

## **Using Inoculation to Protect Value-in-Diversity Attitudes: An Unsuccessful Test and a Nuanced Antidote**

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*This study tests McGuire's (1961, 1962, 1964, 1970) inoculation theory as a strategy to protect value-in-diversity attitudes and investigates the impact of inoculation messages on minority and non-minority issue involvement. Results failed to support an overall inoculation effect, but instead indicate a more nuanced path to resistance within the organizational diversity context. Minority members experienced greater susceptibility of their pro-diversity attitudes, and inoculation posed a viable strategy for conferring attitudinal resistance with higher involvement levels.*

A believer's faith in his culture's ideological truism tends to have a spurious strength, analogous to the deceptive physical robustness of an animal brought up in a germ-free environment. Both are extremely vulnerable to attacking material and both gain resistance from pre-exposure to a weakened dose of the threatening material.  
- William J. McGuire (1970, p. 64)

Perhaps the most seriously deceptive and fatal flaw associated with an organization's value-in-diversity aims is for the organization to focus only on the *reassurance* of its well-intentioned diversity efforts. A sole emphasis on *reassurance* assumes diversity to be a universal axiom or truism among organizational members without recognizing the vulnerability of member value-in-diversity attitudes to attacks that are likely to occur throughout the implementation of organizational activities and messages. Reassurance alone as a strongest defense creates the greatest defenselessness and the weakest resistance to any ensuing attacks (McGuire, 1970; McGuire and Papageorgis, 1961).

An interdisciplinary literature review including research in organizational communication (e.g., Allen, 1995, 2004), management (e.g., Cox, 1991, 1993), psychology (e.g., Brewer, 1995; Brewer, von Hippel, & Gooden, 1999), organizational behavior (e.g., Adler, 2002; Alderfer, 1986; Cox & Nkomo, 1990), and human resources management (e.g., Kossek, Markel, & McHugh, 2003) reveals the presence of several dominant theoretical frameworks and common concepts offered for approaching the study of *different identities* in the Academy. However, empiricism has not yet focused on the value of promoting protection or resistance to influence given the mixed negative reactions associated with value-in-diversity messages that are likely to make attitudes cave under pressure.

The communication of value-in-diversity messages tends to be the focal point of an organization's diversity campaign efforts. Yet, very little research has focused upon how one can protect value-in-diversity attitudes from slippage once the negative backlash (Bailyn, 2000) and negative experiences (Martins, Milliken, Wisenfeld, & Salgado, 2003) associated with diversity occur. McGuire's (1964)

inoculation theory, which has been the most-traveled road to resistance in social influence, shows great potential for investigating an organization's ability to protect value-in-diversity attitudes which come under attack in the process of implementing an organization's diversity efforts. After reviewing the value-in-diversity attitude in extant literature, this study posits the usefulness of inoculation as a strategy to protect value-in-diversity attitudes in an organization's diversity efforts and investigates the impact of inoculation messages on minority and non-minority issue involvement.

## DIVERSITY

More than 40 years ago, Davis (1963) predicted the increasing representation of older workers and minority groups in the total workforce population. He contended this increase would have enormous significance for the modern corporation not only in terms of traditional hiring and firing policies, but also because of the attitudinal shift needed by most corporations in dealing with their constituents. Davis (1963) argued that changing demographics would propel the interests of the corporation into making the "greatest possible use of trained ability, regardless of race, religion, sex, age, or any other basis of ascribing status" (p. 135). Today, others writing about workforce predictions and statistics (Johnston, 1991) echo the shifting demographics of Davis' (1963) sentiments, and many suggest that companies with strategies that adequately attract and develop diverse workforces will reap a competitive advantage (Cox & Blake, 1991; Esty, 1988; Hoecklin, 1995; Johnston, 1991). Yet among scholars, the conceptualization of diversity has been met with a grim reality of competing ideologies and overall a lack of "rigor, theoretical development, and historical specificity" (Nkomo & Cox, 1996, p. 338).

### Defining Diversity

A variety of restrictive and inclusive conceptual definitions have been offered in the literature for describing organizational diversity. Cox (1993) suggests managing diversity means "planning and implementing organizational systems and practices to manage people so that the potential advantages of diversity are *maximized* while its potential disadvantages are *minimized*" (p. 9). Thomas (1990) explains managing diversity is "managing in such a way as to get from a heterogeneous work force the same productivity, commitment, quality, and profit that we got from the old homogeneous work force" (p. 109). In defining diversity, Cross, Katz, and Miller (1994) restrict the term's meaning to focus on what is typically viewed as issues of discrimination – racism, sexism, heterosexism, classism, ableism, etc. (p. xxii). Finally, Jackson, Stone, and Alvarez (1993) view diversity as much more inclusive by suggesting the term "refers to situations in which the actors of interest are not alike with respect to some attribute" (p. 53).

