### PERSPECTIVE AND COMMENTARIES

## Artifact or Meaningful Theoretical Constructs?: Examining Evidence for Nonbelief- and Belief-Based Attitude Change Processes

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Fishbein and Middlestadt (1995) argued that evidence for nonbelief-based attitude change is primarily artifactual, resulting from inadequate one, belief-based measurement of attitudes and beliefs. Thus, all attitude change occurs through this process. In this article, we present three arguments in response. First, evidence exists suggesting that some attitude change processes are best conceptualized as relatively nonbelief based. Second, evidence is presented of attitudes resulting from relatively nonbelief- and belief-based attitude change processes, as assessed by the same measure of beliefs within the same study. Third, studies have found substantive and meaningful differences in the attitudes resulting from what are posited to be different attitude change processes. Together, these arguments provide a strong case for the existence and differential consequences of both belief- and nonbelief-based attitude change processes.

Fishbein and Middlestadt (F & M; 1995) argued that evidence for nonbelief-based attitude change is primarily artifactual, resulting from inadequate measurement of attitudes and beliefs. Specifically, they argued that the influence of any variable on

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persuasion is mediated by belief change: When properly measured, a variable will influence underlying beliefs about an attitude object, and the underlying beliefs will influence the attitude toward that object. This set of relationships is represented in Figure 1. F & M argued that Path 1, from the variable (V) to beliefs (B), and Path 2, from B to attitudes (A), represent the one process by which variables influence attitudes. Of critical importance to the F & M discussion is the direct path from the V to the final A, Path 3, which represents a nonbelief-based attitude change process. F & M argued that evidence supporting this direct influence of a variable on attitudes is the result of mismeasurement of the beliefs and attitudes and/or that with proper measurement, only Paths 1 and 2, but not Path 3, will emerge as significant.

In this article, we present three arguments in response to F & M (1995). First, evidence exists suggesting that some attitude change processes are best conceptualized as relatively nonbelief based. Second, evidence is presented of attitudes resulting from relatively nonbelief- and belief-based attitude change processes, as assessed by the same measure of beliefs within the same study. Third, studies have found substantive and meaningful differences in the attitudes resulting from what are posited to be different attitude change processes. This evidence of, and consequences associated with, both nonbelief- and belief-based attitude change processes indicate that the extant literature better supports the notion that these differences represent two substantive and meaningful theoretical constructs.

Traditionally, an attitude has been defined as a positive or negative evaluative response to an attitude object. This definition underlies the arguments to be presented, with the further specification that certain properties often associated with attitudes (e.g., resistance to counterpersuasive attacks, ability to guide behavior) are not necessary for a response to be defined as an attitude. If all attitudes were required to possess these qualities, the concept of "attitude change" could not exist: The moment an attitude could be changed, it would no longer be defined as an attitude! Further, for purposes of brevity, select studies are cited as evidence of the arguments. These studies are cited to illustrate the arguments and are not presented as the extant evidence. In fact, the number of studies available to support the

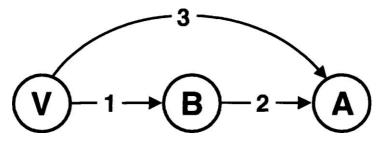


FIGURE 1 Representation of belief- and nonbelief-based attitude change processes. (V) represents the persuasion variable of interest, (B) represents the underlying attitude-related beliefs, and (A) represents the attitude.

arguments are extensive and are cited elsewhere (e.g., Petty, Priester, & Wegener, 1994; Petty & Wegener, 1997).

#### **ARGUMENT 1**

#### Evidence of Nonbelief-Based Attitude Change Processes

A number of processes have been found to influence attitudes that are best conceptualized as relatively nonbelief based. That is, these processes appear to directly influence attitudes (Path 3, Figure 1). Specifically, attitude change has been found to result from at least five relatively nonbelief-based processes; mere unreinforced exposure to stimuli (e.g., Zajonc, 1968; see also Bornstein, 1989); priming with affective stimuli (e.g., Murphy & Zajonc, 1993); classical conditioning (e.g., Gorn, 1982; Kim, Allen, & Kardes, 1996; Shimp, Stuart, & Engle, 1991; Staats & Staats, 1958); arm flexion and arm extension (e.g., Cacioppo, Priester, & Berntson, 1993; Priester, Cacioppo, & Petty, 1996); and "facial feedback," or contraction and inhibition of facial smiling muscles (e.g., Strack, Martin, & Stepper, 1988).

