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The Relative Impact of Anger and Efficacy on Collective Action is Affected by Feelings of Fear

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Abstract

Two well established predictors of collective action are perceptions of group efficacy and feelings of anger. The current research investigates the extent to which the relative impact of these variables differs when fear is or is not also included as a predictor of collective action. The results of two experiments indicate that when fear is not assessed, the importance of anger as a predictor of action is underestimated while the importance of group efficacy is overestimated. The results further indicate that fear, in addition to affecting the impact of known causes of collective action (anger and group efficacy), is a powerful inhibitor of collective action. The implications for current theoretical models of collective action instigators are discussed.

The Relative Impact of Anger and Efficacy on Collective Action is Affected by Feelings of Fear

oderint dum metuant: Let them hate so long as they fear.
Roman Emperor Gaius (Caligula)

For the Roman Emperor Caligula, the above quote was a favorite maxim. History suggests that Caligula was a tyrannical ruler who was hated by both the general population and the Roman Senate. Although Caligula was well aware of how he was perceived, he believed he could avoid being overthrown as long as people feared him more than they hated him. Caligula's quote nicely illustrates the potential connection between fear, anger, and collective action. Although common sense explanations of collective action imply that fear can inhibit collective action, social psychologists have largely overlooked fear as an inhibitor of protest (for exceptions, see Garcia Horstman Reser, Amo, Redersdorff, & Branscombe, 2005; Kaiser & Miller, 2001). Our research demonstrates that fear can suppress the relationship between anger and collective action. For this reason, when fear *is included* in a model predicting collective action, the predictive power of anger can increase.

Negative Emotions and Collective Action

Negative emotional reactions such as anger and resentment have long been proposed as the driving force behind collective action. In fact, such negative emotions were initially accorded prominent roles in theories of collective action (Allport, 1924; LeBon, 1895). Likewise, contemporary theories of collective action based on relative deprivation theory (Crosby, 1976; Mark & Folger, 1984; Smith & Kessler, 2004; Walker & Pettigrew, 1984) emphasize anger and resentment as affective motivators of collective action. Indeed, recent research suggests that such affective motivators are more powerful predictors of collective action than are the cognitive components of perceived disadvantage (see Walker & Smith, 2002).

According to relative deprivation theory, people who perceive their group to be relatively deprived in comparison to other groups are likely to feel resentful or angry about the injustices encountered by the in-group. These emotions, in turn, activate more confrontational action tendencies aimed at social change. There has been considerable empirical support for the role of negative emotions such as anger in encouraging collective action (Grant & Brown, 1995; Guimond & Dube-Simard, 1983; Smith, Cronin, & Kessler, 2008; Spears, Fischer, & Leach, 2004; Tougas & Veilleux, 1988; van Zomeren, Spears, Fischer, & Leach, 2004). In fact, some researchers have suggested that the relationship between anger and action is sufficiently obvious that it could be considered "trite" (Kramnick, 1972). For this reason, many researchers have assumed, rather than tested, whether anger mediates the relationship between relative deprivation and collective action (Smith et al., 2008). Other theorists have turned away from affect, and instead have focused on the importance of efficacy as a predictor of participation in collective action.

Resource Mobilization Theory and Collective Action

Resource mobilization theory emphasizes the perceived ability of group members to acquire resources and mobilize people as a means of advancing their goals (Klandermans, 1989; McCarthy & Zald, 1977). According to this perspective, group efficacy—the belief that group related problems can be solved through collective effort—is a crucial determinant of collective action. In other words, group members must believe that the group has the resources necessary for a successful movement, and that the group can effectively produce desired outcomes if they work together (Bandura, 2000; see Bandura, 1997 for an extensive review).

Resource mobilization theorists have argued that negative emotions such as anger are not sufficient for the creation of a social movement; rather, they emphasize the importance of access

and control over resources (McCarthy & Zald, 1977). Indeed, several studies from this tradition have found that when anger and group efficacy are simultaneously entered in a regression model predicting collective action, group efficacy is a significant predictor, while anger is not (Klandermans, 1997; Folger, 1987; Martin, Brickman, & Murray, 1984). To be clear, we are not claiming that anger alone will always be the dominant predictor of collective action. Instead, we propose that anger can be a better predictor of action than resource mobilization theorists have suggested. That is, we suggest that the predictive validity of anger may have been underestimated in the past because feelings of fear can act as a suppressor of the relationship between anger and collective action.

Fear –The Other Negative Emotion

Although the relationship between collective action and negative emotions such as resentment and anger have received considerable research attention (Grant & Brown, 1995; Guimond & Dube-Simard, 1983; Tougas & Veilleux, 1988; van Zomeren et al., 2004), almost no work has examined the relationship between fear and collective action (for an exception see Smith et al., 2008). As the quote in the beginning of this paper suggests though, fear may be an important inhibitor of action, even when people recognize they are being treated unjustly. Although anger and fear are both negative emotions, fear, unlike anger, is associated with avoidant action tendencies (Devos, Silver, Mackie, & Smith, 2003; Mackie, Devos, & Smith, 2000; Roseman, 1984). Accordingly, group members who fear potential repercussions that might result from their engagement in collective action should be less likely to engage in such actions, even if they are angry.

Fear as a Suppressor of Anger

We hypothesize that feelings of fear suppress the relationship between anger and collective action. A suppressor variable is one that increases the predictive validity of another variable by its inclusion in a regression equation (MacKinnon, Krull, & Lockwood, 2000; Preacher & Hayes, 2004). When a suppressor variable is added to a regression equation, instead of reducing the direct effect of the independent variable on the dependent variable, as would be the case with mediation, the opposite happens and the direct effect increases (MacKinnon et al., 2000). Suppression occurs because the suppressor variable has relationships with the independent variable and the dependent variable *that differ in direction*. Because the direct effects of anger and fear on collective action differ in direction, fear could suppress the relationship between anger and collective action if feelings of fear and anger are positively correlated[1]. For example, people who experience injustice in the workplace may feel angry in response to that treatment, but to the extent that they are also afraid of retaliation on the part of those in authority, or believe they will lose some work related outcome, anger may not be expressed. Indeed, when people perceive themselves to be unfairly treated, these two emotions—anger and fear—are quite likely to be positively correlated. In such cases, anger should have a positive direct effect on collective action, but this direct effect will be suppressed by the negative indirect effect of anger through fear. Thus, because of suppression, it might appear as if there is no overall effect of anger on action; however, the effect of anger will be clearly exhibited once the inhibiting effect of fear is accounted for in the model.

Procedural Unfairness and Collective Action

People are unlikely to complain or engage in collective action unless they perceive themselves to have been unfairly treated (Smith & Kessler, 2004). According to cognitive appraisal theories of emotion, individuals are more likely to feel angry, and act against, or

confront the source of harm or loss when they blame that harm or loss on some other person or entity (Lazarus, 1991). Applying these ideas at the group level, perceiving an event as procedurally unfair should be related to both anger and willingness to engage in collective action.

