In 2014, the British Muslim journalist Mehdi Hasan published an article criticizing Muslim communities for being too willing to believe in conspiracies targeting their group (Hasan, 2014). Despite the high regard he commanded, his opinion prompted a backlash from his followers, many of whom called him a media shill and seemed unwilling to consider his criticism.

The backlash that Hasan received is both surprising and unsurprising. It is surprising because research on group criticism (e.g., Hornsey, Oppes, & Svensson, 2002) suggests that Hasan’s status as a prominent ingroup member should have made fellow ingroup members more inclined to be persuaded by his message. At the same time, it is unsurprising because, consistent with social identity theory, people who strongly identify with their group are motivated to endorse positive sentiments about their group and reject negative ones (Tajfel & Turner, 1979). This incident is one example of a general phenomenon wherein criticism of one’s group from a fellow ingroup member can elicit two opposing reactions. But the social psychological conditions responsible for this paradox and the underlying processes that drive this process are not well understood. The present research seeks to address these unresolved issues.

The Importance of Criticism and Dissent

Internal criticism and dissent are vital for social groups’ success: They prevent group members from insulating themselves against viewpoints that could be crucial to group decision-making (De Dreu & West, 2001; Postmes, Spears, & Cihangir, 2001). They also prevent groupthink, the process by which members of a group overemphasize similar opinions and shut down dissenters (Janis, 1982).

In light of the importance of criticism to group functioning, our research seeks to investigate the conditions that systematically moderate people’s openness to criticism and their willingness to engage in critical national dialogue. First, we examine how the identity of group critics impacts reactions to their critical opinions. Second, we investigate how variations in social context influence perceivers’ reactions to group
criticism—enhancing openness under some conditions but inhibiting it under others. Third, we test an underlying process explaining why criticism is sometimes well-received and other times not. Finally, we test an intervention designed to increase openness to group criticism.

The Role of Group Membership on Openness to Criticism

Past research has shown that a communicator’s group membership can have a meaningful impact on people’s receptiveness to their message. For example, people are more influenced by ingroup than outgroup members (Abrams, Wetherell, Cochrane, Hogg, & Turner, 1990), and more willing to learn from ingroup members, especially ones who have superior knowledge (Kane, Argote, & Levine, 2005). And although ingroup members are more persuasive when they use strong arguments, outgroup members are equally unpersuasive regardless of argument strength (Mackie, Worth, & Asuncion, 1990).

The advantage of ingroup status is particularly relevant when the communication is a criticism. Research into group criticism has led to the description of the intergroup sensitivity effect (ISE; Hornsey et al., 2002; see also Jetten & Hornsey, 2014). As Hornsey and colleagues (2002) found, whereas people respond well to praise about their ingroup regardless of the group membership of the critic (ingroup or outgroup), they respond more defensively to criticism from an outgroup rather than ingroup member. This effect has been replicated many times over, and investigated from many perspectives, including as a function of the context of an audience (e.g., Elder, Sutton, & Douglas, 2005; Hornsey et al., 2005) and argument quality (Esposo, Hornsey, & Spoor, 2013). Further research has also suggested that perceived attachment to the group plays an important role in explaining preferential treatment of ingroup critics (e.g., Hornsey, Trembath, & Gunthorpe, 2004). Yet how might this literature explain why ingroup critics, even highly regarded ones like Hasan, nonetheless receive defensive responses to group criticism?

The Influence of Threat on Reactions to Criticism

It may be that openness to ingroup criticism is affected by perceptions of threat facing the group. Research shows that intergroup conflict increases enforcement of within-group norms (Benard, 2012) and that threat is correlated with intolerance toward critical ingroup members (Penic, Elcheroth, & Reicher, 2016; Shamir & Sagiv-Schifter, 2006). Thus, when threat to the ingroup is salient, group members may become less open to criticisms of their group and respond negatively even to ingroup critics. There is also reason to expect, however, that threat may increase openness to ingroup critics and their criticism rather than restricting it. Research has found that, in the presence of external intergroup threat, ingroup members increase their perceptions of similarity with other ingroup members (Rothgerber, 1997; see also Hutchison, Jetten, Christian, & Haycraft, 2006).

Two recent experimental studies, however, suggest that the effect of threat may in fact be to reduce openness to ingroup critics. In one study, Khoo and See (2014) found that mortality salience led people to evaluate group critics who delivered unjustified criticism more negatively when they were ingroup members rather than outgroup members, with the opposite pattern for those in a dental pain condition. This research suggests that threat may reverse the preferential treatment of ingroup critics. However, unlike the present research, Khoo and See (2014) investigated the effects of mortality salience, an individual existential threat, rather than group threat. Furthermore, they investigated attitudes toward the critic, and not the persuasiveness of the criticism or willingness to engage with the message.

In the second study, Ariyanto, Hornsey, and Gallois (2010) found that while Muslim Indonesians responded more positively to a criticism from ingroup Muslim critics than outgroup Christian critics when intergroup conflict was not salient, they responded equally negatively to both critics when conflict was salient. While people respond better to criticism of their group when it comes from a fellow ingroup member in the absence of conflict, that preference is diminished or eliminated when conflict is salient. However, this research still leaves some questions unanswered. First, the researchers were unable to find any evidence for the underlying psychological process that might lead to the elimination of the ISE in the face of threat. Second, this research did not extend their analysis to investigate the impact of threat on persuasion or other forms of engaging with the criticism, such as disseminating critical messages to others. Finally, this research reports the result of a single study in a high conflict setting, requiring further experimentation to replicate this effect in different settings. Therefore, the present research seeks to further test this phenomenon in multiple studies in different settings to investigate the effects of group membership of a critic and group threat on openness to criticism, and importantly on willingness to disseminate the criticism and the psychological factors underlying people’s reactions to criticism of their group. As the effectiveness of critical discussions in society is not restricted to convincing people individually about a problem but also in generating discussion in the public sphere, it is important to extend results from focusing on attitudes to both persuasion and people’s willingness to share the message more broadly and initiate discussions with those around them.

Consistent with past research (Ariyanto et al., 2010), we predict that absent threat, people are more likely to be persuaded by criticisms of their ingroup that come from ingroup rather than outgroup members. But in the presence of threat, they will become less tolerant of critical opinions from
ingroup members, responding similarly harshly to both in- and outgroup critics.

