Role and Impact of Involvement and Enhanced Threat in Resistance
Michael Pfau; John Banas; Shane M. Semmler; Leslie Deatrick; Lindsay Lane; Alicia Mason; Elizabeth Craig; Gwen Nisbett; Jill Underhill

* Department of Communication, University of Oklahoma, 9 Department of Communication Studies, University of South Dakota, 9 Department of Communication, University of Tennessee, 9 Department of Communication, Pittsburg State University, 9 Department of Communication, North Carolina State University, 9 Department of Communication, University of Maryland

Online publication date: 08 March 2010

To cite this Article Pfau, Michael, Banas, John, Semmler, Shane M., Deatrick, Leslie, Lane, Lindsay, Mason, Alicia, Craig, Elizabeth, Nisbett, Gwen and Underhill, Jill (2010) 'Role and Impact of Involvement and Enhanced Threat in Resistance', Communication Quarterly, 58: 1, 1 — 18

To link to this Article DOI: 10.1080/01463370903520307

URL: http://dx.doi.org/10.1080/01463370903520307

PLEASE SCROLL DOWN FOR ARTICLE
Role and Impact of Involvement and Enhanced Threat in Resistance

Michael Pfau, John Banas, Shane M. Semmler, Leslie Deatrick, Lindsay Lane, Alicia Mason, Elizabeth Craig, Gwen Nisbett, & Jill Underhill

This study examined the relative impact of outcome-relevant (OR), value-relevant (VR), and impression-relevant (IR) involvement on resistance to influence and whether it is possible to enhance elicited threat levels and, if so, to what effect on resistance to counter-attitudinal attacks. An experiment was conducted featuring 281 participants. Results indicated that both OR and VR involvement functioned similarly. They both bypassed threat and counterarguing, instead exerting direct impacts on elicited anger, attitude strength, and resistance. There were no statistically significant results for IR involvement. Results concerning standard and enhanced threat revealed that both manipulations functioned similarly: They enhanced elicited threat, boosted the number and strength of cognitive responses to counterarguments, increased elicited anger, enhanced attitude strength, and contributed to resistance. However, the only booster effect for enhanced threat involved greater attitude certainty.

Keywords: Inoculation; Involvement; Threat

Michael Pfau (Ph.D., University of Arizona, 1987), who passed away on March 12, 2009, was professor and chair of the Department of Communication at the University of Oklahoma. John Banas (Ph.D., University of Texas, 2005) is an assistant professor in the Department of Communication at the University of Oklahoma. Shane M. Semmler (M.A., University of South Dakota, 2004) is an assistant professor in the Department of Communication Studies at the University of South Dakota. Leslie Deatrick (M.A., Michigan State University, 2004) is a lecturer in the Department of Communication at the University of Tennessee. Lindsay Lane (M.S., Radford University, 2005) is a doctoral student in the Department of Communication at the University of Oklahoma. Alicia Mason (M.A., Pittsburg State University, 2006) is an assistant professor in the Department of Communication at Pittsburg State University. Elizabeth Craig (PhD, University of Oklahoma, 2007) is an assistant professor in the Department of Communication at North Carolina State University. Gwen Nisbett (M.Sc., London School of Economics, 2002) is a doctoral student in the Department of Communication at the University of Oklahoma. Jill Underhill (M.A., University of Maryland, 2006) is a doctoral student in the Department of Communication at the University of Maryland. We thank instructors in the Department of Communication at the University of Oklahoma who provided participants for this study. Correspondence: John Banas, Department of Communication, University of Oklahoma, 610 Elm Ave., Rm. 134, Norman, OK 73019; E-mail: jbanas@ou.edu
Much has been learned in the past decade about the way inoculation confers resistance to counterattitudinal attacks (Compton & Pfau, 2005). However, two important questions have been ignored to date. The first concerns involvement. Research indicates that issue involvement plays an integral role in resistance: Issue involvement directly contributes to resistance (Pfau et al., 1997), and inoculation treatments further enhance issue involvement levels, which subsequently produce resistance (Pfau et al., 2003, 2004). What has not been previously studied is the relative contributions of issue involvement (sometimes termed outcome-relevant [OR] involvement), value-relevant (VR) involvement, and impression-relevant (IR) involvement to resistance to influence. The second question concerns threat. Threat, the forewarning of impending challenges to attitudes, functions as the motivational catalyst for resistance, unleashing the process of counterarguing, which renders attitudes less susceptible to attack. Early research that overtly manipulated threat conditions (McGuire, 1962, 1964; McGuire & Papageorgis, 1961, 1962) and later studies that measured threat levels (Pfau et al., 1997, 2001, 2003, 2004, 2005) indicate that threat functions as a precondition to resistance. What has not been studied is whether elicited threat levels can be manipulated and, if so, what the impact would be on resistance. This investigation examines both of these questions and seeks to provide further understanding of the process of resistance.

Role and Impact of OR, VR, and IR Involvement in Resistance

This is the first investigation to examine the effects of different types of involvement on resistance to influence. The extant literature identifies three broadly defined categories of involvement: OR, defined as the importance or salience of an attitude object, what Petty and Cacioppo (1979) termed “issue involvement”; VR involvement, which occurs when an attitude is integrally connected to an individual’s underlying values (Johnson & Eagly, 1989) and which constitutes an expansive reformulation of ego involvement; and IR involvement, what Chaiken (1980) called response involvement, which is about people’s desire to express attitudes that are socially accepted by significant others. Johnson and Eagly maintained these are distinct dimensions of involvement. Recently, Cho and Boster (2005) developed measures to tap these dimensions and confirmed three distinct dimensions. Marshall, Reinhart, Feeley, Tutzauer, and Asher (2008) provided further confirmation of Cho and Boster’s three-factor solution.