Unfair treatment should be related to perceptions of group efficacy as well. When people are in an undesirable situation for a legitimate reason, they should feel less able to bring about change compared to a when the situation is viewed as illegitimate. In support of this idea, a meta-analysis by van Zomeren, Postmes and Spears (in press) found that experiencing both structural and incidental unjust disadvantage encouraged group-based responding–including increased perceptions of group efficacy.

Predictive Validity of Efficacy Versus Emotion Variables

While some previous research suggests that group efficacy is a stronger predictor of collective action than anger (Folger, 1987; Klandermans, 1997; Martin et al., 1984), we argue that the conclusions these authors derived from their results may be inaccurate because the models on which they based their interpretations were incomplete. That is, in all of these studies, fear is absent from the models predicting collective action. Thus, because of suppression due to fear, the predictive validity of anger may be underestimated, making it appear that group efficacy is a better predictor of action than might otherwise be the case. Furthermore, because efficacy and fear share considerable variance, the predictive power of efficacy may be overestimated when fear is not simultaneously assessed. That is, collective actions that are likely to be effective in producing a desired change are also likely to evoke lower levels of fear. Thus, the current research seeks to demonstrate that in order to know the relative impact of anger and group efficacy on collective action, the models estimating these effects must include fear as a covariate.

Experiment 1 will show that when levels of fear are *not* controlled, it will appear that group efficacy rather than anger is the best predictor of collective action. However, when levels of fear are *included* as a predictor, the previous pattern will reverse with anger (now unsuppressed) becoming a significant predictor of collective action while group efficacy is no longer predictive. Experiment 2 will introduce a moderator of the suppressive effect of fear on anger and delineate why anger is not always a better predictor of collective action even when feelings of fear are controlled.

Experiment 1

In Experiment 1, we test the impact of anger and efficacy on collective action both when fear is included and when it is not included as a covariate. We test our hypotheses by manipulating procedural justice and measuring its effects on anger, group efficacy, and collective action. It is predicted that when participants are treated unfairly they will be more likely to protest this treatment by signing a petition (the measure of collective action) compared to participants who are treated fairly. In line with resource mobilization theory (Gurney & Tierney, 1982; Klandermans, 1989; McPhail, 1971), feelings of group efficacy (but not anger) should mediate the relationship between procedural unfairness and collective action when fear is not included in the model. However, when fear is included in the model as a covariate, anger will no longer be underestimated as a predictor, and feelings of anger should mediate the relationship between procedural unfairness and collective action.

Method

Participants and Procedure

Eighty-two undergraduates participated in the experiment which was described to them as an examination of decision-making processes. Participants were told that people differ in their

ability to make decisions, with some people being better at making decisions than others. Participants were then informed that they would begin the experiment in the low-ability group of unsophisticated decision makers. However, they would be given a chance to move into the high-ability group of sophisticated decision makers if the high-ability group chose to accept them. To motivate participants to want to become sophisticated decision makers, participants were told that the high-ability decision makers would be entered into a drawing for a $100 prize. However, the low-ability decision makers would be only eligible for a $25 prize.

The "decision making" task the participants performed was nearly identical to the one used by Wright (1997). In this task, participants were given evidence from a criminal case and were asked to write an essay defending their position regarding the defendant's guilt. Participants were told that in order to be accepted into the high-status group they must score at least 8.5 out of 10 on the test of decision making.

Manipulation of procedural justice. After the participants completed the decision making task, their responses were ostensibly sent electronically to a panel of high-ability judges who were to evaluate their performance. After a 10-minute delay, participants received an e-mail, supposedly from the judges, which contained false feedback about their performance. All participants were told that they were not accepted into the group of high-ability decision makers. However, half of the participants were randomly assigned to exclusion for what was a fair reason—because their score was too low (a score of 7), while the remaining half were given an unfair reason for their exclusion. Participants in this condition were told that although they scored an 8.8 they would be denied access to the high-ability group because the high-ability group wanted to restrict the number of people allowed into their group.

Following this manipulation, participants learned that others (low-ability group members) had complained about the treatment they received from the high-ability group and that there was a petition circulating requesting the high-ability group to re-evaluate their decisions. Participants were asked if they would like to sign the petition as our measure of collective action. However, before they were given a chance to decide whether they would do so or not, participants were informed that by signing the petition they would be withdrawn from the low-ability group lottery. Thus, it was made salient to participants that they could lose their chance at winning the $25 if they signed the petition. Participants then completed several questionnaires designed to measure (1) perceptions of legitimacy, (2) perceptions of group efficacy, and (3) fear and anger toward the out-group.

Dependent Measures

Perceptions of legitimacy. Participants' reports of the legitimacy of the situation were assessed on an 11-point scale with the following item, "To what extent do you believe that you being denied entrance into the high-status group was legitimate?" (M = 2.94, SD = 2.11).

Perceptions of group efficacy. A four-item scale was constructed to measure participants' reports of how successful they believed the petition would be using the following items: "To what extent do you believe that the low-ability group will be able to get the high-ability judges to revaluate their scores?"; "To what extent do you believe that enough low-ability group members will sign the petition in order for it to be successful"; "I think that together the low-ability group will be able to change the situation" and "How certain are you that the high-ability group will revaluate the low-ability group's score?" Participants' responses to these items were recorded on 11-point scales from 1 *(strongly disagree)* to 11 *(strongly agree)*. For each participant a single mean index was calculated (M = 6.32, SD = 2.16, α =.85).

Feelings of anger. The extent to which being in the low-ability group made participants feel angry was assessed using three emotion adjectives (angry, annoyed, and resentful), similar to those used in previous studies (Smith, Haynes, Lazarus, & Pope, 1993). Emotion ratings were made on 11-point scales, ranging from 1 *(not at all)* to 11 *(extremely)*. For each participant a single mean index was calculated ($M = 4.63$, $SD = 2.95$, $\alpha = .89$).

Feelings of fear. The extent to which participants were afraid that by signing the petition they would lose their chance to win $25 was assessed using three emotion adjectives (afraid, nervous, anxious), similar to those used by Smith et al. (1993). Emotion ratings were made on 11-point scales, ranging from 1 *(not at all)* to 11 *(extremely)*. For each participant a single mean index was calculated ($M = 2.54$, $SD = 2.38$, $\alpha = .94$). See Table 1 for the zero order correlations between all the dependent variables.

Results

Manipulation Check

Legitimacy. The manipulation of procedural justice was successful. A main effect of condition was found for participants' reports of the legitimacy of the situation, $F(1, 81) = 6.38$, $p = .01$, $d = .56$. As shown in Table 2, participants in the fair condition viewed their exclusion from the high-ability group as more legitimate ($M = 3.57$) than did participants in the unfair condition ($M = 2.42$).

Dependent Variables

Feelings of anger. For participants' reports of how angry they were with the high-ability group, there was a significant main effect of procedural justice, $F(1, 81) = 3.99$, $p = .05$, $d = .44$. Participants who were excluded from the high-ability group for an unfair reason were more angry ($M = 5.21$) than those who were excluded for a fair reason ($M = 3.93$).

Feelings of fear. For participants' reports of how afraid they were to lose their chance at $25, the main effect of procedural justice was not significant, F (1, 81) = .005, p = .98.