Perhaps the value of definitions offered by Cox (1993) and Thomas (1990) is their attempts to tie diversity to an organization's performance, thus connecting successful attempts at managing diversity to improved profit or shareholder value. However, more recent interdisciplinary literature reveals a slightly different conceptualization of what it means to manage organizational diversity, one that is not tied to an organization's performance, although success or failure in the area will likely have bottom-line consequences and implications (Cox, 1993; Cox & Blake, 1991; Cox, Lobel, & McLeod, 1991; Harris & Moran, 1991; Mandell & Kohler-Gray, 1990; Marmer-Soloman, 1989). Instead, more recent conceptualizations have shifted to organizational diversity as identities being managed. Nkomo and Cox (1996) define diversity as "a mixture of people with different group identities within the same social system" (p. 339). Brewer, von Hippel, and Gooden (1999) incorporate organizational dynamics into their definition along with the use of "minority" as a descriptor. They suggest managing diversity means the "achievement of full integration of members of minority social categories into the social, structural, and power relationships of an organization or institution" (p. 337).

Despite the varying definitions, a commonality among them is that "the concept of identity appears to be at the core of understanding diversity in organizations" (Nkomo & Cox, 1996, p. 339). In addition, the definitions reflect a bias towards valuing *different identities*. For this investigation, the diversity definition

offered by Brewer, von Hippel, and Gooden (1999) will be adopted, with specific focus on minority and non-minority attitudes in an organization's diversity efforts.

However, scholars have not reached collective agreement on a single definition for organizational diversity. Jackson and Ruderman (1995) contend, "the term *diversity* is not a well-established scientific construct. There is no consensus yet on what diversity means, nor is there consensus about which types of phenomena define the domain of *diversity research*" (p. 3).

### **Value-in-Diversity Attitude**

The value-in-diversity attitude is a line of thinking that not only encourages the integration of *different identities*, but also maintains the organization's overall performance, creativity, marketing, problem-solving, and quality of decision-making is superior with a more diverse workforce (Cox, 1993).

Ely (1995) suggests, "The management literature is rife with advice that organizations should value diversity in order to enhance organizational effectiveness" (p. 161). She explains the value-in-diversity attitude is "a major shift in thinking from the management strategies of an earlier era, which called for color blindness and urged indifference to 'irrelevant' cultural and physical characteristics such as race, sex, religion, and national origin" (p. 161).

Even though not all scholars agree with the value-in-diversity attitude (Shephard, 1964; Ziller, 1973), numerous scholars (Cox, Lobel, & McLeod, 1991; Harris & Moran, 1991; Mandell & Kohler-Gray, 1990; Marmer-Soloman, 1989) contend "when properly managed, diverse groups and organizations have performance advantages over homogenous ones" (Cox, 1993, p. 17).

The depth and variety of theoretical approaches to investigations on diversity are as varied as the number of definitional approaches to the construct previously offered. Some of these theoretical frameworks include Tajfel's (1978) social identity theory, Alderfer and Smith's (1982) embedded intergroup relations theory, spiral of silence theory (Bowen & Blackmon, 2003), and Hofstede's (1980, 1983) cultural dimensions just to name a few. These investigations have focused on the experiences, group processes, and perceptions of *different identities*; however, none of the studies have investigated the ability of an organization to protect value-in-diversity attitudes which come under attack in the process of implementing an organization's diversity efforts. McGuire's (1964) inoculation theory provides a promising venue for investigating such a strategy.

### **INOCULATION THEORY**

More than 40 years ago, McGuire (1964) shifted his focus *from* persuasion to summarize contemporary approaches *to inducing resistance* to persuasion. He reasoned, "The preoccupation of many social scientists with techniques for social influence has provoked increasing interest in techniques for developing resistance to persuasion" (1970, p. 36). McGuire's shift to a focus on resistance to influence is the path of this investigation which posits re-directing empirical inquiry away from diversity change efforts and instead to protecting already existing value-in-diversity attitudes from slippage.

Borrowing from a medical analogy, McGuire (1961) posited inoculation theory as the process by which individuals receive "weakened, defense stimulating forms of the counterarguments" (p. 327) which serve as an inoculation procedure against belief attacks. In the same way that individuals receive a weakened form of an infectious virus to develop an immunity capable of combating the viral infection itself, McGuire posited refutational (or countering) inoculation treatments carry threat (the degree to which one perceives his or her belief is vulnerable) which causes an individual to create counterarguments that confer resistance.