But why might that be? What psychological mechanism drives defensive responses to criticism under threat? We predict the answer has to do with attributions about motives. Research has shown that people attribute more benevolent motives to ingroup than outgroup critics, which explain more defensive reactions to outgroup critics (e.g., Hornsey et al., 2002; Sutton, Elder, & Douglas, 2006). While this may be true when criticism is delivered absent threat, we predict the dynamic will change when the group is under threat (as suggested but not found by Ariyanto et al., 2010). In the latter case, criticism from ingroup members may be perceived as an act of betrayal (e.g., Moreland & McMinn, 1999) and attributed to the critic’s malevolent motives. Outgroup critics, on the contrary, are unlikely to face the same type of response, because there are no expectations for them to be loyal by abstaining from criticism.

A Possible Remedy: Free Speech Frames to Promote Openness to Group Criticism

Openness to persuasion in the face of critical messages is especially important when groups feel under threat because good decision-making relies on diverse perspectives (e.g., De Dreu & West, 2001). So intervention might mitigate defensive reactions and increase openness, even in the face of threat? Given our prediction that attribution is the underlying process driving defensiveness, we sought to change people’s attributions by appealing to a fundamental value of their ingroup: high regard for freedom of speech.

Two lines of research suggest that appealing to the value of free speech may reduce people’s negative reactions to criticism in the case of groups that enshrine this value. First, free speech framings of public rallies by disliked groups (such as the Ku Klux Klan or Islamist groups) increase tolerance toward those groups and their right to express their views, especially by people who value freedom of speech (Ramírez & Verkuyten, 2011). Second, the act of affirming group values has additional benefits such as reducing support for intergroup aggression and hostility (Rothschild, Abdollahi, & Pyszczynski, 2009). A framing that emphasizes how free speech is important to the nation would remind readers of the value of free speech, thus reducing people’s defensiveness.

Building on the above, we propose that in the context of national groups such as the United States, framing a critical message within the freedom to dissent and criticize (a core American value) is likely to reduce defensive reactions even when the nation is under threat. It is an open question, however, whether the benefits of a free speech framing will primarily go to ingroup critics or not. On one hand, it may be that once a critical message is framed as important due to the value of free speech, people will be less concerned with the nationality of the critic and will remain open to group criticism regardless of the critic’s group membership and despite the threatening situation. On the other hand, it may be that the benefits of a national value will only be granted to fellow members of the national group (ingroup critics) and not to outsiders. If that is the case, then we would expect that the benefits of a free speech framing would be primarily collected by ingroup members, maintaining openness when they deliver criticism but not improving openness to criticism from outgroup critics.

Goals of the Current Research

We conducted three experiments to test several hypotheses. First, we hypothesized that while people will be more persuaded by critical communications from ingroup rather than outgroup members absent threat, the presence of threat will eliminate ingroup advantage in persuasion and reactions toward the critic. Second, extending these findings, the reduced persuasiveness of ingroup critics under threat is predicted to be driven by shifting attributions about the critic’s intentions. While ingroup critics are generally seen as having more benevolent intentions toward their group, the advent of threat will increase suspicion of malevolent intent, which in turn will mediate and reduce persuasion and increase negative attitudes toward the ingroup critic. Third, we predict that a free speech framing of the criticism will protect critics from attribution of malevolent motives and increase receptivity to critical communications even under threat.

Experiment 1

Experiment 1 sought to test two important questions. First, whether situational threat would reduce or eliminate preferential reactions to ingroup rather than outgroup critics. Second, whether the reduction or elimination of preference for ingroup critics would be driven by increased suspicion about the malevolent motives of the ingroup critic. Experiment 1 used a 2 (Critic Type: American [ingroup], South Korean [outgroup]) × 2 (Threat Type: economic threat, no threat) between subjects factorial design. We elected to test economic threat as one of the primary concerns Americans report, and we chose South Koreans as an outgroup that was both distinct but also generally perceived neutrally or positively, so as not to conflate group membership with similarity or preexisting negative intergroup attitudes.

Method

Participants. Five hundred twenty-nine American participants were recruited through MTurk. We employed exclusion criteria to ensure the internal validity of our experiment (Meade & Craig, 2012). We removed 35 participants who sped through the experiment unrealistically quickly,2 34 who identified as
Materials and procedure. Participants entered the experiment through the MTurk online system. The cover story described the experiment as investigating how people think about different types of information they encounter on social media.

Threat manipulation. Participants were randomly assigned to either an economic threat condition or a control condition. In the economic threat condition participants read an article about a stagnating American economy which emphasized falling wages and a drop in the quality of life for all Americans. Those in the “no threat” control condition did not read anything.4

Manipulating critic type. Next, participants were randomly assigned to read an opinion article that criticized Americans’ poor work ethic as the reason for Americans’ poor economic outlook, allegedly written by a professor with expertise on the American economy who was either an American (ingroup member) or South Korean (outgroup member).

Dependent variables. Participants then reported on the persuasiveness of the critical article (agreement, persuasiveness, importance, fairness, constructiveness, and helpfulness; \( \alpha = .94 \)), their attitudes toward the critic (trust, liking, intelligence, respect, kindness, and competence; \( \alpha = .94 \)), emotional reactions toward the critic (angry, upset, irritated, insulted, positivity [reverse coded]; \( \alpha = .94 \)), willingness to circulate the criticism among others (willingness to read more, to share on social media, to suggest the article to people the reader knows; \( \alpha = .93 \)), and their perceptions of the critic’s motives (does the author want to make the United States better, care about the United States, care about Americans, want the United States to succeed, want the United States to fail [reverse coded], enjoy insulting Americans [reverse coded]; \( \alpha = .95 \)).

Results and Discussion

Factor analysis and scale correlation. Exploratory factor analysis of all of the dependent variables returned a five factor pattern that broadly corresponded to the expected distinctions between the sets of items,5 so we therefore created scales using our initial expectations. The scales were all highly correlated (\( r = .55-.87 \)).