Perceptions of group efficacy. For participants' reports of how successful they thought the petition would be, there was a significant main effect of procedural justice, F (1, 81) = 4.79, p = .03, d = .49. Participants who were excluded from the high-ability group for an unfair reason were more likely to believe the petition would be successful (M = 6.78) compared to those who were excluded for a fair reason (M = 5.76).

Collective action. The dichotomous variable of whether participants agreed to sign the petition or not constituted our measure of collective action. A logistical regression analysis was conducted to determine if the procedural justice manipulation affected whether they would sign the petition or not. There was a significant main effect of procedural justice on collective action (b = .63, p = .01), such that participants who were excluded from the high-ability group for a fair reason were less likely to sign the petition (57%) than were participants who were excluded for an unfair reason (82%).

Meditational Analyses

Model without fear as covariate. Because the independent (procedural unfairness) and the dependent variable (collective action) are categorical, and the presumed mediators are continuous (anger and efficacy), the path model displayed in Figure 1 was estimated using ordinary least-squares and logistic regression. Ordinary least-squares regression was employed unless collective action, a dichotomous variable, was the dependent variable in which case logistic regression was used. According to Baron and Kenny (1986), there are four steps in establishing mediation: Step 1 should determine if there is a significant direct (total) of the predictor variable (procedural injustice) on the dependent variable (collective action). As the

ANOVA revealed, there was a significant total effect of the injustice manipulation on collective action (b = .63, χ^2 = 6.05, p = .01), such that participants who were denied access to the high-ability group for an unfair reason were more likely to sign the petition compared to participants who were denied access to the high-ability group for a fair reason. Thus, the first step needed to establish mediation was satisfied. Step 2, should determine whether the predictor variable (procedural injustice) significantly affects the mediating variables (anger and group efficacy). Indeed, participants who were denied access into the high-ability group for an unfair reason reported higher levels of anger (b = .64, t = 2.00, p = .05) and efficacy (b = .51, t = 2.19, p =.03) than those treated fairly. Thus, the second step needed to establish mediation was satisfied for both anger and efficacy. Step 3 determines whether the partial effects of the mediators (anger and efficacy) on the dependent variable (collective action) are significant. When procedural injustice, anger and efficacy were simultaneously entered as predictors of collective action, efficacy was a significant predictor of action (b = .32, χ^2 = 5.08, p = .02) but anger was not (b = .09, χ^2 = .93, p = .33). Thus, the third step for establishing mediation was satisfied for group efficacy, but not for anger. Step 4, to establish that group efficacy mediates the relationship between injustice and collective action above and beyond anger, the direct effect of procedural injustice on collective action should not be significant when group efficacy is included in the model. When injustice, anger and efficacy were simultaneously entered as predictors of collective action, the partial effect of injustice was not significant at the .05 level (b = .47, χ^2 = 2.97, p = .09), suggesting significant mediation of the injustice effect by group efficacy. To formally test the significance of efficacy as a mediator of the injustice effect, we used a bootstrapping technique for testing multiple mediators developed by Preacher and Hayes (2008). This technique allows for the formal testing of multiple mediators and assessing their relative impact as potential mediators.

Preacher and Hayes (2008) argue that this is the preferred method to establish mediation when there is more than one potential mediator. The results of this analysis indicated that group efficacy (bias corrected CI_{95}= {.0037, .1290}) was a statistically significant mediator, but group anger (bias corrected CI_{95}= {.-.0221, .0852}) was not a statistically significant mediator of the injustice effect. Thus, when fear is not in the model, the results provide clear support for the arguments of resource mobilization theorists. More specifically, when group efficacy and anger are simultaneously entered into an equation predicting action, group efficacy predicts collective action while anger does not.

Model with fear as a covariate. The path model displayed in Figure 2 was also estimated using both ordinary least-squares and logistic regression. As with the previous model, ordinary least-squares regression was used unless collective action, a dichotomous variable, was the dependent variable in which case logistic regression was used. However, unlike the previous model, this model also contained fear as a covariate. It was hypothesized that when fear is statistically accounted for, feelings of anger would no longer be suppressed and would then significantly mediate the relationship between injustice and collective action. To test this hypothesis we again progressed through the four steps needed to establish mediation (Baron & Kenny, 1986). Step 1 determined that there is a significant direct (total) effect of the predictor variable (procedural injustice) on the dependent variable even while controlling for levels of fear (collective action; $b = .80$, $\chi^2 = 7.10$, $p = .01$), such that participants who were denied access to the high-ability group for an unfair reason were more likely to sign the petition compared to participants who were denied access for a fair reason. Thus, the first step needed to establish mediation was satisfied. Step 2 established that the procedural unfairness variable was a significant predictor of both mediating variables (anger and group efficacy). Controlling for

levels of fear, participants who were denied access to the high-ability group for an unfair reason reported higher levels of anger (b = .64, t = 2.08, p = .04) and efficacy (b = .51, t = 2.12, p =.03). Thus, the second step needed to establish mediation was satisfied for both anger and efficacy. Step 3 determined that the partial effects of the mediators (anger and efficacy) on the dependent variable (collective action) were significant. When procedural injustice, anger, efficacy, and fear were simultaneously entered as predictors of collective action, anger was a significant predictor of action (b = .37, χ^2 = 6.14, p = .01) but efficacy was not (b = .22, χ^2 = 1.64, p = .20). Thus, the third step for establishing mediation was satisfied for anger, but not for group efficacy. Step 4, determined that anger completely mediates the relationship between injustice and collective action, and that the effect of injustice on collective action was not significant when controlling for anger. When injustice, anger, efficacy, and fear were simultaneously entered as predictors of collective action, the partial effect of injustice on collective action was no longer reliable at the .05 level (b = .61, χ^2 = 3.46, p = .06), suggesting significant mediation of the injustice effect by feelings of anger. Again to formally test this mediational possibility we used Preacher and Hayes (2008) bootstrapping technique for multiple mediators (this time also including fear as a covariate). The results of this analysis indicated that anger (bias corrected CI_{95}= {.0009, .1275}) was a statistically significant mediator, but group efficacy (bias corrected CI_{95}= {.-.0090, .0836}) was not a significant mediator of the injustice effect. Thus, when fear is added to the model as a covariate, the results support the hypothesis that fear acts as a suppressor of the relationship between anger and collective action. More specifically, when group efficacy and anger are simultaneously entered into an equation predicting collective action and fear is statistically controlled for, anger predicts collective action while group efficacy does not[2]. In addition to the

suppressive effect on anger, fear is an important addition to the model–more than doubling the amount of variance explained (R-squared without fear = .16; R-square with fear = .34).

Discussion

The results support the contention that in order to accurately assess the relative contributions of anger and group efficacy on collective action, feelings of fear must be controlled. When fear is left out of the model, we find that group efficacy, as opposed to anger, is a more powerful predictor of action. This result replicates what has been found by resource mobilization theorists (i.e., Folger, 1987; Klandermans, 1997; Martin et al., 1984). That is, when treated in a way that they perceive to be unfair, people get angry, but their anger does not predict their willingness to take action, although efficacy does. However, when the model contains fear as a covariate, anger becomes a more powerful predictor of collective action than does group efficacy. These results help to explain why investigators have sometimes failed to observe anger as a reliable predictor of collective action (Folger, 1987; Klandermans, 1997; Klandermans, 1989; Martin et al., 1984; McPhail, 1971; McCarthy & Zald, 1977). Investigators must account for fear in order to accurately assess the effects of anger on collective action because fear can be a suppressor of this relationship. Failing to account for the effects of fear can undermine the predictive validity of anger.