McGuire's (1964) original path to resistance (refutational inoculative treatments which contain threat which triggers counterarguments that lead to resistance) has been unsuccessfully challenged by some scholars who offered competing explanations for resistance (Tannenbaum, 1966; Tannenbaum, Macaulay, & Norris, 1966; Tannenbaum & Norris, 1965). Yet, Pfau and colleagues (1997a, 2001, 2003, 2004, 2008) have repeatedly confirmed that threat and refutational preemption confer resistance as McGuire originally posited. Additionally, numerous studies have proven the effectiveness of inoculation treatments at

maintaining preexisting attitudes which come under attack by counterattitudinal persuasive messages (Ivanov, Pfau, & Parker, 2009; McGuire, 1961, 1962, 1964; McGuire & Papageorgis, 1962; Papageorgis & McGuire, 1961; Pfau, Compton, et al., 2004; Pfau, Roskos-Ewoldsen, et al., 2003; Pfau, Szabo, et al., 2001; Pfau, Tusing, et al., 1997a; Pfau, Tusing, et al., 1997b).

Pfau et al. (2003) argue “there is no question that inoculation works” (p. 39), and the theory’s functionality has been successfully tested in a number of contexts including commercial advertising (e.g., Compton & Pfau, 2004b; Pfau, 1992), marketing (e.g., Ivanov, 2006), public relations (Burgoon, Pfau, & Birk, 1995; Wan & Pfau, 2004; Pfau, Haigh, Sims, & Wigley, 2007; Wigley, 2007), political communication (e.g., An & Pfau, 2004; Pfau & Burgoon, 1988; Pfau & Kenski, 1990; Pfau et al., 1990; Pfau, et al., 2002), organizational communication (e.g., Haigh, 2006), health campaigns (e.g., Godbold & Pfau, 2000; Pfau, Van Bockern, & Kang, 1992; Szabo & Pfau, 2002), and higher education (Compton & Pfau, 2008). Thus, this investigation posits that in comparison to individuals who receive no inoculation, for those individuals who receive an inoculation pretreatment:

*H1: Value-in-diversity inoculation messages confer attitudinal resistance following exposure to messages attacking the value-in-diversity concept.*

McGuire’s (1961) insistence on the threat component of inoculation theory, though supported in research, was never operationalized until the late 1980s (Compton & Pfau, 2004a). Pfau (1997) suggests threat refers to the recognition of an attitude’s vulnerability, and he posits threat is a distinguishing feature of inoculation. Szabo and Pfau (2002) contend threat “is operationalized as a warning of possible future attacks on attitudes and the recognition of attitude vulnerability to change” (Szabo & Pfau, 2002, p. 235). Threat motivates individuals to protect attitudes, which creates resistance to counterpersuasion (Pfau & Kenski, 1990).

While diversity research confirms minorities and non-minorities have divergent perceptions on an organization’s diversity efforts (Alderfer, 1977, 1980; Mollica, 2003), no diversity investigations provide support for the amount of threat levels likely generated by minorities and non-minorities. Jones (1986) and Fernandez (1981) found non-Whites perceived race has hindered their advancement, and Beehr, Tabor, and Walsh (1980) found Blacks were more likely than Whites to say race is a factor in promotion decisions. The perceptual differences between minorities and non-minorities found in these studies provide support for reasoning there will likely be a difference in the amount of threat generated by inoculative treatments. So, investigating the amount of attitude vulnerability generated by inoculative treatments would be helpful in understanding how diversity messages are processed by minorities and non-minorities. Thus, this research question investigates the amount of threat or attitude vulnerability generated by value-in-diversity inoculation messages between minorities and non-minorities:

*RQ1: Do minorities or non-minorities experience greater threat after exposure to value-in-diversity inoculation messages?*

Research supports the active role of involvement in conferring resistance (e.g., Chen, Reardon, Rea, & Moore, 1992; Petty & Cacioppo, 1979; Pfau, 1992; Pfau, Tusing, et al., 1997a). Though issue involvement has been defined differently among scholars (Pfau et al., 2003), a consensus exists among several scholars that involvement affects the degree to which individuals are motivated to process information (Burnkrant & Sawyer, 1983; Chaiken, 1980; Petty & Cacioppo, 1986).

Compton and Pfau (2004a) argue that “issue involvement is a precondition for threat, and therefore, determines the boundary conditions for inoculation theory” (p. 12). Pfau (1992) suggests involvement serves as a precondition to resistance.

Recent investigations in inoculation theory have sought to provide more encompassing explanations for the way in which involvement promotes resistance in the inoculative process. Pfau, Tusing, and colleagues (1997a) followed up a study by Pfau (1992) to determine the role of issue involvement in conferring resistance. They suggest issue involvement is “the importance or salience of an attitude object

for a receiver” (Pfau, Tusing, et al., 1997a, p. 190) and found that greater involvement levels confer resistance in a path that functions independently of threat.