Investigators of such phenomena have not posited belief change as the process by which attitudes are influenced. Although the precise processes are still under investigation (e.g., Kim et al., 1996), the existing literature does suggest that many of these attitude change processes can occur under conditions in which belief change is improbable. Prior research suggests that, in general, beliefs are most likely to be changed as a result of conscious consideration of information (e.g., Fishbein & Ajzen, 1975; McGuire, 1960; Wyer, 1970). Thus, beliefs should be less likely to change when the attitude change stimulus occurs outside of participants' conscious awareness. Yet many of these processes have been found to influence attitudes under just such conditions. As an example, the phenomenon of mere exposure is the positive relation between attitudes toward a stimulus and its unreinforced repeated exposure. Kunst-Wilson and Zajonc (1980) found that mere exposure led to enhanced attitudes even toward stimuli that were presented subliminally (see also Murphy & Zajonc, 1993; Strack et al., 1988; Wilson, 1979, for similar results with other nonbelief-based attitude change processes). Thus, research has found evidence of attitude change even when belief change is unlikely to have occurred.

A belief-based explanation of these results would suggest that such attitude change processes (e.g., mere exposure) are *possible* when beliefs are more difficult to change, but should result in greater attitude change when beliefs are more likely to be changed. This explanation would hypothesize that mere exposure is a belief-based process and would predict that mere exposure should influence attitudes more with conscious than nonconscious presentation.

Contrary to this prediction, however, many of these attitude change processes have been found to be *more* effective in changing attitudes under conditions of

nonconscious presentation than under conditions of conscious presentation. For example, Bornstein and D'Agostino (1992) found that stimuli presented subliminally (for 5ms) produced significantly greater attitude change with repeated exposure than did stimuli presented supraliminally (for 500ms). This finding replicated the conclusions of an extensive meta-analysis of the mere exposure literature (Bornstein, 1989). Thus, contrary to the predictions of a belief-based explanation, the mere exposure attitude change process appears to be more effective when beliefs are less, rather than more, likely to be changed. In short, mere exposure is explained best by a relatively nonbelief-based process. In fact, similar results have been found with other such processes (e.g., greater attitude change as a result of subliminal rather than conscious affective priming, Murphy & Zajonc, 1993; see also Cacioppo, Marshall-Goodell, Tassinary, & Petty, 1992; Priester et al., 1996; Shimp et al., 1991), suggesting that they are also explained best by relatively nonbelief-based processes.

#### **ARGUMENT 2**

# Evidence of Relatively Belief- and Nonbelief-Based Attitude Change

A limitation of the first argument is that these studies seldom attempt to assess the beliefs on which the changed attitudes are based (cf. Grush, 1976). Thus, although unlikely, the possibility remains that these attitude change processes are somehow belief based. A second limitation is that, even were a study to indicate attitude change unmediated by assessed beliefs, one could always argue that beliefs and/or attitudes had been improperly measured. The second argument addresses these two limitations.

Evidence addressing these two limitations would be provided by a study in which beliefs as well as attitudes were assessed, the same persuasive information was presented, and similarly extreme attitudes resulted from relatively belief- and nonbelief-based attitude change processes, albeit under different, specifiable conditions. Such a study would address the limitations of the first argument in that (a) underlying beliefs would be measured and (b) the evidence indicating that attitude change was a result of a belief-based process would render the assertion that the evidence for nonbelief-based attitude change was due to mismeasurement less credible. In fact, several studies have shown attitudes of equal extremity resulting from relatively belief- and nonbelief-based processes (see Petty et al., 1994; Petty & Wegener, 1997, for reviews). Two studies by Petty, Schumann, Richman, and Strathman (1993) illustrate this point. These investigators hypothesized that when message recipients were motivated (and able) to think about persuasive information, their mood would influence the nature of the beliefs generated in response to the information (Path 1, Figure 1) and the beliefs would lead to attitude change

(Path 2, Figure 1). That is, given high motivation to think, persuasion would be the result of relatively belief-based attitude change processes. In contrast, when individuals were not motivated to think about the persuasive information, mood would influence attitudes directly (Path 3, Figure 1), but would not influence beliefs (Path 1, Figure 1). That is, given low motivation to think, persuasion would be the result of a relatively nonbelief-based attitude change process. The studies used convergent methods to vary positive and neutral mood and motivation to think (need for cognition, Cacioppo & Petty, 1982, in Experiment 1 and manipulation of involvement in Experiment 2). Beliefs were assessed by cognitive responses, a measure of idiosyncratic attitude-related beliefs.