Main effects of critic nationality and economic threat. Consistent with past research, ingroup (vs. outgroup) status of the critic increased persuasiveness (\( M_{\text{ingroup}} = 3.38, SD = 1.70; M_{\text{outgroup}} = 2.87, SD = 1.53 \), \( F(1, 388) = 8.27, p = .004, \eta^2_p = .021 \), increased positive attitudes (\( M_{\text{ingroup}} = 3.61, SD = 1.47; M_{\text{outgroup}} = 2.97, SD = 1.33 \), \( F(1, 388) = 18.59, p < .001, \eta^2_p = .046 \), reduced negative emotion (\( M_{\text{ingroup}} = 4.18, SD = 1.77; M_{\text{outgroup}} = 4.73, SD = 1.71 \), \( F(1, 388) = 8.51, p = .004, \eta^2_p = .022 \), increased willingness to disseminate (\( M_{\text{ingroup}} = 2.97, SD = 2.02; M_{\text{outgroup}} = 2.49, SD = 1.77 \), \( F(1, 388) = 4.67, p = .031, \eta^2_p = .012 \), and increased positive motive attributions (\( M_{\text{ingroup}} = 4.30, SD = 1.60; M_{\text{outgroup}} = 2.31, SD = 1.26 \), \( F(1, 388) = 181.97, p < .001, \eta^2_p = .319 \)).

Furthermore, threat (vs. control) reduced the persuasiveness of the criticism (\( M_{\text{threat}} = 2.91, SD = 1.61; M_{\text{control}} = 3.29, SD = 1.64 \), \( F(1, 388) = 5.53, p = .020, \eta^2_p = .014 \), reduced positive attitudes toward the critic (\( M_{\text{threat}} = 3.05, SD = 1.40; M_{\text{control}} = 3.47, SD = 1.44 \), \( F(1, 388) = 8.78, p = .003, \eta^2_p = .022 \), increased negative emotions toward the critic (\( M_{\text{threat}} = 4.72, SD = 1.72; M_{\text{control}} = 4.25, SD = 1.77 \), \( F(1, 388) = 7.22, p = .008, \eta^2_p = .018 \), reduced willingness to disseminate the criticism (\( M_{\text{threat}} = 2.44, SD = 1.79; M_{\text{control}} = 2.96, SD = 1.97 \), \( F(1, 388) = 7.80, p = .006, \eta^2_p = .020 \), and reduced positive motive attributions toward the critic (\( M_{\text{threat}} = 3.06, SD = 1.64; M_{\text{control}} = 3.48, SD = 1.82 \), \( F(1, 388) = 8.15, p = .005, \eta^2_p = .014 \).
magnified suspicion about the critic’s motives and in turn mediated to explain less openness to criticism, and whether the mediation depended on the critic’s group membership (see Figure 1). Using Hayes’ PROCESS macro (Hayes, 2013) and bootstrapping (5000), we conducted moderated mediation analyses in which threat versus no threat served as the predictor, perceptions of the critic’s motives the mediator, and critic type (ingroup or outgroup) the moderator.

We found that, in the presence of threat (vs. no threat), participants were more suspicious of criticism coming from the ingroup member compared with the outgroup member, \( B = 1.03, SE = .29, 95\% \text{ confidence interval (CI)} [.466, 1.590] \); and this greater suspicion predicted less persuasion, \( B = .79, SE = .04, 95\% \text{ CI} [.703, .868] \), less positive attitudes toward the critic, \( B = .73, SE = .03, 95\% \text{ CI} [.663, .796] \), more negative emotion, \( B = -.73, SE = .05, 95\% \text{ CI} [-.830, -.633] \), and less willingness to disseminate the critical article, \( B = .76, SE = .06, 95\% \text{ CI} [.649, .866] \). These mediations were only significant for the ingroup critic: indirect effects for persuasion, \( B = - .72, SE = .18, 95\% \text{ CI} [-1.083, -.385] \); positive attitudes, \( B = -.67, SE = .17, 95\% \text{ CI} [-.993, -.341] \); negative emotions, \( B = .68, SE = .17, 95\% \text{ CI} [.345, 1.010] \); and willingness to share the criticism, \( B = -.70, SE = .18, 95\% \text{ CI} [-1.048, -.356] \). None of the mediations were significant for the outgroup critic: persuasion, \( B = .08, SE = .14, 95\% \text{ CI} [-.194, .359] \); attitudes, \( B = .08, SE = .13, 95\% \text{ CI} [.173, .356] \); negative emotions, \( B = .09, SE = .14, 95\% \text{ CI} [-.204, .394] \); and willingness to disseminate the criticism, \( B = .02, SE = .15, 95\% \text{ CI} [-.282, .325] \).
Participants. Two samples were recruited in parallel from MTurk (n = 428) and a Qualtrics panel (n = 440). While MTurk provided a convenience sample, the Qualtrics panel provided a national sample. Using the same exclusion criteria as Experiment 1, we removed 77 participants who sped through the experiment, 31 who identified as non-American, 25 who failed to correctly identify details of the threat article, 20 who identified that they had participated in a previous experiment, 13 who failed to correctly identify the nationality of the critical article’s author, 13 who failed a catch question for attention, 11 who were multivariate outliers, three participants who participated multiple times, and one who entered irrelevant writing about the threat article, for a total of 22.4% (n = 194) of participants, leaving a final trimmed sample of 674 participants (age: M = 40.91 years, SD = 14.65, gender: 57.6% female).

Materials and procedure. The procedure and cover story for Experiment 2 were identical to the previous experiments and are not described again.

Method

Participants. Two samples were recruited in parallel from MTurk (n = 428) and a Qualtrics panel (n = 440). While MTurk provided a convenience sample, the Qualtrics panel provided a national sample. Using the same exclusion criteria as Experiment 1, we removed 77 participants who sped through the experiment, 31 who identified as non-American, 25 who failed to correctly identify details of the threat article, 20 who identified that they had participated in a previous experiment, 13 who failed to correctly identify the nationality of the critical article’s author, 13 who failed a catch question for attention, 11 who were multivariate outliers, three participants who participated multiple times, and one who entered irrelevant writing about the threat article, for a total of 22.4% (n = 194) of participants, leaving a final trimmed sample of 674 participants (age: M = 40.91 years, SD = 14.65, gender: 57.6% female).

Materials and procedure. The procedure and cover story for Experiment 2 were identical to the previous experiments and are not described again.

Threat manipulation. Participants assigned to the threat condition read an article about the growing frequency of terrorist incidents in the United States (“lone wolf” attacks) and the difficulty containing such incidents. The article emphasized how the threat of lone wolf terror attacks threatened Americans from all walks of life. Participants in the control condition were not assigned anything to read.

Criticism manipulation. Participants were assigned to read an op-ed critical of American national security policy for trampling on individual civil liberties rights while overemphasizing national security. The article argued that protecting civil liberties should take precedence over national security concerns and, in an attempt to be more explicitly constructive, provided ways to increase respect for civil liberties. As the manipulation, the article’s author was presented as a national security expert who was either an American or South Korean university professor.