Unlike Pfau and colleagues (1997a) who investigated issue involvement as an independent variable, Compton and Pfau (2004b) investigated issue involvement as a dependent variable and found inoculation treatments increased base involvement levels. Similarly Pfau, Compton, and colleagues (2004), found involvement levels not only increased after inoculation, but also influenced other variables in the resistance process as well. Thus, this investigation posits two hypotheses related to the role of issue involvement and an additional research question investigating involvement levels between minorities and non-minorities.

*H2a: For those individuals who receive value-in-diversity inoculation messages, the tendency of inoculation to confer resistance to persuasive attacks is most pronounced among individuals who report higher levels of involvement.*

*H2b: For those individuals who receive value-in-diversity inoculation messages, compared to those who do not, inoculation messages enhance base involvement levels.*

*RQ2: Do minorities or non-minorities experience greater involvement levels after exposure to value-in-diversity inoculation messages?*

## **METHOD**

### **Participants**

Participants were undergraduate students recruited from the college of business in a midwestern university. Participants were told they would be taking part in a study about message processing and attitude inventory. A total of 548 students (265 male and 283 female) completed the study, which was administered in two phases. The study’s retention rate from Phase 1 to Phase 2 was 91%.

### **Design and Independent Variables**

This investigation employed a 2 x 2 factorial design. Independent variables were diversity condition (majority and minority) and inoculation treatment condition (control and inoculation). Consistent with diversity research on race/ethnicity and gender summarized by Nkomo and Cox (1996), this investigation placed both race/ethnic minorities and White women in the minority diversity demographic group and White men in the majority diversity demographic group. The race-ethnic makeup of participants in this investigation was African American ( $n = 77$ , 14% of the sample), American Indian/Alaskan Native ( $n = 24$ , 4% of the sample), Asian or Pacific Islander ( $n = 62$ , 11% of the sample), Caucasian/White ( $n = 338$ , 62% of the sample), Hispanic American ( $n = 27$ , 5% of the sample), and Other ( $n = 20$ , 4% of the sample). The “Other” category was used to ensure the list of ethnicity categories was mutually exhaustive. Since participants engage in self-identification ethnic processes, the use of this category gave participants who did not identify with the other ethnic categories a place to respond. Prior attitude and issue involvement were treated as covariates in the analysis.

The effectiveness of the pretreatments in conferring resistance to the onset of value-in-diversity attacks was assessed by comparing the attitudes of those who received an inoculation message with those who received a dummy message (about visiting Oklahoma’s State Parks) rather than the inoculation message. Those who received dummy messages served as controls in the inoculation treatment condition. Those participants assigned as controls participated in all assessments conducted during the study; however, they were assigned to read dummy messages rather than the inoculation message. Reliability of all scales was gauged using Cronbach’s coefficient alpha.

### **Experimental Materials**

To administer the two phases of this investigation, the researcher prepared multiple messages. For Phase 1, in which participants were inoculated, two inoculation messages about racial and gender

diversity initiatives and one control message were created. For Phase 2, in which participants received a message attacking racial and gender diversity initiatives, two attack messages were created.

The heart of the logic and rationale offered in the inoculation messages came from the extant diversity research. According to Cox and Blake (1991), the following five primary factors are used to support value-in-diversity messages: (1) attracting and retaining the best available human talent; (2) enhanced marketing efforts; (3) higher creativity and innovation, (4) better problem solving, and (5) more organizational flexibility. Allen (2004) offers increased creativity, productivity, and profitability, as well as enhanced public relations and improved service quality as rewards of valuing difference. These factors were incorporated into the pro racial and gender diversity initiative inoculation messages that were written.

The Phase 1 inoculation messages ranged in length from 403 to 410 words. Along with incorporating the factors referenced above, the first paragraph of the inoculation messages was designed to elicit threat. McGuire (1970) defined threat as a warning of impending and potentially influential attack against the position on the issue supported by the participant. The remainder of each inoculation message raised arguments contrary to a participant's pro position on the issue of racial and gender diversity initiatives and then provided systematic answers to those arguments.

Because threat is a prerequisite for inoculation (McGuire, 1962; Pfau, 1997), inoculation messages were pre-tested prior to use in this investigation. A one-way ANOVA was computed to assess elicited threat for those inoculated and those not inoculated (control). The results revealed that those inoculated indicated significantly higher threat levels than those in the control condition ( $F(1,163) = 3.99, p < .05, \eta^2 = .02$ ). Thus, inoculation messages were determined to operate as planned by generating significantly more threat among participants in the inoculation condition ( $M = 3.46, SD = 1.36$ ) than those in the control condition ( $M = 3.03, SD = 1.38$ ).