Previous inoculation research has focused exclusively on OR, or issue, involvement, finding that it plays an integral role in resistance and may function as an external boundary condition for inoculation theory because it serves as a precondition to threat (Pfau et al., 1997) and, therefore, to counterarguing. Thus, this investigation anticipates that greater levels of OR, or issue, involvement are associated with the traditional mechanisms that have been proven to facilitate resistance, including threat and counterarguing output. This is consistent with
findings of Johnson and Eagly (1989) that OR involvement affects influence (and, one would assume, resistance) and with Cho and Boster’s (2005) finding that OR involvement is more related to information seeking and careful elaboration of message content than either IR or VR involvement. Therefore, we predict the following:

**H1:** Greater OR (issue) involvement is associated with traditional inoculation mechanisms and outcomes, including (a) greater threat, (b) more counterarguing output, and (c) increased resistance to persuasive attacks.

By contrast, this investigation anticipates that VR and IR involvement function more as blunt instruments, generally bypassing the traditional mechanisms that facilitate resistance, instead exerting direct impact on elicited anger, attitude certainty and strength, and resistance. Cho and Boster (2005) found that VR involvement is more associated with attitude extremity. Hence, we predict the following:

**H2:** Greater VR and IM involvement are associated with (a) more elicited anger, (b) greater attitude certainty and strength, and (c) increased resistance to persuasive attacks.

**Role and Impact of Enhanced Threat in Resistance**

This investigation also examines the effects of enhanced threat in resistance. McGuire (1964) conceptualized threat as the motivational trigger for inoculation. It involves getting individuals to accept the vulnerability of attitudes to potential challenges. This acceptance, in turn, unleashes the counterarguing process, thereby strengthening attitudes. Petty and Cacioppo (1986) maintained that inoculation works “mostly by increasing people’s motivation to defend . . . beliefs” (p. 115).

Ironically, as instrumental as threat is in inoculation, McGuire and Papageorgis (1961, 1962) never assessed it in their early research on inoculation. Sometimes they overtly manipulated threat conditions (McGuire, 1964; McGuire & Papageorgis, 1961, 1962), but they never measured it. Instead, they inferred the presence of threat from the comparable effectiveness of inoculation-same and inoculation-different treatments in instilling resistance to attitude change. They reasoned that, if inoculation-different treatments conferred resistance, it was not the content of the refutational preemption component of the message that was responsible for this outcome because different treatments, by nature, feature completely different content than that contained in a subsequent attack. McGuire’s research found that both refutational-same and refutational-different inoculation treatments fostered resistance to attacks (see McGuire, 1961, 1962, 1966; Papageorgis & McGuire, 1961). Later research assessed threat levels, indicating that threat serves as a prerequisite to resistance (Pfau & Burgoon, 1988; Pfau, Kenski, Nitz, & Sorenson, 1990; Pfau et al., 1997, 2001, 2003, 2004, 2005).
But, how much threat is optimal? Pfau et al. (1997) utilized low-, moderate-, and high-involving issues, finding that inoculation worked best with moderate-involving issues. They reasoned that issue involvement defines inoculation’s boundary conditions because it dictates whether inoculation treatments can generate sufficient threat. If involvement is too low, people are unlikely to perceive their attitudes are vulnerable to attack or, even if they did, are unlikely to care. If involvement is too high, people are fully aware that attitudes are susceptible to attack and, in all likelihood, have previously thought about specific challenges to their attitudes and possible refutations of those arguments. In either case, it would be difficult for inoculation treatments to elicit additional threat levels. This rationale is consistent with findings of Burgoon et al. (1976) that resistance is optimal when there is a 50:50 chance of encountering an attack as opposed to conditions in which there is no chance of an attack or in which an attack is certain. Burgoon and colleagues reasoned that, if an attack is certain not to happen or to happen, threat is minimal and resistance is undermined; but, if the likelihood of an attack is uncertain, people are motivated to bolster attitudes.

This is the first inoculation investigation since McGuire’s foundational studies to overtly manipulate threat levels (McGuire, 1964; McGuire & Papageorgis, 1961, 1962). It did so by tweaking the wording of the threat component of inoculation treatments. We anticipated that we could overtly manipulate the wording of threat by enhancing appraisal. Threat is triggered in inoculation by getting people to accept that their attitudes are vulnerable to counterattitudinal attack. It is typically triggered by warning receivers of a likelihood of encountering such attacks. We anticipated that the “personal significance” of a threat manipulation could be increased by wording that suggests greater severity (seriousness), salience, certainty, and immediacy of potential counterattitudinal attacks. Research implies that each should enhance elicited threat. Severity (seriousness) involves the significance of consequences of an attack whereas salience concerns relevance of consequences to the individual. Witte (1992) found that consequences hold the key to people’s perception of the threat of fear appeals. Certainty involves the likelihood of an attack and immediacy concerns how soon an attack will occur. Burgoon et al. (1976) reasoned that greater certainty—short of absolute certainty—enhances threat and found that greater certainty increases resistance. Crano and Prislin (1995) reported that greater immediacy increases personal relevance.

We expect that enhanced threat triggers negative affect—particularly, elicited anger—which, in turn, unleashes danger control as a coping mechanism (Lazarus, 1991; Levanthal, 1970). Danger control in resistance should manifest itself in terms of greater counterarguing output and, therefore, increased attitude certainty and strength and, ultimately, more resistance to persuasive attacks (McGuire, 1970; Pfau et al., 2005). Thus, this study predicts the following:

**H3:** Compared to the standard threat manipulation, enhanced threat manipulation (a) fosters greater counterarguing output, (b) increases elicited anger, (c) enhances attitude certainty and strength, and (d) increases resistance to persuasive attacks.
Method

This study was part of a larger investigation that examined nuances about inoculation and affect. The results of the main study are reported elsewhere (Pfau et al., 2009). By contrast, this study focused exclusively on the relative impact of OR, VR, and IR involvement on resistance and whether it is possible to enhance elicited threat levels.