In both studies, positive mood led to greater attitude change than neutral mood, regardless of motivation to think. Mediational analyses supported the predictions in both studies. When participants were motivated to think about the persuasive information, mood influenced the proportion of positive beliefs (Path 1, Figure 1), and beliefs in turn influenced attitudes (Path 2, Figure 1). There was no direct influence of mood on attitudes (Path 3, Figure 1) when motivation to think was high. These findings provide evidence for relatively belief-based attitude change when motivation to think is high. In contrast, when participants were not motivated to think, attitude change was the direct result of participants' mood. Mood influenced attitudes (i.e., through Path 3, Figure 1) without influencing beliefs (i.e., not through Path 1, Figure 1; see also Batra & Stayman, 1990). These findings reveal that under theoretically specifiable conditions, attitude change was either the result of changes in underlying beliefs (given high motivation to think) or the direct result of mood (given low motivation to think).

This study addresses the limitations of the first argument. First, the beliefs were assessed. Second, the moderated result, revealing both belief- and nonbelief-based attitude change processes, renders a mismeasurement explanation less tenable. The measurement procedures were of sufficient sensitivity to detect belief-based attitude change processes given high motivation to think and were the same as those used to assess beliefs and attitudes when motivation to think was low (viz., when mood influenced attitudes directly). Thus, any measurement artifact explanation would have to account for why the same measurement procedures can detect belief-based attitude change processes under certain conditions and not under other conditions.

#### **ARGUMENT 3**

Substantive Differences in Attitudes Resulting From Different Change Processes

A mismeasurement explanation of the Petty et al. (1993) findings does seem unlikely given the moderated findings of the study. However, an artifactual expla-

nation is still possible. Rather than using the approach outlined by F & M (1995), the Petty et al. studies assessed beliefs by a thought-listing/cognitive response procedure. After participants were exposed to the persuasive information and completed all attitude measures, they were asked to write down and subsequently code the thoughts that occurred to them as they were exposed to the information (see Petty, Ostrom, & Brock, 1981). Although the cognitive response approach allows participants to express their idiosyncratic responses (i.e., salient attributes and outcomes) related to the persuasive information, this approach does not have all the properties deemed necessary by F & M (e.g., assessment of belief strength, use of bipolar scoring). Thus, one might still attempt to attribute the Petty et al. (1993) findings to mismeasurement. However, the artifact explanation would also predict that apparent differences in attitude change processes would not result in attitudes that differ in their properties, because evidence for different processes is hypothesized to be entirely artifactual. Thus, the artifact explanation would predict no differences between the attitudes formed under high versus low motivation to think. Consequently, a study that reveals substantive and meaningful differences in the attitudes resulting from relatively belief- and nonbelief-based attitude change processes, along with the first two arguments, would render an artifact explanation even more problematic.

Petty, Cacioppo, and Schumann (1983) provided an example of such a study. They explored the relation among motivation to think (as manipulated by involvement in a manner similar to Petty et al., 1992, Experiment 2), presence of a persuasive cue (i.e., celebrity endorser), the resulting attitude change processes, and the properties associated with the resulting attitudes. This study found that attitudes formed as a result of relatively thoughtful (i.e., belief-based) attitude change processes induced by high involvement were associated with greater attitude-behavioral intention correspondence than were attitudes of equal extremity formed as a result of relatively inference-based (i.e., nonbelief-based) processes induced by low involvement. Specifically, attitudes changed by thoughtful consideration of the persuasive information contained in the advertisement (Paths 1 and 2) exhibited a higher correlation between attitudes and purchase intentions (r = .59) than did attitudes changed by less thoughtful processes (Path 3, r = .36). As noted by F & M, behavioral intention is determined by an individual's attitude and the subjective norms regarding the behavior. Because the participants were randomly assigned to the experimental conditions of high and low motivation to think, the subjective norms regarding purchase intention should not vary across these conditions. In addition, as stated, attitudes resulting from relatively belief-based attitude change processes were of equal extremity (i.e., they appeared the same as assessed by traditional attitude measures). Thus, the differential correspondence between attitudes and behavioral intention can only be the result of differences in the properties of the attitudes resulting from the different processes. Specifically, the attitudes resulting from the relatively thoughtful attitude change process were more influential in forming behavioral intention than were the attitudes resulting from the relatively nonthoughtful attitude change process.