For Phase 2, the researcher prepared two messages attacking racial and gender diversity initiatives. The attack messages mirrored the arguments offered against value-in-diversity messages in the extant literature. Shephard (1964) contends that too much diversity in problem-solving groups can be dysfunctional because the differences in communication styles, cultural barriers, and points of view make decision-making impossible due to a lack of commonality. Also, Ziller (1973) argues diversity violates group cohesiveness in the following three ways: (1) leads to lower cohesiveness because of status incongruence when members are not accustomed to having a female, lesbian, or African American supervisor, (2) leads to lower cohesiveness because perceived similarity increases attraction; thus perceived dissimilarity creates lower cohesiveness, and (3) people seek homogeneity in groups for conformity which they rely upon to conduct self-evaluations. The arguments offered by Shephard (1964) and Ziller (1973) along with those referenced by Hale (2004) were incorporated into the attack messages.

The Phase 2 attack messages ranged in length from 579 to 583 words. This word count adheres to the stipulation of Pfau, Roskos-Ewoldsen, et al. (2003) that attack messages be longer than the inoculation messages because attacks need to contain multiple counterarguments and blended attack strategies.

Inoculation and attack messages were evaluated for written comprehensibility using Becker, Bavelas, and Braden's (1961) Index of Contingency, which measures the reconstructability of sentences or readability. This approach seeks to ensure consistency in the writing style and word choice of messages by considering the use of nouns, pronouns, and total words used in each message. A similar index score indicates equivalence. The index scores for all messages ranged from 14.50 to 15.20.

## **Procedure**

This study was conducted in two phases with the first phase having two sets of questionnaires. In Phase 1, participants were asked to provide basic demographic information and answer a qualifying statement about their value-in-diversity attitude. Next, participants finished the questionnaire designed to assess their prior attitudes and determine their issue involvement levels.

After the first questionnaire was completed, the researcher scrutinized responses on participant attitude, involvement, and diversity demographic. Based on those responses, participants were assigned to conditions. Selection was random except the participants were assigned to conditions based on their

diversity demographic and care was taken to insure that each of the cells in the design reflected an approximate equivalence of low-, moderate-, and high-involved participants. Since only attitudes that are preexisting are capable of being inoculated, only participants who indicated that they held a positive value-in-diversity attitude were included in the study.

After the researcher had assigned participants to conditions, previously prepared experimental booklets were given to participants. The booklets contained an inoculation message supporting the value-in-diversity position (except for those assigned to the inoculation control condition who received a “dummy” message) and a questionnaire to assess threat, attitude toward the issue, attitude strength, attitude certainty, and issue involvement. Phase 1 was conducted over a period of three days.

Next, Phase 2 experimental booklets were prepared for participants. Phase 2 booklets contained an attack message opposed to the value-in-diversity position and a questionnaire to assess attitude toward the position advocated in the attack message, attitude certainty, and attitude strength. Phase 2 occurred approximately two weeks after Phase 1.

## **Variables and Measures**

### *Covariates*

Receiver’s prior attitudinal position toward the topic was assessed in Phase 1 using Burgoon, Cohen, Miller, and Montgomery’s (1978) measure which was developed for use in resistance research. The six bipolar adjective pairs were: foolish/wise, unacceptable/acceptable, wrong/right, unfavorable/favorable, bad/good, and negative/positive. The alpha reliability score for this measure was  $\alpha = .94$  ( $n = 547$ ). Issue involvement, operationalized as the “importance or salience of the topic” (Pfau et al., 1997a, p. 18) was assessed at Phase 1 prior to inoculation and after inoculation using an abbreviated version of the Personal Involvement Inventory (PII) (Zaichkowsky, 1985). Six items of the PII were used in the study including: insignificant/significant, doesn’t/does matter to me, unimportant/important, of no concern/of much concern, means nothing/means a lot, and irrelevant/relevant. The alpha reliability score for issue involvement was  $\alpha = .97$  ( $n = 548$ ) prior to inoculation at Phase 1 and  $\alpha = .97$  ( $n = 548$ ) after inoculation at Phase 1.

### *Dependent Measures*

Threat elicited by inoculation treatments was measured using five bi-polar adjective pairs, which have been used in recent inoculation studies (e.g., Pfau et al., 1997a; Pfau, Szabo et al., 2001). This variable was assessed at Phase 1 following the administration of the inoculation treatments. Participants in inoculation and control conditions responded to the prospect that they could come in contact with persuasive information that might cause them to rethink their position. The scale items used were: unthreatening/intimidating, nonthreatening/threatening, not risky/risky, not harmful/harmful, and safe/dangerous. The alpha reliability score for the threat measure in this investigation was  $\alpha = .96$  ( $n = 547$ ).