Topic Selection

The study used two issues, one of moderate issue involvement and the other of high issue involvement. Both issues also met the requirement in resistance research that most people have opinions and, for people who hold opinions, valences are relatively equal in support or opposition. The issues were selected from among 16 issues based on results of an earlier survey of 126 undergraduate students.1 The issue positions selected were the following: the United States should legalize the sale and use of marijuana; and the manufacture, sale, and possession of handguns should be banned throughout the United States.

Participants

Participants were 281 students enrolled in introductory communication courses at a Midwestern university. Fifty-five percent of the participants (n = 155) were self-identified as female, and 45% (n = 126) were self-identified as male. The mean age was 19.77 (Mdn = 19.00, SD = 1.98), with ages ranging from 18 to 35 years of age. Seventy-seven percent of the participants were self-identified as Caucasian, 7% African American, 2% Hispanic, 8% Asian, 8% Native American, and the remaining participants (6%) did not fit into provided categories.

Experimental Materials

Researchers prepared multiple messages for use in the study. Two attack messages were written about each topic: one opposing the issue statement and directed to people who support it and one favoring the issue statement and directed to people who oppose it. Two arguments were featured in each attack message. Messages were designed to be similar in length and readability—attack messages ranged in length from 401 to 406 words. Attack messages were tested for their readability using Becker, Bevelas, and Braden’s (1961) Index of Contingency. Ratings of attack messages ranged from 14.2 to 14.8, thus suggesting equivalence.

A total of 48 inoculation messages were written. Inoculation messages were designed to be similar in message length and readability. The length of the 48 inoculation messages ranged from 401 to 406 words. Index of Contingency ratings ranged from 14.1 to 14.8, thus suggesting equivalence in readability.

The inoculation messages were prepared using either a normal or an enhanced threat manipulation. The first paragraph of each inoculation message was
designed to elicit threat. Normal threat was operationalized, as in past inoculation studies, as a warning of an impending and potentially influential attack against the position on the issue supported by the participant. Threat constitutes a form of appraisal, conceptualized as “an evaluation of the personal significance of what is happening in an encounter with the environment” (Lazarus, 1991, p. 820). Enhanced threat manipulation sought to boost “personal significance” through the use of wording intimating even greater severity (seriousness), salience, certainty, and immediacy of potential counterattitudinal attacks. As noted in the literature review, research implies that each of these wording tactics enhances personal significance and, therefore, should increase elicited anger and threat levels.

Enhanced threat inoculation messages were pre-tested to determine whether they elicited greater threat and elicited greater anger than normal threat messages. A total of 74 undergraduates read either a normal- or an enhanced-threat inoculation message. Elicited threat was measured using 1 to 7-interval scales employed in recent inoculation research (e.g., Pfau et al., 1997), and elicited anger was assessed using 0 to 6-point scales that gauged how much anger respondents felt (Dillard, Plotnick, Godbold, Freimuth, & Edgar, 1996; Smith & Dillard, 1997). The scale items are described in the following Dependent Measures section. Planned comparisons were computed to determine whether the enhanced threat messages produced greater elicited threat or negative affect. The pattern of differences in means was in the anticipated direction on both dependent variables but the differences were statistically insignificant.

Refutational preemption follows threat in inoculation messages. Refutational preemption raised two arguments against participants’ attitudes on an issue and then provided systematic refutation of each of those arguments.

**Procedure**

The investigation was conducted over three phases. At Phase 1, participants completed a questionnaire to gather basic sociodemographic information and to assess initial attitude and involvement levels (traditional issue involvement plus OR, VR, and IR involvement) on each of the two issue positions. Participants were told they were participating in a study about message processing.

Researchers then analyzed the preliminary data on attitude and issue involvement and then assigned participants to conditions. If respondents had a positive (scored 4.5 or more on a 1–7 attitude scale) or negative attitude (scored 3.5 or less) toward one of the issues, they were assigned to that issue. If they had positive or negative attitudes toward both issues, they were assigned randomly to one of the issues. Participants were assigned to one of the following cells on one of the two topics: no threat (no inoculation control condition), normal threat inoculation condition, or enhanced threat inoculation condition. Issue involvement scores were trichotomized as low, moderate, and high; and researchers assigned participants to conditions in such a way as to insure that the number of participants assigned for and against
each of the two issues in normal and enhanced threat conditions remained relatively balanced and that all cells in the design (control and standard and enhanced threat) reflected approximate equivalence of low-, moderate-, and high-involved participants. Phase 1 was administered from March 6 to March 8.

Phase 2 booklets for treated participants contained an inoculation message supporting initial attitudinal positions and a questionnaire that assessed elicited threat and counterarguing output. Phase 2 booklets for control (no inoculation) participants contained the questionnaire but no inoculation message. Phase 2 was administered over three days from March 27 to March 29.

Phase 3 booklets for all participants contained an attack message opposing initial attitudes followed by a questionnaire that assessed attitude toward the position advocated in the counterattitudinal attack, elicited anger, certainty of initial attitude on the issue position, and strength of initial attitude on the issue position. Phase 3 took place two weeks after conclusion of Phase 2 and was conducted over six days from April 10 to 12 and April 17 to 19.