Dependent variables. We measured the same dependent and mediator variables as in Experiment 2, but decreased the number of items due to cost restrictions for the Qualtrics sample. Persuasiveness was assessed using three items (agreement, persuasion, fairness; α = .92), attitudes toward the critic using four items (trust, competence, liking, respect; α = .93), negative emotional reaction toward the critic using four items (upset, positive [reverse coded], angry, insult; α = .93), willingness to circulate the criticism among others (read more, share on social media, suggest the article to others; α = .92), and attributions about the critic’s motives using four items, (wants to make the United States better, cares about Americans, wants to see the United States fail [reverse coded], wants to see the United States succeed; α = .92).

Results

Factor analysis and correlation. As exploratory factor analysis of dependent items returned a pattern that mostly corresponded with the expected scales, we combined the items into their predicted scales. The scales were all highly correlated (r = .59-.85).

The role of sample. All of the analyses of variance (ANOVAs) reported below include sample source (MTurk and Qualtrics) as a full factor. Throughout the analyses, sample did not significantly interact in any two- or three-way interactions with critic nationality and threat, all Fs < 1.50, all ps > .220. Three main effects of sample source on negative emotions toward the critic, F(1, 666) = 7.04, p = .008, willingness to disseminate the criticism, F(1, 664) = 4.46, p = .035, and perceived critic benevolence, F(1, 666) = 8.33, p = .004, indicated that participants from the nationally representative sample had more negative emotions toward the critic, were more willing to disseminate the criticism, and...
perceived the critic as having less benevolent motives than those in the MTurk sample.

**Main effects of critic nationality and national security threat.** Once again, consistent with past research, we found that people responded more positively to group critics from their own group in terms of persuasion \((M_{\text{ingroup}} = 3.96, SD = 1.77; M_{\text{outgroup}} = 3.45, SD = 1.75), F(1, 666) = 12.73, p < .001, \eta_p^2 = .019;\) positive attitudes toward the critic \((M_{\text{ingroup}} = 4.31, SD = 1.48; M_{\text{outgroup}} = 3.82, SD = 1.44), F(1, 666) = 17.23, p < .001, \eta_p^2 = .025;\) negative emotions toward the critic \((M_{\text{ingroup}} = 3.44, SD = 1.73; M_{\text{outgroup}} = 4.14, SD = 1.76), F(1, 666) = 25.29, p < .001, \eta_p^2 = .037;\) willingness to disseminate the criticism \((M_{\text{ingroup}} = 3.56, SD = 1.98; M_{\text{outgroup}} = 3.11, SD = 1.91), F(1, 664) = 8.40, p = .004, \eta_p^2 = .013;\) and attributions of benevolent motives \((M_{\text{ingroup}} = 5.04, SD = 1.53; M_{\text{outgroup}} = 3.59, SD = 1.57), F(1, 666) = 144.01, p < .001, \eta_p^2 = .178.\)

Unlike Experiment 1, there were no main effects of the national security threat manipulation, all \(F_s < 0.18, all p_s > .674.\)

**Interaction effects of critic nationality and threat.** These main effects were qualified by significant interactions between critic nationality and threat, which again revealed that threat undermines the preferential treatment of ingroup critics (see Table 2) on persuasion, \(F(1, 666) = 9.49, p = .002, \eta_p^2 = .014,\) attitudes toward the critic, \(F(1, 666) = 6.49, p = .011, \eta_p^2 = .010,\) negative emotions toward the critic, \(F(1, 666) = 5.63, p = .018, \eta_p^2 = .008,\) and willingness to circulate the criticism, \(F(1, 664) = 5.02, p = .025, \eta_p^2 = .008.\) The interaction effect on attributions about the critic’s motives, however, was marginally significant, \(F(1, 666) = 3.64, p = .057, \eta_p^2 = .005.\) Table 2 further reveals that, unlike Experiment 1, the reduction of the preferential treatment to ingroup critics appears to be driven jointly by threat leading to less positive reactions to ingroup critics as well as somewhat better reactions to outgroup critics.

**The mediating role of critic motives on persuasion.** Due to the lack of a significant interaction effect on our proposed mediator, perceptions of the critic’s benevolent motives, the proposed mediations were nonsignificant, which may be due to a number of reasons described below.

**Discussion**

Using a different form of threat (national security) and criticism (criticizing the United States for violating civil liberties), Experiment 2 replicated most of the findings from Experiment 1. Specifically, people were more persuaded by group criticism when it came from a fellow American rather than a foreigner in the absence of threat. However, when national security threat was salient, this ingroup advantage was eliminated or diminished, resulting in equally closed reactions to criticism regardless of its source.

Unlike Experiment 1, the predicted moderated mediation did not emerge in Experiment 2 because activated threat only marginally reduced the difference between perceivers’ suspicion about the motives of ingroup critics versus outgroup critics. There are a few possible explanations for this result. First, this outcome was similar to the finding of Ariyanto and colleagues (2010), where a violent group threat decreased preferential treatment of an ingroup critic but did not affect
perceptions of the critic’s motive. This suggests that the nature of the threat used in this experiment may have differentially affected people’s openness to criticism. As Hornsey (2005) suggests, reduced openness to ingroup criticism in the face of threat may result not from questioning motives at all, but rather from the feeling that the circumstances are not right for critical group comment (“this isn’t the time”), and this may be the case especially in the face of violent threats. A second possible explanation for the absence of the moderated mediation is that the critical op-ed in Experiment 2 was explicitly more constructive than the one in the previous experiments and therefore generated less suspicion about the critic’s motives.

Despite the fact that the attributional mechanism did not replicate in Experiment 2, we found consistent support for our primary hypothesis: Absent national security threat ingroup critics were more persuasive than outgroup critics and listeners were more willing to circulate the critique within their social network, but this ingroup advantage was eliminated when listeners felt their group was threatened.

**Experiment 3**

In two previous experiments, we find evidence for two problematic phenomena in how people respond to group criticism. First, as previous research has noted (e.g., Hornsey et al., 2002), people are not receptive to criticism of their group when it is presented by an outgroup member, effectively closing groups off to criticism from a vast majority of possible sources, many of whom may have critically novel perspectives. Second, even the relative openness to ingroup critics can be eroded when group members feel that their group is threatened. So what might remedy defensiveness to criticism about one’s ingroup, and especially when their group is under the specter of threat? We propose that framing the criticism in light of that value may provide benefits for ingroup critics who would then be permitted to criticize even when the group experiences threat.