Strength of attitude was assessed during Phases 1 and 2, using four 7-interval scales: unimportant/important, uncertain/certain, irrelevant/relevant, and of no interest/of great interest. Attitude strength is a compilation construct. It is related to attitude importance (Krosnick, Boninger, Chuang, Berent, & Carnot, 1993), attitude certainty (Davidson, Yantis, Norwwood, & Montano, 1985; Pelham, 1991), personal relevance (Howard-Pitney, Borgida, & Omoto, 1986; Petty & Cacioppo, 1986), and other things. The alpha reliability for the attitude strength measure in this investigation was  $\alpha = .92$  ( $n = 547$ ) in Phase 1 and  $\alpha = .92$  ( $n = 547$ ) in Phase 2.

Certainty of attitude was assessed during Phases 1 and 2, using a 0-100 point probability continuum (Pfau et al., 2004) asking respondents to estimate the strength of their attitude about the issue in question, where 0 indicates “no certainty” and 100 indicates “absolute certainty.” The measure has been used successfully in recent inoculation research (e.g., Pfau et al., 2005).

Attitude toward the issue was assessed in Phase 1 after inoculation and in Phase 2. Attitude toward the counterattitudinal attack was assessed in Phase 2. All attitudes were assessed using the Burgoon et al. (1978) attitude scale. The scale items were: negative/positive, bad/good, unacceptable/acceptable,

foolish/wise, wrong/right, and unfavorable/favorable. The alpha reliability for the various attitude toward the issue measures were:  $\alpha = .97$  ( $n = 548$ ) for attitude toward the issue at Phase 1 after inoculation,  $\alpha = .98$  ( $n = 547$ ) for attitude toward the issue at Phase 2, and  $\alpha = .98$  ( $n = 547$ ) for attitude toward the counterattitudinal attack at Phase 2.

## RESULTS

To assess the predictions and research questions associated with this investigation, Multivariate Analysis of Covariance (MANCOVA) was used to assess all hypotheses and research questions. Rather than discuss each hypothesis and research question in sequential order, the structure of this section reflects the most parsimonious approach for testing and reporting the results. Thus, information is grouped based on the statistical analyses required for assessing specific predictions and research questions.

### H1 & H2b: Overall Influence of Inoculation

Hypotheses 1 and 2b were associated with the overall efficacy of inoculation among all participants in the investigation. These predictions compared participants in the inoculation experimental condition versus those in the control condition. To assess these predictions, a one-way (inoculation versus control) MANCOVA was computed on the three dependent variables of: Phase 1 involvement-post inoculation and Phase 2 involvement-post attack and attitude toward the issue. Initial attitude served as a covariate.

For the covariate of initial attitude, the omnibus results revealed a significant effect,  $F(7, 530) = 33.43$ ,  $p < .01$ ,  $\eta_p^2 = .31$ . Subsequent univariate analyses indicated significant effects for the covariate of initial attitude on the dependent variables of: post-attack attitude toward the issue,  $F(1, 536) = 53.34$ ,  $p < .08$ ,  $\eta^2 = .09$ ; involvement-post inoculation,  $F(1, 536) = 170.58$ ,  $p < .01$ ,  $\eta^2 = .19$ ; and involvement-post attack,  $F(1, 536) = 73.54$ ,  $p < .01$ ,  $\eta^2 = .11$ . An examination of the valences indicates initial attitude is positively associated with post-attack attitude toward the issue, post-inoculation involvement, and post-attack involvement.

For inoculation treatment condition, the omnibus results showed no evidence for a significant main effect,  $F(7, 530) = .15$ ,  $p = .99$ . Though omnibus results failed to indicate significance for the inoculation treatment condition, because theory warranted the predictions, planned comparisons were computed to further assess the pattern of means (Huberty & Morris, 1989). The results of planned comparisons for Hypothesis 1 failed to reveal significant effects on post-attack attitude toward the issue,  $F(1, 536) = .11$ ,  $p > .10$ . Thus, Hypothesis 1 was not supported. The results of the planned comparison tests for Hypothesis 2b failed to reveal significant main effects on post-inoculation involvement,  $F(1, 536) = .09$ ,  $p > .10$ ; or post-attack involvement,  $F(1, 536) = .13$ ,  $p > .10$ . The results suggest inoculation messages fail to enhance base involvement levels. Thus, Hypothesis 2b was not supported.

### H2a & RQ1-RQ2: Inoculation, Involvement, Threat and Diversity Status Condition

Hypothesis 2a and Research Questions 1 and 2 addressed only the participants who were inoculated; so, control participants, who received no inoculation message, were excluded from this set of analyses. For organizational members who were inoculated, these analyses compared majority members versus minority members. To assess these research questions, a one-way (majority versus minority) MANCOVA was computed on the three dependent variables of: Phase 2 threat, Phase 3 attitude toward the issue, and Phase 2 post-inoculation involvement. Initial attitude and initial involvement were treated as covariates. The results for the covariates are examined first.