Implications for Group Efficacy

When fear is added as a covariate in the model predicting collective action, the mediating effect of group efficacy is reduced to non-significance. This reduction in the significance of the direct effect of group efficacy on collective action when fear is included in the model makes it tempting to conclude that when anger is unsuppressed it will always be a more powerful predictor of collective action. However, we do not believe that this is always the case. The

purpose of Experiment 1 was not to demonstrate the superiority of anger as a predictor of collective action over group efficacy, but rather to demonstrate that assessments of the relative impact of anger and efficacy on collective actions are biased when feelings of fear are not controlled. The goal of Experiment 2 was to demonstrate that group efficacy can be a significant predictor of action even when anger is not suppressed.

The results of Experiment 1 indicate there are at least two different ways to increase collective action: one path involves alleviating the fears that inhibit collective action, while the other path involves boosting levels of anger high enough to compensate for the inhibiting effects of fear. These two situations should encourage action based on the states of courage and rashness respectively. Thus, the goal of Experiment 2 was to manipulate these pathways to collective action. We wanted to produce a situation where participants would be able to conquer their fears, thus encouraging a state of courage. In addition, we wanted to produce a situation in which participants' levels of anger would transcend their levels of fear, thus encouraging a state of rashness.

Courage. According to Aristotle's Nicomachean Ethics (350 B.C.), the actions of the courageous are marked by temperance and prudence. Courageous people demonstrate temperance with respect to their fears. That is, the actions of the courageous are not inhibited by fear because courageous people exercise control over their fears. This does not mean that the courageous are fearless and without rational judgment. To the contrary, Aristotle argued that the courageous are also prudent in their judgments–acting only when it is rational to do so. To rush into a course of action that has no chance of success is not courageous–it is foolish. In fact, a review of implicit and scholarly theories of courage found that most people believe that having confidence or the ability to deal with challenges is an important component of courage (Snyder

& Lopez, 2006). Acts of courage not only imply a sense of temperance or control over feelings of fear as discussed above, but also over feelings of anger. We do not think of heroes as engaging in actions as a result of their anger, but rather because the actions are judged to be right and just. In support of this reasoning, research finds that people who engage in courageous acts (decorated soldiers) have physiological responses under stress, including lowered cardiac rates, that suggest elevated control over their emotions (O'Connor, Hallam, & Rachman, 1985). Integrating these aspects of courage, we would expect a courageous person's action to be driven by a sense of efficacy rather than anger–even though anger would not be suppressed by feelings of fear.

Rashness. According to Aristotle, the actions of the rash are *not* marked by temperance or prudence. Thus, we would not expect rash people to have control over their anger or their fears. In fact, if rash people were to act, the action would be largely driven by the fact that their anger is so great that it overwhelms the suppressive effect of fear. Furthermore, because rash people lack prudence, we would not expect rational estimates concerning efficacy to factor into their decisions.

Experiment 2

Experiment 2 is a 2 (procedural unfairness vs. procedural fairness) X 2 (courage vs. rashness) design. In order to test the predictions laid out above, we manipulated procedural justice as we did in Experiment 1. In addition, participants were randomly assigned to exposure to a courage prime or a rashness prime. We expected that participants in the unfair conditions would be more likely to engage in collective action. Thus, we predicted a main effect of procedural injustice on collective action rather than an interaction between procedural injustice and the prime. That is, we are not predicting that courageous people are more likely to act, but rather the processes by which action would occur would differ depending on whether the

participants were primed with courage or rashness. In other words we are not predicting moderation on the dependent variable but rather moderation of the mediating process that leads to the dependent variable (moderated mediation). More specifically, it was predicted that participants who are unfairly denied access to the high-status group and were primed with rashness would engage in collective action because they would have high levels of anger. However, the high levels of anger in this condition would be mitigated by the suppressive role of fear, thus replicating what was found in Experiment 1. Participants who are unfairly denied access to the high-status group and are primed with courage should also be likely to collectively act; however, their action should be driven by another process. In this condition, we expect participants to report moderate levels of anger (compared to the rash condition where levels of anger should be higher), but their anger will not be suppressed by feelings of fear. We also expect that because prudence is associated with courage, group efficacy should be a significant predictor of action in this condition.

Method

Participants and Procedure

The procedures and measures for Experiment 2 were the same as Experiment 1 with the addition of a priming manipulation and a slight modification to the group efficacy measure. Both of these alterations are described below. There were a total of seventy-five participants.

Priming manipulation. After the participants completed the decision making task and while they were waiting for feedback from the judges, participants were randomly assigned to complete one of two word scramble tasks designed to prime either courage or rashness. Having participants unscramble sentences or words related to a concept is a common priming technique (Kunda, 2000). The word scramble task consisted of presenting participants with a list of words

in which the letters of each word were to be unscrambled to form a word. In the courage prime condition, participants unscrambled the following five words: courage, guts, heroism, valor, bravery. In the rashness prime condition, the participants unscrambled the following five words: rash, hasty, foolhardy, impulsive, brash.

Perceptions of group efficacy. To improve clarity, one item in the group efficacy measure was changed slightly in Experiment 2. The item "How certain are you that the high-ability group will re-evaluate the low-ability group's score?" was replaced with the item "I think the petition will be successful." Participant responses to the efficacy items were recorded on 11-point scales from 1 *(strongly disagree)* to 11 *(strongly agree)*. For each participant, a single mean index was calculated (M = 5.13, SD = 2.13, α =.80).

Results

Manipulation Check

Legitimacy. The manipulation of procedural injustice was successful. A main effect of procedural justice was found for participants' reports of the legitimacy of the situation, F (1, 71) = 10.83, p = .002, d = .78. Participants in the fair conditions viewed their exclusion from the high-ability group as more legitimate (M = 4.35) than did participants in the unfair conditions (M = 2.72). There was not a significant effect of the prime on perceived legitimacy, F (1, 71) = .22, p =.64, nor was there a significant Injustice X Prime interaction, F (1, 71) = .78, p = .38.

Dependent Variables

Feelings of fear. There was a marginally significant main effect of prime on participants'' reports of how fearful they were about losing their chance to win 25 dollars, F (1, 71) = 3.23, p = .08, d = .43. However, this effect was qualified by a significant Injustice X Prime interaction, $F($1, 71) = 4.14, p =.04, d = .48. Participants who were excluded from the high-ability group for

an unfair reason and who were primed with courage were less afraid (M = 1.79) than those who were excluded for an unfair reason and were primed with rashness (M = 4.17), t (74) = -2.64, p = .01 (see Figure 3). Thus, priming courage did moderate levels of fear in the predicted way. The main effect of procedural injustice was not significant, F (1, 71) = .01, p =.91.