These competing hypotheses were tested using a 2 Critic Type (American, South Korean) × 2 Threat Type (economic threat, no threat) × 2 Free Speech frame (free speech frame, no frame) between subjects factorial design.

**Method**

**Participants.** Eight hundred five participants participated through MTurk. Using the same criteria as for previous studies, we excluded 105 participants who were unable to recall the free speech frame message, 43 who identified as non-American, 31 who had participated in a previous experiment, 23 who sped through the experiment, 21 participants who failed to identify the nationality of the critical author, 10 participants who participated multiple times, 10 who were multivariate outliers, nine who failed to correctly identify details of the threat article, and two who failed a catch question for attention, accounting for 31.6% (n = 254), the single largest group of whom failed to recall the content of the Free Speech frame (see below), leaving a final sample of 551 participants—age: M = 36.60 years, SD = 12.40; gender: 52.7% female; race: 79.3% White; political affiliation: M = 3.44, SD = 1.83 on a 7-point scale ranging from very liberal (1) to very conservative (7).

**Materials and procedure.** The procedure, cover story, measures, and manipulations of economic threat and criticism were identical to Experiment 1.

**Free speech frame.** Half the participants read a short statement above the critical op-ed allegedly written by the newspaper’s editorial board which read as follows:

At this newspaper, we strongly believe that the American value of free speech is an important part of what makes the United States great because it encourages debate around a diversity of opinions. That’s why, in this newspaper, we bring you a wide variety of opinions.

At the end of the experiment, participants in the framing condition were asked to identify the content of the statement as an attention check.

**Results**

**Factor analysis and correlation.** Exploratory factor analysis of dependent items returned a four factor pattern that broadly corresponded with the expected scales; therefore, to maintain consistency with the previous studies, we created our
five expected scales. The scales were all highly correlated ($r = .52-.82$).

**Benefits of free speech framing.** A series of Free Speech Frame × Threat × Critic Type ANOVAs were conducted using each of the dependent variables. None of the omnibus three-way interactions approached significance, all $Fs < 0.27$, all $ps > .603$, suggesting that if a free speech frame protected against the negative consequences of threat, it did so more broadly than just for members of the ingroup.

In contrast, two-way interactions between the free speech frame and threat suggested that free speech frames counter the negative effects of threat regardless of group membership. Specifically, significant interactions emerged for persuasion, $F(1, 543) = 5.26, p = .022, \eta^2_p = .010$, attitudes, $F(1, 543) = 6.00, p = .015, \eta^2_p = .011$, willingness to circulate the criticism, $F(1, 543) = 4.65, p = .032, \eta^2_p = .009$, and marginally for perceived motives, $F(1, 543) = 3.55, p = .060, \eta^2_p = .007$. The effect on negative emotions, however, was nonsignificant, $F(1, 543) = .51, p = .475, \eta^2_p = .001$. The interactions indicated that, in the absence of the free speech framing, people were less persuaded by criticism delivered under threat ($M_{\text{threat}} = 2.99, SD = 1.44$) compared with no threat ($M_{\text{control}} = 3.40, SD = 1.70$), with the same pattern emerging for attitudes toward the critic ($M_{\text{threat}} = 3.14, SD = 1.31; M_{\text{control}} = 3.65, SD = 1.41$), willingness to disseminate ($M_{\text{threat}} = 2.33, SD = 1.51; M_{\text{control}} = 2.88, SD = 1.80$), and perceptions of the critic’s motives ($M_{\text{threat}} = 3.19, SD = 1.60; M_{\text{control}} = 3.67, SD = 1.85$). When the criticism had been framed in terms of free speech, however, the negative consequence of threat was eliminated (persuasion: $M_{\text{threat}} = 3.28, SD = 1.63; M_{\text{control}} = 3.08, SD = 1.44$; attitudes toward the critic: $M_{\text{threat}} = 3.50, SD = 1.45; M_{\text{control}} = 3.47, SD = 1.20$; willingness to disseminate: $M_{\text{threat}} = 2.69, SD = 1.90; M_{\text{control}} = 2.64, SD = 1.62$; perceptions of the critic’s motives: $M_{\text{threat}} = 3.93, SD = 1.77; M_{\text{control}} = 3.97, SD = 1.54$).

Furthermore, two-way interactions indicated that whereas people tend to respond defensively to group criticism delivered by outgroup members, framing the criticism as a free speech issue also increased people’s openness to their criticism; persuasion, $F(1, 543) = 2.74, p = .098, \eta^2_p = .005$, attitudes, $F(1, 543) = 5.41, p = .020, \eta^2_p = .010$, negative emotions, $F(1, 543) = 3.45, p = .064, \eta^2_p = .006$, willingness to disseminate the criticism, $F(1, 543) = 9.82, p = .002, \eta^2_p = .018$, and perceived motives of the critic, $F(1, 543) = 11.79, p < .001, \eta^2_p = .021$. Specifically, in the absence of a free speech framing, ingroup critics received preferential treatment compared with outgroup critics (persuasion: $M_{\text{ingroup}} = 3.41, SD = 1.65; M_{\text{outgroup}} = 2.97, SD = 1.49$; attitudes toward the critic: $M_{\text{ingroup}} = 3.66, SD = 1.43; M_{\text{outgroup}} = 3.13, SD = 1.29$; negative emotions: $M_{\text{ingroup}} = 4.04, SD = 1.80; M_{\text{outgroup}} = 4.59, SD = 1.80$; willingness to disseminate: $M_{\text{ingroup}} = 2.88, SD = 1.79; M_{\text{outgroup}} = 2.32, SD = 1.51$; perceptions of the critic’s motives: $M_{\text{ingroup}} = 4.34, SD = 1.62; M_{\text{outgroup}} = 2.50, SD = 1.32$). When participants had read the criticism framed as a free speech issue, however, the pattern of reduced openness to outgroup critics was reduced or entirely eliminated (persuasion: $M_{\text{ingroup}} = 3.19, SD = 1.56; M_{\text{outgroup}} = 3.15, SD = 1.51$; attitudes toward the critic: $M_{\text{ingroup}} = 3.50, SD = 1.33; M_{\text{outgroup}} = 3.46, SD = 1.31$; negative emotions: $M_{\text{ingroup}} = 4.33, SD = 1.79; M_{\text{outgroup}} = 4.34, SD = 1.91$; willingness to disseminate: $M_{\text{ingroup}} = 2.51, SD = 1.66; M_{\text{outgroup}} = 2.82, SD = 1.82$; perceptions of the critic’s motives: $M_{\text{ingroup}} = 4.43, SD = 1.57; M_{\text{outgroup}} = 3.45, SD = 1.58$).