For the covariate of initial attitude, the omnibus results revealed a significant effect,  $F(3, 271) = 2.77$ ,  $p < .05$ ,  $\eta_p^2 = .03$ . Subsequent univariate analyses indicated significant effects for the covariate of initial attitude on the dependent variable of post-inoculation involvement,  $F(1, 273) = 5.14$ ,  $p < .01$ ,  $\eta^2 = .01$ ; and a nearly significant effect on the dependent variable of post-attack attitude toward the issue,  $F(1, 273) = 3.03$ ,  $p < .10$ ,  $\eta^2 = .01$ . No significant univariate effect was found on the dependent variable of

threat,  $F(1, 273) = .62, p = .43$ . An examination of the valences indicates initial attitude is positively associated with post-inoculation involvement and post-attack attitude toward the issue.

For the covariate of initial involvement, the MANCOVA omnibus results revealed a significant effect,  $F(3, 271) = 91.09, p < .01, \eta_p^2 = .50$ . Subsequent univariate analyses indicated significant effects for the covariate of initial involvement on the dependent variables of: post-attack attitude toward the issue,  $F(1, 273) = 20.19, p < .01, \eta^2 = .06$ ; and post-inoculation involvement,  $F(1, 273) = 267.86, p < .01, \eta^2 = .28$ . There was a nearly significant effect for the covariate of initial involvement on the dependent variable of threat,  $F(1, 273) = 2.57, p = .11, \eta^2 = .01$ . These results will be discussed in greater specificity within the context of assessing Hypothesis 2a.

For diversity status condition, the omnibus results revealed a significant main effect,  $F(3, 271) = 3.39, p < .05, \eta_p^2 = .04$ . The pattern of means will be assessed in the context of specific research questions.

*H2a: Inoculation as an Antidote*

Following the significant omnibus and significant univariate tests, reported above, this prediction required examination of the valence of the covariate of initial involvement and the significant dependent variable of post-attack attitude toward the issue. The results indicated that initial involvement is positively associated with attitude toward the issue. Thus, Hypothesis 2a was supported.

*RQ1: Threat and Diversity Status*

To assess this research question, univariate analyses were computed on majority versus minority means as a follow-up to the significant omnibus result. Univariate tests indicated a significant main effect for diversity status condition on the dependent variable of threat,  $F(1, 273) = 7.57, p < .01, \eta^2 = .03$  (Minority:  $M = 3.21$ ; Majority:  $M = 2.58$ ). The pattern of means, as shown in Table 1, suggests that among organizational members who receive inoculation messages, minority members as compared to majority members, experience greater threat of perceived susceptibility of their pro-diversity attitudes. Thus, the results for Research Question 1 suggest inoculation messages pose less threat of decreased attitude susceptibility among majority members in an organization as compared to minority members.

**TABLE 1**  
**MEANS FOR INOCULATED PARTICIPANTS AS A FUNCTION OF DIVERSITY STATUS CONDITION**

| Dependent measure                     | <u>Diversity status condition</u> |                       |
|---------------------------------------|-----------------------------------|-----------------------|
|                                       | Majority<br>$n = 88$              | Minority<br>$n = 189$ |
| threat                                | 2.58 <sup>a</sup> (1.45)          | 3.21 (1.60)           |
| post-attack attitude toward the issue | 4.98 (1.51)                       | 5.49 (1.42)           |
| post-inoculation issue involvement    | 4.97 (1.47)                       | 5.71 (1.33)           |

*Note.* Means and standard deviations are displayed (latter in parentheses). Measures were assessed using a 7-point scale with higher scores indicating a greater threat or perceived susceptibility of one's pro-diversity attitude, a more favorable attitude toward the issue, and a greater involvement level. A higher, more favorable attitude toward the issue also indicates a more resistant attitude.

<sup>a</sup> Statistically significant difference at  $p < .01$

### *RQ2: Involvement and Diversity Status*

To assess this research question, univariate analyses were computed on majority versus minority means as a follow-up to the significant omnibus result. Univariate tests indicated no significant main effect for diversity status condition on the dependent variable of post-inoculation involvement,  $F(1, 273) = 1.71, p = .19$ . Thus, Research Question 2 suggests that for organizational members who receive inoculation messages, there is no significant difference between majority and minority members' involvement levels when controlling for initial involvement.

## **DISCUSSION**

This experiment examined the potential of inoculation to protect value-in-diversity attitudes from slippage once an organization's diversity initiative came under attack. The pattern of results offered little support for the ability of inoculation to serve as an antidote of protection among majority organizational members as anticipated. The role played by inoculation theory as a protector of organizational members' pro-diversity attitudes was more nuanced. Given the success of inoculation in protecting political candidates (e.g., An & Pfau, 2004; Pfau, Kenski, et al., 1990), country of origin image (Ivanov, 2006), corporate brand and reputation (e.g., Wan & Pfau, 2004; Wigley, 2007), and anti-plagiarism attitudes (Compton & Pfau, 2008), along with a host of other applications related to the resistance domain, this investigation argued for inoculation's ability to protect favorable racial and gender diversity initiative attitudes once they were attacked.