Covariate Measures

OR involvement, VR involvement, and IR involvement were assessed during Phase 1 using adaptation of scales employed previously by Boninger, Krosnick, and Berent (1995). The scales featured statements about the issue. People responded using 1 to 7 interval scales based on the extent to which a statement captured their thinking and feeling. Four statements assessed OR involvement: “The issue affects my ability to live my life as I want to,” “The issue directly affects my life,” “It is easy to think of ways that the issue affects me,” and “The issue is directly relevant to my life.” Reliability was .92. Four statements gauged VR involvement: “The issue has an impact on values that I care about,” “My opinion on the issue relates to values that I care about,” “My attitude on the issue relates to values that I care about,” and “I tend to base my attitudes on my general principles about how life should be lived.” Reliability was .90. IR involvement was assessed with four statements: “The issue affects people close to me,” “The issue is important to people close to me,” “The issue affects social groups I identify with,” and “The issue is important to social groups I identify with.” Reliability was .95.3

Participants’ initial attitude (Phase 1) and attitude toward the counterattitudinal attack (Phase 3) were assessed using an attitude measure developed by Burgoon, Cohen, Miller, and Montgomery (1978) and frequently used in resistance research. The measure featured six bipolar adjective pairs: negative–positive, bad–good, unfavorable–favorable, foolish–wise, unacceptable–acceptable, and wrong–right. Reliability of the initial attitude measure was .97.

Dependent Measures

Phase 2 measures. Threat elicited by inoculation treatments was measured with five bipolar adjective pairs frequently used in inoculation research. Participants
responded to the prospect that they may encounter persuasive messages that might cause them to rethink their position on the issue in question. Scale items were as follows: unintimidating–intimidating, not risky–risky, nonthreatening–threatening, not harmful–harmful, and safe–dangerous. The reliability of the threat measure was .94.4

The number and perceived strength of cognitive responses to counterarguments were assessed using thought-listing. Participants were asked to list thoughts contrary to their position; then, they were asked to examine each of those thoughts and list potential responses to those arguments (what they would tell a person with that thought to convince them that they were wrong); finally, they were asked to rate each response from 1 (weak) to 7 (strong) based on how strongly they felt about it. This procedure is similar to the thought-listing technique of Petty, Wells, and Brock (1976), except that no time limits were imposed.

Participant thoughts were coded by two researchers. They were instructed to classify each declarative statement opposing participants’ positions as counterarguments and statements refuting counterarguments as responses. One unique idea per space, which met the criteria, was counted based on a scoring method previously used by Brock (1967), Osterhouse and Brock (1970), and Petty et al. (1976). Coders also evaluated and categorized each thought listed. Using participants’ attitude as a frame of reference, coders assessed whether each statement was, in fact, a cognitive counterargument or response. Statements inaccurately listed by participants were not included.

Coders spent about four hours discussing coding procedures and then participated in supervised practice sessions. Two methods were used to assess intercoder reliability. It was computed for the number of cognitive counterarguments and responses using Scott’s Pi (Scott, 1955), which adjusts for chance agreement making it one of the more conservative indexes for assessing intercoder reliability (Potter & Levine-Donnerstein, 1999). It was computed for participants’ ratings of strength of responses to counterarguments using Rosenthal’s (1984, 1987) effective reliability method, which is more appropriate for scaled data. With this method, the mean reliability is computed across coders and is then adjusted for the number of coders. Intercoder reliabilities were computed on counterarguments and responses for the first 68 participants (approximately 25% of the total). Intercoder reliabilities were good: number of cognitive counterarguments = .93, number of cognitive responses to counterarguments = .72, and rating of cognitive responses to counterarguments = .94. Thus, coders were authorized to work independently to complete the assessment of counterarguments and responses for the remaining participants.

Phase 3 measures. Elicited anger was assessed following administration of persuasive attack messages. Participants were asked to indicate feelings they experienced as they read the message about the issue position (expressed in the counterattitudinal attack message.). Elicited anger was assessed using scales developed and tested by Dillard and colleagues (Dillard et al., 1996; Smith & Dillard, 1997). Participants were
asked the extent to which they felt the emotion, from 0 (none of this feeling) to 6 (a great deal of this feeling). The items used to assess elicited anger were angry, irritated, annoyed, and aggravated. Alpha reliability was .95.

Attitude certainty was assessed using a 0 to 100-point probability continuum. Respondents were asked to indicate how certain they were about their attitude, ranging from 0 (no certainty) to 100 (absolute certainty). The measure was patterned after single item measures that gauged certainty of attitudes (Fazio & Zanna, 1978; Krosnick, Boninger, Chuang, Berent, & Carnot, 1993; Tormalla & Petty, 2002). Attitude strength was assessed with four 7-interval scales: unimportant–important, uncertain–certain, irrelevant–relevant, and of no interest–of great interest. Reliability of the attitude strength measure was .89.

Participant attitude toward the counterattitudinal attack was assessed using the generic attitude measure previously described. The measure consisted of six bipolar adjective pairs: negative–positive, bad–good, unfavorable–favorable, unacceptable–acceptable, wrong–right, and foolish–wise. The reliability rating of the attitude toward the counterattitudinal attack measure at Phase 3 was .96.

Results

Hypotheses were tested using multivariate analysis of covariance (MANCOVA). Experimental condition (no inoculation control, normal threat inoculation, and enhanced threat inoculation) was the independent variable. Phase 1 attitude toward the issue position and OR, VR, and IR involvement served as covariates. Significant omnibus results for covariates were followed by univariate tests and, for significant effects, by examining the valences involving individual covariates and respective dependent variables. Significant omnibus main effects were followed by examination of differences in means. Theoretically predicted mean differences were assessed with planned comparisons using Dunn’s multiple comparison procedure (Kirk, 1995). All other mean differences were examined using Scheffe post hoc tests.

Omnibus Results

The omnibus MANCOVA revealed a significant effect for the Phase 1 covariate of initial attitude, \( F(7, 266) = 2.24, p < .05 \) (partial \( \eta^2 = .07 \)). Univariate tests indicated significant effects for initial attitude on the measures of Phase 2 elicited threat, \( F(1, 272) = 3.87, p < .05 \) (\( \eta^2 = .02 \)); Phase 3 elicited anger, \( F(1, 272) = 5.86, p < .05 \) (\( \eta^2 = .02 \)); and Phase 3 attitude toward the counterattitudinal attack, \( F(1, 272) = 4.51, p < .05 \) (\( \eta^2 = .02 \)). Valences were negative in all three instances, thus indicating that more positive initial attitudes about an issue was related to less elicited threat and anger levels and less positive attitudes toward counterattitudinal attacks.