Feelings of anger. There was a significant main effect of procedural injustice on participants' reports of how angry they were with the high-ability group, F (1, 71) = 8.51, p = .005, d = .69. However, this main effect was qualified by a significant Injustice X Prime interaction, F (1, 71) = 3.93, p = .05, d = .47, such that participants who were excluded from the high-ability group for an unfair reason and were primed with rashness were more angry (M = 4.91) than those who were excluded for an unfair reason and were primed with courage (M = 3.16), t (74) = 2.20, p = .03 (see Figure 3). Thus, the priming manipulation did moderate levels of anger in the predicted way. These results suggest that participants in the courage/unfair condition show more temperance or control over their emotions compared to participants in the rash/unfair condition. The main effect of the prime on anger was not significant, F (1, 71) = 1.50, p = .23.

Perceptions of group efficacy. There was a significant main effect of procedural injustice on participants' reports of how successful they thought the petition would be (group efficacy), F (1, 71) = 9.28, p = .003, d = .72. Participants who were excluded from the high-ability group for an unfair reason were more likely to believe the petition would be successful (M = 6.34) compared to those who were excluded for a fair reason (M = 4.62). There was no significant main effect of the prime on group efficacy, F (1, 71) = .02, p =.88, nor was there a significant Injustice X Prime interaction on group efficacy, F (1, 71) = .34, p = .56.

Collective action. The dichotomous variable of whether participants agreed to sign the petition or not constituted our measure of collective action. A logistical regression analysis was conducted with procedural injustice, prime, and Injustice x Prime interaction as the predictor variables. There was a significant main effect of procedural injustice on collective action (b = .61, p = .01), such that participants who were excluded from the high-ability group for a fair reason were less likely to sign the petition (30%) than participants who were excluded for an unfair reason (60%). There was no significant main effect of the prime on collective action (b =.21, p = .40) nor was there a significant Injustice X Prime interaction on collective action (b = -.25, p = .30). The absence of a significant interaction on the dependent variable should be expected when attempting to test for moderated mediation. In fact, with the prototypical case of moderated mediation, what varies as a function of the moderator is not the magnitude of the overall treatment effect on the outcome variable, but rather the process that produces that effect (see Muller, Judd, & Yzerbyt, 2005).

Meditational Analyses

In the analyses reported above, procedural injustice influenced the collective action of participants primed with both courage and rashness, but procedural injustice influenced feelings of anger and fear differently depending on the prime to which participants were exposed. To further examine the impact of procedural justice on feelings of anger, fear, group efficacy, and collective action for participants who received different primes, separate path analyses were conducted for the courage prime and rashness prime groups. As with Experiment 1, because the independent (procedural injustice) and the dependent variable (collective action) are categorical, and the presumed mediators (anger and efficacy) and suppressor variable (fear) are continuous, the paths displayed in Figure 4 were estimated using both ordinary least-squares and logistic

regression. Ordinary least-squares regression was used unless collective action, a dichotomous variable, was the dependent variable—in which case logistic regression was used. Furthermore, as with Experiment 1, all the regression coefficients displayed in Figure 4 are unstandardized.

Rashness sample. The path coefficients in Figure 4 present the results for participants primed with rashness. For these participants, being denied access into the high-ability group for an unfair reason produced higher levels of anger ($b = 2.35$, $t = 2.99$, $p = .005$) and efficacy ($b = 1.49$, $t = 1.96$, $p = .057$) as compared to those treated fairly. However, when injustice, anger, efficacy, and fear were simultaneously entered as predictors of collective action, anger was a significant predictor of action ($b = .63$, $\chi^2 = 6.17$, $p = .01$) but efficacy was not ($b = -.10$, $\chi^2 = .28$, $p = .60$). Furthermore, when injustice, anger, efficacy, and fear are simultaneously entered as predictors of collective action, the previously significant direct effect of injustice ($b = .87$, $\chi^2 = 6.14$, $p = .01$) is reduced to non-significance ($b = .75$, $\chi^2 = 2.61$, $p = .11$), supporting mediation by anger. In order to formally test the significance of anger and efficacy as mediators, we again used the Preacher and Hayes (2008) bootstrapping technique for testing multiple mediators. The results of this analysis indicated that anger (bias corrected $CI_{95} = \{.0599, .4422\}$) was a statistically significant mediator, but group efficacy (bias corrected $CI_{95} = \{-.1522, .0841\}$) was not a significant mediator of the injustice effect. Thus, when primed with rashness, anger mediates the effect of procedural injustice on collective action while group efficacy does not. In addition to anger mediating the effect of procedural justice on collective action, it appears that fear again suppresses the relationship between anger and action. When fear is removed from the model displayed in Figure 4, the strength of the effect of anger on collective action drops in magnitude from ($b = .63$, $p = .01$) to ($b = .37$, $p = .03$). The Preacher and Hayes (2008) bootstrapping technique indicated that the negative indirect effect of fear on collective action

through feelings of anger was significant (bias corrected CI_{95}= {-.0770, -.0014}) indicating significant suppression. These effects replicate what was found in Experiment 1. More specifically, participants primed with rashness and who were in the unfair condition reported increased anger, which was the driving force behind their decision to collectively act. However, these angry feelings are somewhat suppressed by feelings of fear.

Courage sample. We did not test for mediation in the courage sample because the main effect of injustice in this sample was not significant, $b = .36$, $\chi^2 = 1.05$, $p = .31$. Even though we could not test for meditation, the results from earlier analyses (see Figure 3) provide support for our hypotheses. As hypothesized, when participants were primed with courage their emotional responses were tempered. The levels of anger in the injustice courage condition were lower than the level of anger in the injustice rash condition, and were no different from either of the justice conditions (see Figure 3). Also as hypothesized, the courage prime lowered levels of fear. The levels of fear in the injustice courage condition were lower than all other conditions (see Figure 3). Thus, it appears that priming courage negates the anger pathway to collective action. This partially explains why the direct effect of injustice on collective action was so muted in the courage condition – one of the key drivers of collective action (the anger pathway) was removed. Although the emotional pathway to action is tempered in the courage condition, this does not seem to be the case with group efficacy. For participants primed with courage, the manipulation of injustice had a significant effect on perceptions of efficacy, ($b = 2.50$, $t = 2.92$, $p = .007$). Furthermore, for participants primed with courage the effect of efficacy is a marginally significant predictor of action even while controlling for the effect of fear and anger ($b = .33$, $\chi^2 = 2.85$, $p = .08$). In summary, when participants are primed with courage, their actions do not

appear to be driven by anger. Instead, it appears that perceptions of group efficacy along with relatively low levels of fear were the primary processes responsible for action in this condition.

Discussion

The results support the hypothesis that priming courage or rashness can moderate the injustice effect on collective action. When rashness is primed, we find that anger, as opposed to group efficacy, is the process through which perceived injustice encourages collective action. Furthermore, the anger experienced in the rashness condition was somewhat, but not completely, suppressed by feelings of fear. This result largely replicates what was found in Experiment 1. However, when primed with courage, we find that anger, while not suppressed by fear, does not predict collective action, while group efficacy does. This result replicates what has been found by resource mobilization theorists (i.e., Folger, 1987; Klandermans, 1997; Martin et al., 1984).