Inoculation should work because the inoculation messages were reasoned to threaten the susceptibility of organizational member attitudes causing them to begin the counterarguing process capable of defending their positions prior to the attack. Inoculation should be most effective among organizational members with the greatest involvement levels, and it was argued that inoculation would enhance the base involvement levels of organizational members. The pattern of results, though, failed to offer support for inoculation's ability to meet all of these expectations.

The results provide minimal rather than widespread evidence for inoculation's efficacy in an organizational diversity context, particularly in conferring attitudinal resistance as predicted in Hypothesis 1. Inoculation failed to protect organizational member attitudes after the anti-diversity attack. However, when compared to majority organization members, the results indicated that minorities experienced greater threat or susceptibility of their pro-diversity attitudes (Research Question 1). This suggests that minority organizational members, rather than majority members, are most in need of having their attitudes protected from erosion after anti-diversity attacks.

The only instance in which inoculation posed a viable strategy for protection is among those who reported higher involvement levels. For both majority and minority organizational members, inoculation succeeded at conferring attitudinal resistance when those members indicated high involvement levels (Hypothesis 2a); however, inoculation failed to enhance involvement levels or bolster original involvement (Hypothesis 2b), and there was no significant difference between majority and minority members in their post-inoculation involvement levels (Research Question 2).

The connection between involvement and inoculation has been clearly delineated in past research (e.g., Chen et al., 1992; Petty & Cacioppo, 1979; Pfau, 1992; Pfau, Tusing, et al., 1997a). Inoculation's success among the highly involved provides further evidence of the relationship between involvement and resistance. As Petty and Cacioppo (1979) argued, "To the extent that increased involvement is associated with more thinking, increased counterargumentation and resistance to influence would be a likely result" (p. 1916). The impetus of involvement appears to be more responsible for the effectiveness of inoculation as an antidote than inoculation's overall influence alone.

Overall, inoculation had no real bearing on preempting the influence of an anti-diversity attack. Its potential is greatest and most pronounced among highly involved members of the organization, and the threat mechanism is elicited most among minority organizational members for whom the diversity intervention is of greatest personal consequence. Perhaps, the greatest lesson derived from this investigation for campaign managers and interested scholars as it relates to inoculation's role in

accomplishing organizational diversity aims is to re-consider the value of protecting minority member attitudes. Campaign managers should regard minority organizational members as a worthwhile key constituency that is likely to be on board with organizational diversity intervention aims, but who are particularly more susceptible to anti-diversity attacks. While it is crucial for organizations to somehow protect the already present support for their diversity interventions, inoculation as an overall strategy failed to be the answer in this investigation, unless organizational members are highly involved.

## IMPLICATIONS AND FUTURE RESEARCH

The primary and most significant implication of this study is centered on the lack of overall evidence for inoculation's ability to confer attitudinal resistance after the anti-diversity attack. While message pretests confirmed that the inoculation messages elicited threat, a manipulation check using an independent samples t-test revealed an overall threat finding with a nearly significant effect,  $t(545) = 1.69$ ,  $p = .09$ , and the means were in the predicted direction showing that inoculated participants experienced greater threat than controls (Inoculation:  $M = 3.01$ ; Controls:  $M = 2.79$ ). Because the ultimate test for a successful manipulation of inoculation requires the measurement of both threat and counterarguing (McGuire, 1962; Pfau, 1997), the fact that counterarguing was not assessed in this investigation is problematic for rightfully interpreting the extent to which inoculation can serve as an antidote. Inoculation's failure to confer overall attitudinal resistance could be due to the need for stronger message manipulation to elicit threat or to increase counterargumentation.

Future research should seek to further clarify the role of strategic communication and specific message strategies in the context of organizational diversity. This means investigating the effectiveness of various communication strategies based on varying diversity dimensions (e.g., organizational tenure, religion, sexual orientation, etc.) as well as in various organizational contexts (e.g., committees, employee relations, accelerated management programs, etc.). In addition, examining the efficacy of other persuasion and social influence theories within the diversity arena would be useful as well.

## CONCLUSION

As organizations seek to advance their pro-diversity initiatives to both internal and external audiences, more research that examines the impact of diversity messaging, diversity promotion, and diversity marketing is needed. This investigation has explored one specific aspect associated with diversity initiatives – the pathway of protecting value-in-diversity attitudes from slippage when diversity initiatives are attacked. The hope is that this inquiry will stimulate additional research that continues to probe matters of messaging and resistance to influence within the context of diversity.

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