We also replicated the Threat × Critic Type effect from the previous experiments, showing that absent threat participants were more persuaded by, and attributed more benevolent motives to, ingroup than outgroup critics. But this difference was eliminated or reduced under threat: persuasion, $F(1, 543) = 4.68, p = .031, \eta^2_p = .009$; attitudes, $F(1, 543) = 8.79, p = .003, \eta^2_p = .016$; negative emotion, $F(1, 543) = 5.31, p = .021, \eta^2_p = .010$; willingness to share criticism, $F(1, 543) = 6.91, p = .009, \eta^2_p = .013$; perceived motives, $F(1, 543) = 6.83, p = .009, \eta^2_p = .012$ (see Table 3).

**Main effects of critic nationality, economic threat, and free speech framing.** The main effects in Experiment 3 were inconsistent across the dependent variables. Participants had significantly more positive attitudes, $F(1, 543) = 5.84, p = .016, \eta^2_p = .011$, and assigned more benevolent motives, $F(1, 543) = 117.55, p < .001, \eta^2_p = .178$, to an ingroup than outgroup critic. This was also marginally the case for persuasion, $F(1, 543) = 2.94, p = .087, \eta^2_p = .005$, and negative emotions, $F(1, 543) = 2.83, p = .093, \eta^2_p = .005$. Participants also had more positive attitudes toward a critic when there was no threat (vs. threat), $F(1, 543) = 4.55, p = .033, \eta^2_p = .008$, and similarly with perception of the critic’s motives, $F(1, 543) = 4.32, p = .038, \eta^2_p = .006$, and marginally with willingness to disseminate the criticism, $F(1, 543) = 2.94, p = .087, \eta^2_p = .005$. The only significant main effect of framing emerged for perceived motives, $F(1, 543) = 15.80, p < .001, \eta^2_p = .022$.

**The mediating role of critic’s motives on persuasion.** We tested whether attributions about the critic’s motives explained why free speech framings and threat affected participants’ reactions to criticism. To do this, we conducted three sets of moderated mediation analyses. Table 4 shows statistics for the mediating effect of critic’s motive on persuasion (dependent variable) and test whether that effect is moderated by the free speech frame. Moderated mediation statistics for other dependent variables are reported in the online supplement.

First, we tested whether the critic’s motives would mediate reactions to ingroup versus outgroup critics as a function of threat. Consistent with our hypotheses, and replicating Experiment 1, we found that threat predicted greater suspicion which in turn predicted less persuasion when the critic was an ingroup member but not an outgroup member.
Second, we tested whether reminders of the value of free speech would moderate the effect of threat on critic outcomes through attributions about the critic’s motives. In these analyses, threat served as the predictor, critic’s motives the mediator, and the free speech framing as the moderator. The overall moderated mediations were nonsignificant. However, given our a priori hypotheses, we also explored mediational models separately for the framing and no framing conditions. We found that when free speech was not primed, threat (vs. no threat) predicted greater suspicion of the critic’s motives which in turn predicted less persuasion. This mediation was no longer significant when participants

### Table 3. Experiment 3 Means and Tests of the Simple Effects for the Critic Nationality × Threat Interaction.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Critic nationality</th>
<th>No threat</th>
<th>Threat</th>
<th>t(543)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persuasion</td>
<td>Ingroup</td>
<td>3.52 (1.69)</td>
<td>3.10 (1.50)</td>
<td>t(543) = 2.10, p = .036</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outgroup</td>
<td>2.99 (1.45)</td>
<td>3.12 (1.55)</td>
<td>t(543) = −.96, p = .335</td>
<td></td>
</tr>
<tr>
<td>Emotional reactions</td>
<td>Ingroup</td>
<td>3.89 (1.36)</td>
<td>3.28 (1.34)</td>
<td>t(543) = 3.63, p &lt; .001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outgroup</td>
<td>3.25 (1.19)</td>
<td>3.29 (1.42)</td>
<td>t(543) = −.58, p = .560</td>
<td></td>
</tr>
<tr>
<td>Attitudes</td>
<td>Ingroup</td>
<td>3.91 (1.80)</td>
<td>4.44 (1.76)</td>
<td>t(543) = −2.44, p = .015</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outgroup</td>
<td>4.56 (1.72)</td>
<td>4.39 (1.98)</td>
<td>t(543) = .84, p = .404</td>
<td></td>
</tr>
</tbody>
</table>

Note. The t tests beneath the columns compare reactions to ingroup versus outgroup critics within that column. The t tests to the right of the rows compare reactions to threat or no threat across the row. The values in parentheses represent standard deviations.

### Table 4. Conditional Process Analyses for Experiment 3 Showing Moderated Mediation Through Mediator (M) Perceived Intentions on the Outcome (Y) Persuasion.

<table>
<thead>
<tr>
<th>Independent variable (X)</th>
<th>Moderating variable (W)</th>
<th>a path</th>
<th>b path</th>
<th>c’ path</th>
<th>a × b path (indirect effect)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threat vs. No Threat</td>
<td>Ingroup</td>
<td>B = .67, SE = .03, 95% CI [.150, 1.182]</td>
<td>B = .66, SE = .20, 95% CI [.599, .727]</td>
<td>B = .11, SE = .12, 95% CI [−.286, .503]</td>
<td>B = .01, SE = .17, 95% CI [−.685, .243]</td>
</tr>
<tr>
<td></td>
<td>Outgroup</td>
<td>B = .26, 95% CI [.150, 1.182]</td>
<td>B = .29, 95% CI [.525, .644]</td>
<td>B = .34, 95% CI [.21, .513]</td>
<td>B = .28, 95% CI [.11, .513]</td>
</tr>
<tr>
<td>Threat vs. No Threat</td>
<td>Free Speech primed</td>
<td>B = .45, SE = .03, 95% CI [.150, 1.182]</td>
<td>B = .58, SE = .21, 95% CI [.525, .644]</td>
<td>B = .34, 95% CI [.21, .513]</td>
<td>B = .28, 95% CI [.11, .513]</td>
</tr>
<tr>
<td></td>
<td>Not primed</td>
<td>B = .29, 95% CI [.150, 1.182]</td>
<td>B = .34, 95% CI [.525, .644]</td>
<td>B = .34, 95% CI [.21, .513]</td>
<td>B = .28, 95% CI [.11, .513]</td>
</tr>
<tr>
<td>Free Speech</td>
<td>Critic Type: Ingroup</td>
<td>B = .86, SE = .03, 95% CI [.150, 1.182]</td>
<td>B = .69, SE = .20, 95% CI [.525, .644]</td>
<td>B = .18, SE = .13, 95% CI [.235, .951]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not primed</td>
<td>B = .26, 95% CI [.150, 1.182]</td>
<td>B = .34, 95% CI [.525, .644]</td>
<td>B = .06, SE = .13, 95% CI [.235, .951]</td>
<td></td>
</tr>
</tbody>
</table>