One potential limitation of Experiment 2 is the lack of a control condition. It is difficult, however, to identify the appropriate control condition for this experiment. For instance, it might have been interesting to include a low-courage condition as a control. However there are at least two reasons why it is difficult or impractical to have such a condition. First it is unclear how to prime low-levels of courage. When a concept is primed, it is assumed that the concept is readily accessible (i.e., high levels); therefore it is not apparent how one would prime low-levels of courage. One solution would be to include a no priming condition as low-courage condition -- based on the argument that when courage is not primed, the default is a low-level of courage. However, such a condition would be impractical because it does not necessarily lend itself to the primary goal of Experiment 2. The goal of Experiment 2 was to produce two situations: one where anger would be the primary vehicle for collective action (rashness), and another where this would not be the case (courage). Adding yet a third condition where a clear prediction was

not completely apparent might well have only added unnecessary complexity to already complex analyses.

General Discussion

In addition to clarifying our understanding of how fear, anger and group efficacy operate on collective action, this research also illustrates how such issues can be investigated in the laboratory. As we demonstrated, emotions like fear and anger and genuine collective action (not just intentions to act) can indeed be studied in the laboratory where we are able to manipulate critical variables and exert control over extraneous sources of variation. More often than not, collective action research has assessed ratings of different behavioral preferences rather than assessing actual behavior, and this is especially true of laboratory research. However, our studies demonstrate that this need not be the case.

One of the strengths of laboratory research is increased internal validity, and our experimental results suggest that fear is an important predictor of collective action. However, increased experimental control can sometimes produce situations in the laboratory that at first blush seem artificial. In other words, one might question whether fear is a emotional experience that can undermine collective action in real world contexts. While it may be true that not all injustice contexts evoke emotions that can undermine collective action, a growing body of literature suggests that people avoid confronting or reporting discrimination precisely because they fear that there may be costs associated with such action (Crosby, 1984; Beiner & O'Conner, 2007; Garcia, Horstman Reser, Amo, Redersdorff, & Branscombe, 2005; Feagin & Sikes, 1994; Kaiser & Miller, 2001; Stangor, Swim, Van Allen, & Sechrist, 2002; Swim & Hyers, 1999). Thus, it appears that there are numerous contexts where our results might indeed be expected to generalize.

In addition to questions about the extent to which fear is an influential factor that shapes collective action in real world contexts, one might question the extent to which the type of fear we measured captures the fear experienced in such cases. In both experiments, our measure of fear was based on calculations of instrumental costs at the individual rather than the collective level. There are certainly different types of fear that could suppress anger-- including anticipating the social costs of being labeled a complainer, whistle blower, and the like (Garcia, Horstman Reser, Amo, Redersdorff, & Branscombe, 2005; Kowalski, 1996). However, our choice of measuring fear based on an instrumental outcome does not negate the relevance to real life examples of the suppression effect of fear on collective action. In fact, the existing literature on sexual harassment strongly suggests that a great deal of discrimination experienced by women is not reported because sexual harassment targets fear instrumental costs that will result from complaining, such as retaliation and/or losing their jobs (Bergman, Langhout, Palmieri, Cortina, Fitzgerald, 2002; Koss, Goodman, Browne, Fitzgerald, Keita, & Russo, 1994). We believe findings in this literature suggest that there are a variety of contexts in which our results would generalize.

Simultaneous Prediction by Anger and Group Efficacy

Our results might seem to suggest that either anger or group efficacy can predict action but never both. We do not believe this to be the case. In fact, we believe that both anger and efficacy can simultaneously predict action. Furthermore, at least one set of researchers have recently found evidence for simultaneous prediction of collective action by both anger and efficacy (van Zomeren, Spears, Fischer, & Leach, 2004). Both our suppression model and van Zomeren and colleagues' model (2004) posit that collective action can occur via two separate pathways – an efficacy route (problem focused) and an anger route (emotion focused). However,

the current research extends the findings of van Zomeren and colleagues (2004) in three distinct ways. First, the current research demonstrates instances where one pathway will be more likely to be used than the other pathway. That is, in Experiment 2 we demonstrate that people primed with courage temper their emotional responses, whereas people primed with rashness use the emotion focused route. Secondly our results extend the findings of van Zomeren and colleagues (2004) by demonstrating that anger (an emotion focused route) can be suppressed by feelings of fear. Finally, our model, because of the inclusion of fear, gives a more complete picture of collective action. Given the large effect of fear on collective action in both studies, any model that omits fear as a predictor of collective action is incomplete.

Cases Where Neither Anger nor Efficacy are Predictors

What implications does this suppression model have for instances in which neither anger nor efficacy predict action? Our suppression model is by no means an overarching framework that explains all collective action effects. For instance, various studies have shown social identification to have significant effects on collective action (Ellemers, Spears, & Doojse, 1997; Wright, Taylor, & Moghaddam, 1990; Wright & Tropp, 2002). Our model would not account for cases when a variable such as social identification has an effect on collective action to the extent that this effect is not mediated by either anger or efficacy. However, our model would be useful for researchers attempting to establish that the effect of a particular variable is *not* mediated by feelings of anger or efficacy. Our suppression model suggests that if researchers want to truly establish a null effect of anger they must first rule out the suppression hypothesis.

Future Directions

The type of fear that was examined in our research was fear associated with taking action. That is, we examined fear that is produced when contemplating all the negative things that could

happen if the actions taken end up failing. However, sometimes fear can be based on the possible negative things that could happen if action is *not* taken. For example, the environmental movement's message is often one of *fear of inaction*. Members of this movement may be motivated to take action because of fear about the climate change that will occur if action is not taken. At the same time, environmentalists could be afraid of being arrested for attending a protest or engaging in other rebellious actions, and these fears might inhibit action. Further research should examine the impact of fears related to inaction as a motivator of action and fears related to action as an inhibitor of action.

Our results seem to indicate a reduced role for group efficacy when fear is included in the model. That is, when fear was included as a predictor, group efficacy was no longer a significant predictor in two of the three analyses. However, this does not imply that group efficacy is not important. We measured only a single aspect of group efficacy – namely how effective collective action would be in producing a desired change. Recently, a more extensive definition of group efficacy has been offered that suggests collective action may also vary in the extent to which it is seen to be effective in satisfying intragroup, broader societal, and individual motivations (Hornsey, Blackwood, Louis, Fielding, Mavor, Morton, O'Brien, Paasonen, Smith, & White, 2006). According to this view, collective action that does not produce change, but does mobilize a base of support may also be viewed as effective. Further research should examine the impact of fear on these multiple aspects of group efficacy.

Conclusions

The current research illustrates the empirical and theoretical benefits of considering fear as a suppressor of the effect of anger on collective action. When fear is not assessed, the conclusions drawn about how the experience of injustice affects our willingness to act are not

entirely accurate–the importance of anger is underestimated while the importance of group efficacy is overestimated. Thus, in order to accurately understand how the experience of injustice affects collective action, feelings of both anger and fear must be assessed. Examining the relationship between anger and collective action can help us understand when people will be motivated to engage in collective action, while examining the relationships between fear, anger, and collective action can help us understand why, more often than not, people decide not to challenge a situation that they perceive to be unfair.