The omnibus MANCOVA also indicated significant effects for the covariates of OR involvement, \( F(7, 266) = 2.39, p < .05 \) (partial \( \eta^2 = .07 \)); and VR involvement,
The omnibus MANCOVA indicated a main effect for experimental condition, $F(14, 532) = 4.07, p < .01$ (partial $\eta^2 = .10$). Effects for specific variables are examined within the context of relevant predictions.

Results for Involvement

$H1$ posited that greater initial OR involvement is related to traditional inoculation mechanisms, including greater threat and more counterarguing output and, ultimately, increased resistance. $H2$, on the other hand, predicted that greater initial VR and IR involvement function more as blunt instruments, bypassing traditional mechanisms, instead exerting direct, positive influence on elicited anger, attitude certainty and strength, and increased resistance.

Omnibus MANCOVA results reported previously revealed significant effects for the covariates of OR and VR involvement but not for IR involvement. Subsequent univariate results offered no support for $H1$. OR involvement simply did not function as posited. Univariate tests revealed no significant effects for OR involvement on Phase 2 threat, $F(1, 272) = 1.65, p = .20$; number of cognitive responses to counterarguments, $F(1, 272) = 0.34, p = .56$; or strength of cognitive responses to counterarguments, $F(1, 272) = 0.36, p = .85$. OR involvement had a marginal effect on resistance to persuasive attacks, $F(1, 272) = 3.62, p < .06$ ($\eta^2 = .01$), with a negative beta indicating that greater OR involvement was associated with less persuasiveness of (more resistance to) counterattitudinal attacks. OR involvement exerted its primary impact on Phase 3 elicited anger, $F(1, 272) = 5.78, p < .05$ ($\eta^2 = .02$); and Phase 3 attitude strength, $F(1, 272) = 10.53, p < .01$ ($\eta^2 = .04$). Betas were positive, suggesting that more OR involvement was related to more elicited anger and greater strength of attitudes. Neither of these outcomes was predicted.

$H2$ was partially supported. The omnibus results for IR involvement were insignificant. However, VR involvement functioned much as anticipated. It bypassed threat and counterarguing, instead exerting more of a blunt impact, affecting elicited anger and attitude strength and, ultimately, resistance to attacks. As predicted, univariate tests for VR involvement revealed significant effects on the measures of Phase 3 elicited anger, $F(1, 272) = 10.46, p < .01$ ($\eta^2 = .04$); Phase 3 attitude strength, $F(1, 272) = 5.78, p < .05$ ($\eta^2 = .06$); and Phase 3 resistance to counterattitudinal attacks, $F(1, 272) = 13.62, p < .01$ ($\eta^2 = .05$). Valences were positive for anger and attitude strength and negative for the influence of (resistance to) persuasive attacks, indicating that more VR involvement was associated with greater elicited anger and attitude strength and less influence of (greater resistance to) counterattitudinal attacks. Contrary to expectation, VR involvement was not associated with attitude certainty, $F(1, 272) = 0.88, p = .35$. 

$F(7, 266) = 4.49, p < .01$ (partial $\eta^2 = .13$). The omnibus result for IR involvement was not statistically significant, $F(7, 266) = 1.15, p = .335$. Subsequent univariate results for involvement covariates on specific dependent variables are reported within the context of relevant predictions.
Results for Threat Manipulation

H3 compared control (no inoculation), normal threat inoculation, and enhanced threat inoculation predicting greater impact for enhanced threat manipulation on counterarguing output, elicited anger, attitude certainty strength, and resistance to counterattitudinal attacks. The subsequent analysis of mean differences revealed a consistent pattern; both normal and enhanced threat affected dependent variables much as anticipated, but enhanced threat did not boost effects on dependent measures.

As Table 1 reveals, normal and enhanced threat produced slightly more elicited threat compared to the control condition. Post hoc tests indicated that normal—\( t(174) = 2.33, p < .05 \, (\eta^2 = .03) \)—and enhanced threat—\( t(161) = 2.06, p < .05 \, (\eta^2 = .03) \)—manipulations elicited greater threat compared to the no-inoculation control condition. However, a planned comparison revealed that the enhanced threat manipulation failed to boost elicited threat beyond that achieved through the normal threat condition.

Compared to the control condition, normal and enhanced threat also produced more counterarguing output. Both conditions elicited more cognitive responses to counterarguments—normal threat, \( t(174) = 2.51, p < .05 \, (\eta^2 = .03) \) and enhanced threat, \( t(161) = 4.20, p < .01 \, (\eta^2 = .10) \); and greater strength of cognitive responses

### Table 1 Phase 2 Elicited Threat and Cognitive Responses to Counterarguments and Phase 3 Elicited Anger, Attitude Certainty, and Strength and Attitude Toward (Resistance to) the Counterattitudinal Attack as a Function of Threat Manipulation (No Inoculation Control, Normal Threat Inoculation, and Enhanced Threat Inoculation)

