated that when ingroup behavior was directly inconsistent with an emotionally induced behavioral intention both the original emotion and the original behavioral tendency were intensified.

The reinforcing role of satisfaction in this process seems particularly worthy of greater study, because it can either exacerbate negative interactions (when anger-induced intergroup aggression is reinforced as in Study 2) or ameliorate them (when satisfaction follows guilt-induced reparations as in Study 3). Intergroup guilt is also a promising candidate for further study, especially since it appears to add motivational weight behind the emotion-consistent behavior. Group members who aggressed when feeling fear, for example, actually felt increased guilt (Study 1). Thus guilt is also likely to both exacerbate and ameliorate negative intergroup emotions depending on the situation.

Despite the number of intergroup conflicts in contemporary society (suggesting that groups act upon their emotions quite frequently), the failure to carry out a desired intergroup behavior is no doubt a common experience. Social norms governing some displays of prejudice and discrimination, for example, prevent group members from indulging every intergroup emotion they experience. Our results suggest that such situations have emotional consequences: a bigot's failure to insult a minority while in the presence of tolerant friends may result in even more anger and a stronger reaction when another minority group member is later encountered.

On the other hand, intergroup emotions can be dissipated via means other than behavioral implementation. Processes such as rumination and cognitive reappraisal change the individual emotional experience (Gross, 1999) and no doubt have similar effects on intergroup emotions when circumstances prevent behavioral consummation of emotion-induced intentions. Some of these possibilities are suggested by the impact of failure to act on outgroup anger in Study 2. Investigation of such issues will increase our understanding of the interplay of appraisal, emotion, and behavior in regulating intergroup relations.

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