Note. In the above table, “X” represents the independent variable. “W” denotes the moderating variable. “M” denotes the mediating variable Perceived Intentions, and “Y” denotes the outcome variable Persuasion. The “c’” path denotes the interaction between “X” and “W” on the outcome variable, controlling for the effect of perceived intentions. The slopes of the effect are represented as “B” in combination with standard errors for the slopes “SE” and the 95% CI around the slopes are represented with “95% CI.” See Online Appendix for the full table of results. CI = confidence interval.
were primed with the free speech framing. We recommend caution in interpreting these results because the overall moderated mediation was nonsignificant.

Finally, we tested whether the effect of free speech on persuasion mediated through perceived motives would be moderated by the critic’s nationality. In this moderated mediation analysis, the free speech frame was the predictor, critic’s motives the mediator, and the critic’s group membership the moderator. The overall mediation was significant, indicating that the free speech frame predicted less suspicion about the critic’s motives, which in turn predicted greater persuasion, but only when the critic was an outgroup member and not an ingroup member.

**Discussion**

In sum, Experiment 3 revealed four primary findings. First, replicating Experiments 1 and 2, we found that absent threat people preferred to hear criticism from ingroup than outgroup members, but activation of threat led them to become closed to criticism regardless of who the critic was. Second, new to this experiment, we found that framing the criticism in terms of free speech increased persuasion even when their group was under threat and regardless of the critic’s identity. Third, the free speech framing also overcame preferential treatment of ingroup over outgroup critics. While people preferred ingroup critics absent free speech affirmation, reminding them of the value of free speech was sufficient to erase or reduce ingroup favoritism. Finally, tests of mediation partially supported our hypotheses that perceptions of the critic’s motives to be benevolent or malevolent partially explained why people were more or less open to persuasion when faced with critical messages. Consistent with research on framing messages in terms of free speech (Ramírez & Verkuyten, 2011), reminding participants that exposure to diverse opinions is a valuable and essential component of American discourse appears to have refocused ingroup members. Rather than hearing the criticism and inferring motives as a function of group membership and threat, participants appear to put aside those factors. Interestingly, the effect of the framing appears to be not that all criticism is received well, but rather that extraneous cues to a critic’s motives no longer lead people to infer malevolent intent. While we cannot rule out alternative explanations for this effect, for example, demand characteristics, it is important to note that the effectiveness of the manipulation in protecting the critic from negative attributions and increased defensiveness is consistent with research that sought to protect outgroup critics from negative attributions by including praise in the critical message or emphasizing that the criticized behavior was also a failing for their own group as well and which also protect against the ISE (Hornsey, Robson, Smith, Esposo, & Sutton, 2008). Thus, it appears that framing the act of group criticism itself as valuable to the group, and therefore not a malevolent act, effectively reframed the perceived purpose of the criticism, providing benefits for critics who cease to be evaluated as a function of secondary cues as to their intentions.

**Post Hoc Power**

To measure the achieved power for these effects, we conducted post hoc power analyses by averaging the dependent variables from each experiment into a single composite of openness to criticism. The post hoc analyses of achieved power revealed acceptable power (.71 for Experiment 2, .74 for Experiment 2, and .79 for Experiment 3).

**General Discussion**

We started this investigation with a paradox captured by the story of Mehdi Hassan: While people are typically open to critical feedback about their group when it comes from within their group rather than from without, sometimes critics from within are nonetheless rejected. We sought to explain this paradox through a social psychological lens using national groups as a case in point. First we predicted that social contexts that increase threats to ingroup (American) well-being will produce defensive reactions to criticism even when it comes from fellow Americans. Second, we tested an explanatory psychological mechanism underlying this effect. We proposed that in the presence of a threat facing the United States, Americans will cease to tolerate dissent, view fellow American critics with heightened suspicion thinking that their critique aims to harm the nation, and will circle the wagons around their nation. Because external critics (foreign nationals) are not expected to be loyal to the United States, threat does not change reactions toward them. Third, we sought to identify a psychological remedy to prevent the metaphorical circling of wagons and increase openness to criticism. We proposed that reminding American participants of the value of free speech would increase receptivity to criticism.

Across three experiments, we found support for these hypotheses. We showed that while Americans are usually more open to criticism of their nation from fellow Americans than foreign nationals in the absence of a situational threat, the advent of threat made them equally unreceptive to criticism from Americans and non-Americans. This pattern of results emerged when the threat was relevant to the decline of the national economy (Experiments 1 and 3) and also relevant to national security (Experiment 2).

In support of our second hypothesis, we found that these negative reactions under threat can be partially explained by increased suspicion about the motives of the American critic (Experiments 1 and 3). In the absence of national threat, fellow Americans who were critical about their nation were seen as having more benevolent motives for criticizing compared with a foreign critic who levied the same criticism. However, when under economic threat they became more
suspicuous of fellow American critics’ motives, rendering them as unpersuasive as foreign critics. Importantly, we did not find this effect when the threat was related to national security. As discussed above, this may have resulted for a number of reason, including that the type of threat (national security or violence) leads to different types of reactions than economic threats. In addition, Experiment 2 also attempted to make the criticism explicitly constructive, differing from much of the previous criticism research in which the criticisms used tend to be explicitly harsh and unconstructive (e.g., Ariyanto et al., 2010; Hornsey et al., 2002). Therefore, it may also be that the criticism we used assuaged some of the suspicion of the critic’s motives, leaving an open question as to what other mechanism is at play that leads to less openness to an ingroup member’s group criticism in the face of threat.