<table>
<thead>
<tr>
<th>Threat manipulation</th>
<th>No inoculation ((n = 58))</th>
<th>Normal threat ((n = 118))</th>
<th>Enhanced threat ((n = 105))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elicited threat</td>
<td>3.17 1.23</td>
<td>3.41(^b) 1.45</td>
<td>3.39(^b) 1.39</td>
</tr>
<tr>
<td>Cognitive responses to CAs</td>
<td>4.38 4.29</td>
<td>5.36(^b) 4.53</td>
<td>6.06(^a) 6.12</td>
</tr>
<tr>
<td>Strength of responses to CAs</td>
<td>4.79 1.13</td>
<td>5.40(^a) 0.90</td>
<td>5.45(^a) 1.08</td>
</tr>
<tr>
<td>Elicited anger</td>
<td>1.96 1.41</td>
<td>2.87(^a,d) 1.75</td>
<td>2.55(^a) 1.93</td>
</tr>
<tr>
<td>Attitude certainty</td>
<td>76.36 18.41</td>
<td>76.64(^a) 21.33</td>
<td>83.69(^a,c) 15.14</td>
</tr>
<tr>
<td>Attitude strength</td>
<td>4.48 1.25</td>
<td>5.00(^a) 1.25</td>
<td>5.16(^a) 1.21</td>
</tr>
<tr>
<td>Attitude toward attacks</td>
<td>4.22 1.27</td>
<td>3.24(^a) 1.36</td>
<td>3.35(^a) 1.42</td>
</tr>
</tbody>
</table>

Note. Elicited threat, strength of cognitive responses to counterarguments, elicited anger, attitude accessibility, attitude strength, and attitude toward (resistance to) persuasive attacks were gauged using 7-point scales, whereas attitude certainty was measured using a 0 to 100-point scale. Higher scores indicate greater elicited threat, strength of responses to counterarguments, elicited anger, attitude accessibility, attitude certainty, attitude strength, and influence of (less resistance to) counterattitudinal attacks. Number of cognitive response to counterarguments was assessed using thought-listing. Higher scores signify more cognitive responses to counterarguments. CAs = counterarguments.

\(^a\)Significant compared to no inoculation control condition at \( p < .01 \). \(^b\)Significant compared to no inoculation control condition at \( p < .05 \). \(^c\)Significant compared to normal threat inoculation condition at \( p < .01 \). \(^d\)Significant compared to enhanced threat inoculation condition at \( p < .01 \).
to counterarguments—normal threat, $t(174) = 8.13$, $p < .01$ ($\eta^2 = .28$) and enhanced threat, $t(161) = 8.25$, $p < .01$ ($\eta^2 = .30$). However, the planned comparison indicated that enhanced threat failed to boost counterarguing output beyond that achieved via the standard threat manipulation.

Both normal—$t(174) = 7.58$, $p < .01$ ($\eta^2 = .25$)—and enhanced threat—$t(161) = 4.72$, $p < .01$ ($\eta^2 = .12$)—elicited more Phase 3 anger than the control condition. However, the normal threat manipulation actually elicited more anger than the enhanced manipulation, $t(221) = 2.99$, $p < .01$ ($\eta^2 = .04$)—the opposite of what was predicted.

Compared to the control condition, only the enhanced threat condition produced more attitude certainty, $t(161) = 5.09$, $p < .01$ ($\eta^2 = .14$). Both the normal condition—$t(174) = 6.50$, $p < .01$ ($\eta^2 = .20$)—and the enhanced threat condition—$t(161) = 7.91$, $p < .01$ ($\eta^2 = .28$)—boosted Phase 3 attitude strength and both threat manipulations contributed to resistance to counterattitudinal attacks: normal, $t(174) = 10.0$, $p < .01$ ($\eta^2 = .36$) and enhanced, $t(161) = 8.79$, $p < .01$ ($\eta^2 = .32$). However, the only booster effect for the enhanced threat manipulation over the normal threat condition was on attitude certainty, $F(1, 272) = 4.85$, $p < .01$ ($\eta^2 = .02$).

**Discussion**

This investigation examined the relative impact of OR, VR, and IR involvement on resistance to influence. It also examined whether elicited threat levels can be enhanced and, if so, with what effect on resistance to counterattitudinal influence.

This is the first investigation to examine the effects of different types of involvement on resistance to influence. Previous research indicates that OR, or issue, involvement plays an integral role in resistance, directly fostering resistance (Pfau et al., 1997) and serving as a precondition to threat and counterarguing, thereby indirectly enhancing resistance (Pfau et al., 2003, 2004). Consistent with past findings that OR involvement is more related to careful elaboration message content (Cho & Boster, 2005), this study assumed greater OR involvement would be associated with traditional mechanisms that have been found to facilitate resistance, like threat and counterarguing, whereas both VR and IR involvement would function more as blunt instruments, bypassing these mechanisms, instead exerting a direct impact of elicited anger and attitude certainty and strength on resistance.

The results of this study failed to support these expectations. Both OR and VR involvement functioned similarly. Both bypassed the mechanisms of threat and counterarguing, instead exerting a direct impact on elicited anger, attitude strength, and resistance to persuasive attacks. Both types of involvement were positively related to elicited anger and attitude strength and negatively associated with the influence of persuasive attacks (therefore, positively related to resistance to persuasive attacks). This study failed to discern differences in the role or impact of OR and VR involvement in resistance. In addition, IM involvement was not statistically related to dependent variables.
This study confirmed the presence of three distinct dimensions of involvement, which Johnson and Eagly (1989) conceptualized and Cho and Boster (2005) and Marshall et al. (2008) empirically supported. The findings of this study also are consistent with the results of Marshall et al., who found OR and VR involvement were significant predictors of health behaviors, but that, “surprisingly,” IR involvement was not. Marshall et al. speculated that, “It is not clear whether impression-relevant involvement has no bearing on the [six] health topics in question or whether the results were an artifact of the scale” (p. 180). It may be that the lack of findings for VR involvement in both studies stems from the fact that VR involvement is more other-oriented, whereas both OR and VR involvement focus on the impact of the issue or behavior on the individual (e.g., OR involvement) or their values (e.g., VR involvement). The issues employed in this investigation, legalizing marijuana and banning handguns, and the six health behaviors featured in Marshall et al.—smoking, organ and tissue donation, sunscreen use, sexually transmitted disease screening, and alcohol use and nutrition—constitute individual attitudes and behaviors.