Footnotes

1.) Most emotion researchers argue that two separate emotions cannot be experienced "at the same time." However, it still possible for people to report feeling two emotions at once (Barrett, Mesquita, Ochsner, & Gross, 2007). As Barrett and colleagues (2007) point out, it may not be possible to experience two emotions at the exact same moment, but the experience of different emotions may oscillate at such a fast rate that a person reports experiencing two emotions at "once". It is really what is meant by the "same time" that is the issue, not the idea that people can be ambivalent (or experience more than one emotion) toward a single object.

2.) This reduction in the significance of the direct effect of group efficacy on collective action makes it tempting to conclude that fear mediates this effect. However the reduction of a direct effect by another variable is only one of the criteria needed to demonstrate mediation. According to Baron and Kenny (1986), the predictor variable (group efficacy) must also be a significant predictor of the mediating variable (fear). However, there is no evidence for this crucial step in our data. Group efficacy is not a significant predictor of fear, $b = -.21$, $t = -1.70$, $p = .09$. Thus, because there is no significant relationship between group efficacy and fear, fear cannot logically mediate the relationship between group efficacy and collective action. Furthermore, the reduction is not due to the group efficacy measure and the fear measure sharing a common latent factor. A factor analysis of the fear and efficacy items showed a clear two factor solution (the first 3 eigenvalues were 22.85, 9.38, 0.33 respectively). None of the cross loadings were above |.3|

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Table 1

Experiment 1: Zero order correlations between anger, fear, group efficacy and collective action

	Anger	Fear	Group Efficacy	Collective Action
Anger	--	.30**	.21†	.21†
Fear		--	-.19	-.40**
Group Efficacy			--	.33**

Note: † = $p < .08$
* = $p < .05$
** = $p < .01$

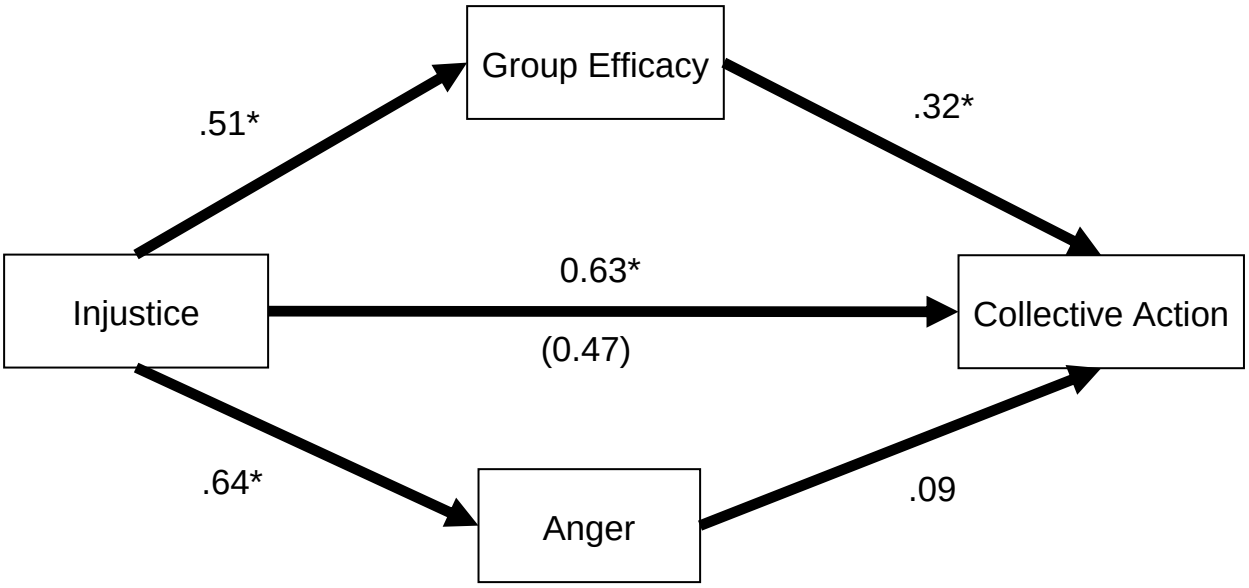
Figure Captions

Figure 1. Experiment 1: The effect of procedural injustice on collective action is mediated by group efficacy, but not anger when fear is not included in the model.

Figure 2. Experiment 1: The effect of procedural injustice on collective action is mediated by anger but not group efficacy when fear is included in the model as a covariate.

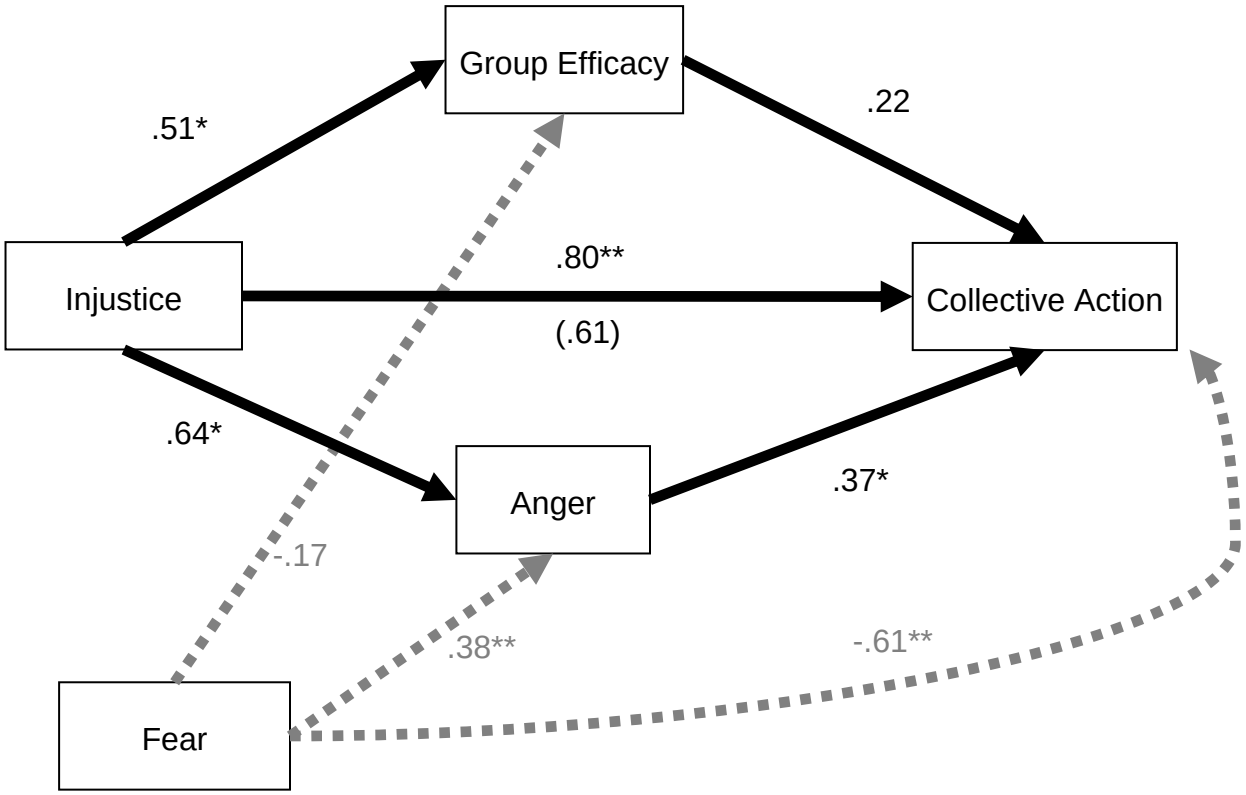
Figure 3. Experiment 2: The effects of procedural injustice and prime condition on participants' reports of fear and anger.