In support of our third hypothesis, Experiment 3 showed that framing criticism in terms of the value of free speech both offered protection against the negative effects of threat, and eliminated the typical ingroup preference effect, thus potentially offering a way to create more openness to group criticism regardless of the source, and also to maintain openness to group criticism even when the group faces threat. Together, the three experiments provide strong support for our hypotheses and increase theoretical understanding of reactions to dissent and criticism in the context of inter- and intragroup relations.

**How Threat Reduces Openness to Criticism by Changing Attributions of Critics’ Intentions**

Our findings extend past research in theoretically important ways. Whereas past research showed that threat affects people’s attitudes toward ingroup critics (Ariyanto et al., 2010; Khoo & See, 2014), we extend it further by showing that threat also renders communications from ingroup members less persuasive and increases people’s reluctance to share the critical communication with others in their social network, a key component of democratic engagement.

Our findings also amplify the importance of threat in shutting down dissent. Ample extant research shows that groups are open to criticism if it comes from individuals within the group (see Jetten & Hornsey, 2014, for a review). This is likely because people construe ingroup criticism as a form of constructive patriotism (Schatz, Staub, & Lavine, 1999) coming from critics who are motivated to help their group improve (Packer, 2009). We find that the experience of threat can be powerful enough to erase the benefit of doubt typically given to ingroup members. Thus, the present research provides further support for the ISE, consistently showing preferences for ingroup over outgroup critics, while also providing empirical support across multiple studies and domains of threat that the preferential openness that ingroup critics experience can be limited by threats facing the group. Future research might investigate whether varying types of threat differentially impact openness to criticism and whether individual differences in preexisting beliefs about a threatening issue change reactions to criticism.

A key finding from the present research is that the negative effects of threat on openness to criticism are explained by changing attributions about the ingroup critic’s intentions. Under threat, people assume that ingroup critics must have malevolent intentions if they are criticizing the group at a time when it is under threat. Whereas past research found that people implicitly assume benevolent intentions of fellow ingroup members compared with outgroup members (Hewstone, 1990; Hornsey & Imani, 2004), we point to an important boundary condition—threat eliminates preferential attributions about ingroup members’ intentions.

Threat from economic insecurity consistently supported our mediational hypothesis. However, when threat emerged from national security the mediation was nonsignificant but all other results remained the same. A productive avenue of future research would be to test the impact of different types of threat on persuasion in response to criticism from within one’s group.

**Increasing Openness to Criticism Through Reminders of the Value of Free Speech**

An important goal of this research was to test an intervention to overcome people’s inclination to become suspicious of critics’ intentions when under threat. We found that framing criticism in terms of the core American value of free speech successfully reduced defensive reactions to criticism under threat regardless of the critic’s group membership. That is, free speech reframed their interpretation of criticism as an instantiation of a treasured national value, rather than as evidence of someone’s malign motives. Framing the criticism in terms of free speech was also successful in increasing openness to outgroup critics.

Thus, we provide evidence that framing criticism in terms of free speech and dissent accomplishes two goals. First, it tempers people’s impulse to “shut down” when faced with critical communications delivered in a threatening situation. Second, it overcomes people’s instinct to only listen to members of their own group.

**Limitations and Future Directions**

While our experiments show consistent effects confirming a priori predictions, there are a few limitations that require future attention. First, the control condition in the threat and free speech frame manipulations involved having no reading task at all (whereas participants in the experimental conditions were given materials to read). This raises the possibility that some of the differences between the conditions may be due to differences aside from the content of the experimental articles. Given that the results are broadly consistent with past research that used a control condition where participants...
were also assigned a reading (Ariyanto et al., 2010), this appears not to be the case, although future research may be able to determine this with a greater level of certainty.

Second, across all three experiments, the criticism was delivered in the form of an article purportedly printed in the International Herald Tribune. This raises the possibility that the effects reported here are dependent on the readers’ assumption that the criticism is being delivered not solely to an ingroup (American) audience, but to a wider international audience. Past research has found that people are less open to ingroup criticism when it is aired publicly to an outgroup audience (e.g., Elder et al., 2005), although research also shows that this may be true for low group identifiers and not high group identifiers (e.g., Ariyanto, Hornsey, & Gallois, 2006; Hornsey et al., 2005). Future research might therefore test whether these results are moderated by audience type.

Third, future research might also test whether creating greater distance between the issue eliciting threat and the topic of criticism would influence persuasion. In our research, the issue eliciting threat (economy or national security) was deliberately related to the topic of group criticism (Americans’ work ethic or the importance of civil liberties). We did this because pilot testing suggested that the sting of criticism is stronger when it is related to the threat. This may be because threat generated experimentally is insufficiently powerful to affect responses to group criticism on issues less closely related to the topic of the threat. However, this is an issue that deserves more systematic investigation in the future to better understand the conditions under which threat reduces openness to criticism.

In conclusion, as Mehdi Hasan discovered, being a valued member of a group is not always sufficient to protect one from harsh reactions to criticism of ingroup behavior. People sometimes respond to perceptions that their group is embattled by fighting off all criticism. By showing that publicly affirming the value of free speech and dissenting opinions helps overcome the defensive impulse to circle the wagons, this research points a way forward to improve within-group and between-group dialogue allowing the free flow of ideas and dissenting opinions essential for democratic decision-making.

Notes
1. An additional experiment was conducted that was broadly similar to Experiment 1 reported here. Aside from some weaknesses in the design and measurement that we corrected in the present experiment, the results were consistent with those of Experiment 1. A full description of the experiment and results can be found in the online supplement.
2. Participants who took less than 10 s to read the manipulations or less than 4 min on the entire experiment were excluded. These criteria were applied consistently across all three experiments.
3. Multivariate outlier analysis was conducted in SAS using the Mahalanobis distance statistic and chi-square distributions at an alpha of .01 (Tabachnick & Fidell, 2007). This method identifies combinations of values on the variables of interest and calculates a score for each combination that indicates its distance from the central point of the distribution. This Mahalanobis distance score is then compared with a critical value indicating the probability of finding that combination of values, and if the distance score is greater than the critical value it is considered an outlier. Participants with values above the critical value were excluded.
4. The full manipulations and materials for all studies can be found in the online supplement.
5. The items measuring attitudes toward the critic loaded inconsistently within the overall factor analysis, but loaded on a single factor when investigated independently.
6. The factor analysis did not differentiate between the persuasion and attitudes toward the critic components.

Supplemental Material
Supplemental material is available online with this article.

References