This investigation also was the first investigation since McGuire’s (1962, 1964) early research to attempt to enhance threat levels beyond the standard threat manipulation, comparing the effects of normal and enhanced threat conditions in resistance. The study addressed the question of how much threat is optimal. The study posited that, compared to the standard threat manipulation, an enhanced threat manipulation fosters more counterarguing output, increases elicited anger, promotes greater attitude certainty and strength, and increases resistance to counterattitudinal attacks.

The results fell short of expectations. The enhanced threat manipulation functioned much as the standard threat manipulation. Both manipulations enhanced elicited threat, boosted the number and strength of cognitive responses to counterarguments, elicited more anger, enhanced attitude strength, and contributed to resistance. As Table 1 reveals, the pattern of these means favored enhanced threat over normal threat on number and strength of counterarguments and attitude strength, but mean differences were not statistically significant.

The enhanced threat manipulation performed as anticipated on one measure: attitude certainty. The enhanced threat manipulation fostered greater attitude certainty than the control condition or the normal threat manipulation. The only other difference between the standard and enhanced threat manipulations was with elicited anger, but mean differences were the opposite of what was predicted: Normal threat manipulation elicited greater anger than the enhanced threat manipulation.

The bottom line is that the enhanced threat manipulation failed. We anticipated that it would be possible to enhance “personal significanc” (Lazarus, 1991) of a threat manipulation by wording that suggests greater severity (seriousness), salience, certainty, and immediacy of potential counterattitudinal attacks. Past research implies that each should enhance threat (Burgoon et al., 1976; Crano & Prislin, 1995; Witte, 1992). This reasoning also is consistent with Crano’s (1997) conceptualization of vested interest, which concerns the individual’s perception of the personal consequences of an attitude object and which moderates attitudes. We can only
Table 2 Descriptive Statistics and Pearson Product–Moment Correlations for all Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
<th>$\alpha$</th>
<th>$n$</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Covariates–manipulations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Initial attitude</td>
<td>3.09</td>
<td>1.76</td>
<td>.97</td>
<td>281</td>
<td>—</td>
<td>-.11</td>
<td>.01</td>
<td>-.29*</td>
<td>.08</td>
<td>-.15*</td>
<td>-.09</td>
<td>-.15*</td>
<td>-.24</td>
<td>-.13*</td>
<td>-.05</td>
<td>.27*</td>
</tr>
<tr>
<td>2. Threat manipulation</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>281</td>
<td>—</td>
<td>-.11</td>
<td>-.01</td>
<td>.05</td>
<td>.07</td>
<td>.10</td>
<td>.25*</td>
<td>.17</td>
<td>.08</td>
<td>.19</td>
<td>-.27*</td>
<td></td>
</tr>
<tr>
<td>3. OR involvement</td>
<td>3.07</td>
<td>1.74</td>
<td>.92</td>
<td>281</td>
<td>.01</td>
<td>.01</td>
<td>—</td>
<td>.42*</td>
<td>.67*</td>
<td>-.05</td>
<td>.05</td>
<td>.12*</td>
<td>.29*</td>
<td>.14*</td>
<td>.39*</td>
<td>-.20*</td>
</tr>
<tr>
<td>4. VR involvement</td>
<td>4.87</td>
<td>1.51</td>
<td>.90</td>
<td>281</td>
<td>-.29*</td>
<td>.05</td>
<td>.42*</td>
<td>—</td>
<td>.51*</td>
<td>.02</td>
<td>.08</td>
<td>.25*</td>
<td>.35*</td>
<td>.18*</td>
<td>.38*</td>
<td>-.33*</td>
</tr>
<tr>
<td>5. IR involvement</td>
<td>4.12</td>
<td>1.77</td>
<td>.95</td>
<td>281</td>
<td>.08</td>
<td>.04</td>
<td>.67*</td>
<td>.51*</td>
<td>-.15*</td>
<td>.05</td>
<td>.17*</td>
<td>.27*</td>
<td>.12*</td>
<td>.41*</td>
<td>-.19*</td>
<td></td>
</tr>
<tr>
<td><strong>Phase 2 measures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Threat</td>
<td>3.35</td>
<td>1.38</td>
<td>.94</td>
<td>281</td>
<td>-.15*</td>
<td>.07</td>
<td>-.05</td>
<td>.02</td>
<td>-.15*</td>
<td>—</td>
<td>.00</td>
<td>.06</td>
<td>.01</td>
<td>-.09</td>
<td>-.02</td>
<td>.06</td>
</tr>
<tr>
<td>7. Cognitive responses</td>
<td>5.42</td>
<td>5.16</td>
<td>—</td>
<td>280</td>
<td>-.09</td>
<td>.10</td>
<td>.05</td>
<td>.08</td>
<td>.05</td>
<td>.00</td>
<td>—</td>
<td>.11</td>
<td>.09</td>
<td>.09</td>
<td>.00</td>
<td>-.11</td>
</tr>
<tr>
<td>8. Strength of cognitive responses</td>
<td>5.29</td>
<td>1.05</td>
<td>—</td>
<td>281</td>
<td>-.15*</td>
<td>.25*</td>
<td>.12*</td>
<td>.25*</td>
<td>.17*</td>
<td>.06</td>
<td>.11</td>
<td>—</td>
<td>.20*</td>
<td>.16*</td>
<td>.18*</td>
<td>-.16*</td>
</tr>
<tr>
<td><strong>Phase 3 measure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Anger</td>
<td>2.56</td>
<td>1.78</td>
<td>.95</td>
<td>281</td>
<td>-.24*</td>
<td>.17*</td>
<td>.29*</td>
<td>.35*</td>
<td>.27*</td>
<td>.01</td>
<td>.09</td>
<td>.20*</td>
<td>—</td>
<td>.20*</td>
<td>.39*</td>
<td>-.52*</td>
</tr>
<tr>
<td>10. Attitude certainty</td>
<td>79.21</td>
<td>18.87</td>
<td>—</td>
<td>281</td>
<td>-.13*</td>
<td>.08</td>
<td>.14*</td>
<td>.18*</td>
<td>.12*</td>
<td>-.09</td>
<td>.09</td>
<td>.16*</td>
<td>.20*</td>
<td>—</td>
<td>.24*</td>
<td>-.24*</td>
</tr>
<tr>
<td>11. Attitude strength</td>
<td>4.96</td>
<td>1.25</td>
<td>.89</td>
<td>280</td>
<td>-.05</td>
<td>.19*</td>
<td>.39*</td>
<td>.38*</td>
<td>.41*</td>
<td>-.02</td>
<td>.00</td>
<td>.18*</td>
<td>.39*</td>
<td>.24*</td>
<td>—</td>
<td>-.30*</td>
</tr>
<tr>
<td>12. Attitude toward persuasive attack</td>
<td>3.48</td>
<td>1.41</td>
<td>.96</td>
<td>281</td>
<td>-.27*</td>
<td>-.27*</td>
<td>-.20*</td>
<td>-.33*</td>
<td>-.19*</td>
<td>.06</td>
<td>-.11</td>
<td>-.16*</td>
<td>-.52*</td>
<td>-.23*</td>
<td>-.30*</td>
<td></td>
</tr>
</tbody>
</table>