Figure 4. Experiment 2: For participants primed with rashness, the effect of procedural injustice on collective action is mediated by anger.



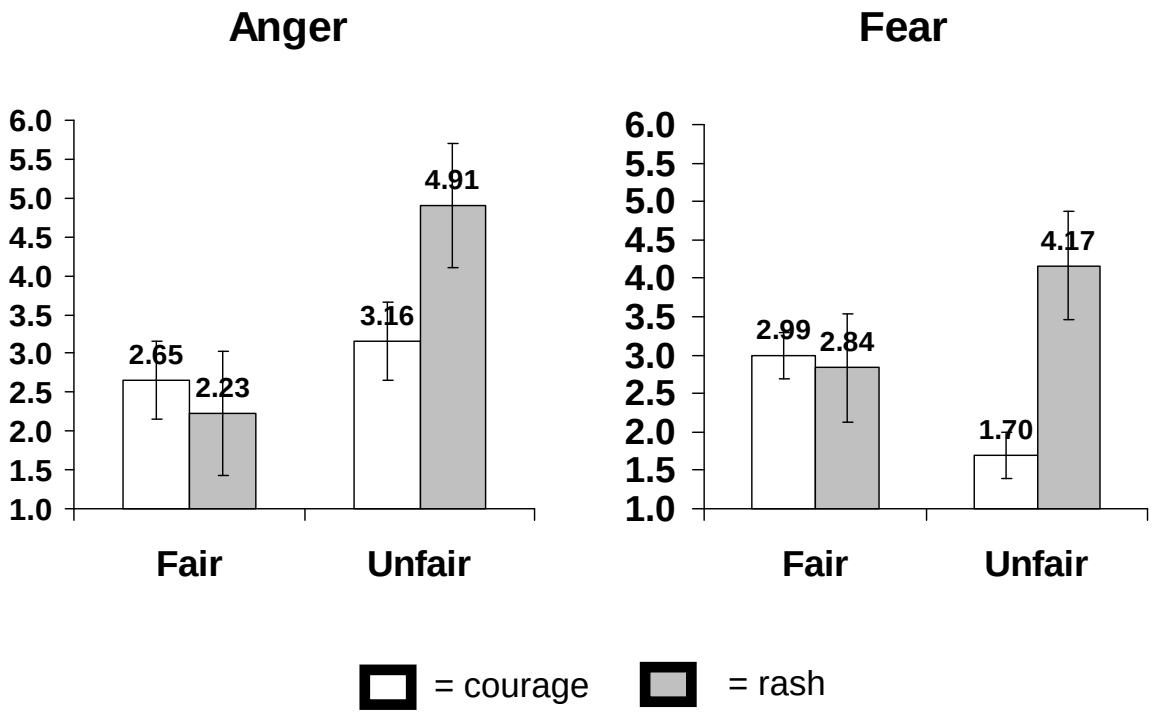
Note: * = $p < .05$
** = $p < .01$

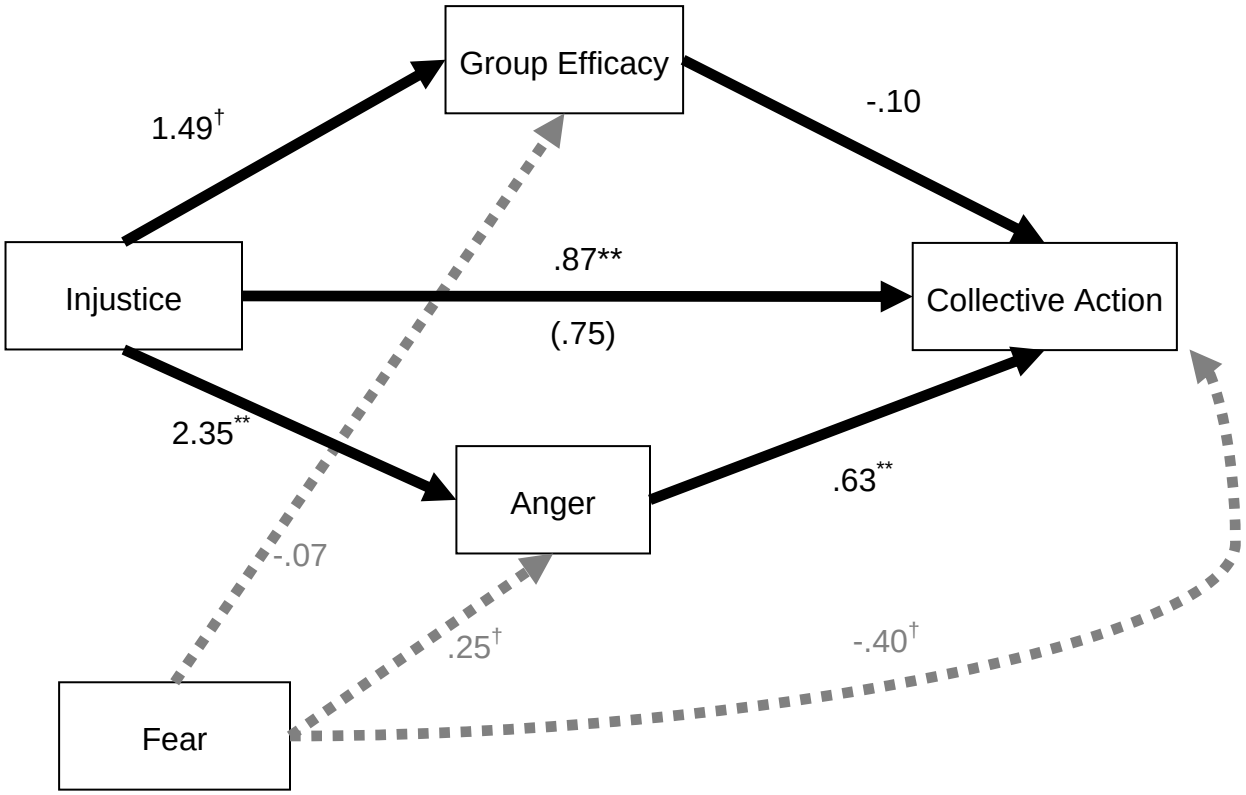
Values shown in the model are non-standardized regression coefficients



Note: * = $p < .05$
** = $p < .01$

Values shown in the model are non-standardized regression coefficients


Anger
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
2.65
2.23
3.16
4.91
Fair
Unfair
Fear
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
2.99
2.84
1.70
4.17
Fair
Unfair
= courage
= rash



Note: † = $p < .08$
* = $p < .05$
** = $p < .01$

Values shown in the model are non-standardized regression coefficients