An abundance of studies show conceptually similar findings. In general, attitudes that are the result of relatively thoughtful (i.e., belief-based) attitude change processes are *stronger* than attitudes that are the result of relatively nonthoughtful (i.e., nonbelief-based) attitude change processes (see Petty, Haugtvedt, & Smith, 1995; Petty et al., 1994; Petty & Wegener, 1997, for reviews). Three specific attitude properties have been found to differ as a function of attitude change process. Attitudes associated with relatively greater thought exhibit greater (a) persistence (e.g., Haugtvedt & Petty, 1992; Lyndon, Zanna, & Ross, 1988; Verplanken, 1991), (b) resistance to counterpersuasion attempts (e.g., Haugtvedt & Wegener, 1994; McGuire, 1964; Wu & Shafer, 1987), and (c) attitude-behavior correspondence (e.g., Cacioppo, Petty, Kao, & Rodriquez, 1986; Leippe & Elkin, 1987; Sivacek & Crano, 1982) than do attitudes associated with relatively less thought. That is, counter to the artifact explanation prediction, studies have found substantive and meaningful differences in the attitudes resulting from different attitude change processes.

These findings are not easily predicted or explained by F & M's conceptualization of all attitude change as belief based, nor do they support F & M's conclusion that findings of different processes are artifactual. These findings of substantive and meaningful differences in attitude strength as a result of attitude change process are indicative instead of meaningful theoretical constructs.

#### CONCLUSION

#### Conceptual Differences Versus Measurement Artifact

In this article, we provide three arguments in response to F & M (1995). First, we presented evidence of attitude change processes that are difficult to reconcile with F & M's position. Second, we presented evidence of attitudes resulting from relatively nonbelief- and belief-based attitude change processes, as assessed by the same measures of attitudes and beliefs. Third, the different attitude change processes (evidence of which F & M would attribute to mismeasurement) were shown to result in consistent, predictable, and consequential differences in the properties of the resulting attitudes. Together, these arguments provide a strong case for the existence and differential consequences of both belief- and nonbelief-based attitude change processes.

The question of the existence and consequences of both relatively belief- and nonbelief-based attitude change processes is important for both theoretical and applied concerns. Understanding why and under what conditions qualitatively different processes guide attitude change better informs us of how individuals cope

with and attend to environments rich in information, and it also allows for more precise prediction of when attitudes are more likely to show persistence, resistance, and guide behavior. This theoretical advance enriches our conceptual understanding of attitudes and persuasion and our understanding of constructs in other domains of human judgment and behavior. For example, theories positing that different (i.e., relatively belief- and nonbelief-based) processes can lead to similar evaluations and judgments have been advanced in the areas of stereotypes (e.g., Bodenhausen, 1990; Fiske & Pavelchak, 1986; Gilbert & Hixon, 1991), responses to questions (e.g., Krosnick, 1991), and impression formation (Brewer, 1988; Fiske & Neuberg, 1990).

One implication of current theories and research is that equivalently favorable attitudes can be the result of relatively belief- or nonbelief-based attitude change. And research reveals that the ability of an attitude to guide and influence behavior differs markedly depending on the process by which the attitude is changed. Thus, the existence and consequences of both belief- and nonbelief-based attitude change processes greatly modify the goals and strategies of persuasion attempts. For example, if one is interested in changing AIDS-related behavior, the goal should be to engage individuals in thoughtful consideration of the persuasion information in an attempt to change AIDS-related attitudes (e.g., attitudes toward safe sex) through belief-based processes. That is, to measure the success of any influence-oriented campaign, one must understand not only to what extent but also by what process attitudes have been changed.

#### **ACKNOWLEDGMENT**

Preparation of this article was supported by National Institutes of Mental Health Grant T32-MH19728-03.

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Accepted by Dipankar Chakravarti, Paul M. Herr, and Frank R. Kardes.