Note: Threat manipulation was operationalized as (a) normal threat manipulation and (b) enhanced threat manipulation. Phase 2 threat, Phase 2 strength of cognitive responses to counterarguments, Phase 3 attitude strength, and Phase 3 attitude toward counterattitudinal attacks were measured using 7-point scales; and attitude certainty was assessed using a 100-point scale. Higher scores indicate greater initial attitude, outcome-relevant involvement, value-relevant involvement, impression-relevant involvement, threat, strength of cognitive responses to counterarguments, attitude strength, influence of (less resistance to) counterattitudinal attacks, and attitude certainty. Phase 2 cognitive responses to counterarguments were assessed using thought-listing. Higher scores signify greater number of cognitive responses to counterarguments. Phase 3 elicited anger in response to the counterattitudinal attack message was measured using 0 to 6 interval scales. Higher scores indicate greater emotional response. OR = outcome-relevant; VR = value-relevant; IR = impression-relevant. * $p < .05$. 

Downloaded By: [EBSCOHost EJS Content Distribution - Superceded by 916427733] At: 03:37 15 October 2010
speculate about why the enhanced threat manipulation failed to function as anticipated. Perhaps there is a limit to the capacity of inoculation treatments to elicit threat, and that this study broached it. Perhaps the methods used in this study to enhance threat are at fault: that boosting “personal significance” is the right approach, but that the way it was operationalized in this study failed to achieve the expected outcome; or, that a completely different approach is required. In any event, it is clear that further study is needed to determine how much threat is optimal in promoting resistance. This is an important consideration because threat, the forewarning of impending challenges to attitudes, is the key explanatory mechanism for how inoculation works. Threat functions as the motivational catalyst for resistance; it unleashes the process of overt counterarguing, which, in turn, renders attitudes resistant to attack. Past research indicates that threat is a precondition to resistance (McGuire, 1964; McGuire & Papageorgis, 1961, 1962; Pfau & Burgoon, 1988; Pfau et al., 1990, 1997, 2001, 2003, 2004, 2005), but it is unclear how much threat is optimal.

A limitation of this study involves collinearity. Intercorrelations among the dimensions of involvement, which each functioned as covariates in the statistical analyses, were high. OR involvement was positively related to VR ($r = .42$) and IR involvement ($r = .67$), and VR involvement was positively associated with IR involvement ($r = .51$). There were no statistically significant relationships involving Phase 2 dependent measures. However, there were some significant associations involving Phase 3 dependent measures: between elicited anger and attitude certainty ($r = .20$), attitude strength ($r = .39$), and attitude toward the persuasive attacks ($r = -.52$); between attitude certainty and attitude strength ($r = .24$) and attitude toward persuasive attacks ($r = -.24$); and between attitude strength and attitude toward persuasive attacks ($r = -.30$). Descriptive statistics for all variables in the study are featured in Table 2.

Collinearity can sap explained variance. However, what is critical about collinearity is not just whether variables are related, but whether the strength of the relationships are so severe as to undermine the integrity of the results. Asher (1983) maintained that, “there is no automatic level at which collinearity becomes a problem” (p. 52), and some experts maintain that collinearity is not serious until correlations reach levels of .7 or .8 (Asher, 1984).

Notes

[1] The issues of restricting banning handguns and legalizing marijuana scored 7.63 and 6.28, respectively, on a three-item, 10-interval involvement measure, which was based on a tool originally developed by Traylor (1981). Scores on involvement across the 16 issues ranged from 5.33 to 7.63. The distribution of opinion—for, against, and neutral—no opinion—was as follows: for banning handguns: 25%, 55%, and 19%; and for legalizing marijuana: 31%, 49%, and 19%.

[2] Researchers employed a traditional measure of issue involvement for the purpose of assigning participants to conditions. This measure of issue involvement has been used for more than 10 years in resistance research. It operationalizes issue involvement as the importance or salience
of the issue and measures it using an abbreviated version of Zaichkowsky's (1985) Personal Involvement Inventory (PII). Six items of the PII, appropriate for policy issues, were employed in this study, including insignificant–significant, unimportant–important, of no concern–of much concern, means nothing–means a lot, irrelevant–relevant, and doesn’t–does matter to me. Reliability rating of the issue involvement scale was .97 (n = 281).

3 The results of a principle component factor analysis with varimax rotation revealed a three-factor solution (each with eigenvalues >1) with items configuring as predicted, which accounted for 79% of variance.

4 Results of a principle components factor analysis revealed that the six threat scale items loaded on a single dimension with an eigenvalue of 4.58, accounting for 76% of total variance.

References


