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# Should Persuasion Be Affective or Cognitive? The Moderating Effects of Need for Affect and Need for Cognition

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*Three experiments tested the hypothesis that need for affect and need for cognition influence receptivity to affect- and cognition-based persuasive messages. Experiment 1 found that an affective message elicited more positive attitudes among individuals high in need for affect and low in need for cognition, whereas a cognitive message elicited more positive attitudes among individuals low in need for affect and high in need for cognition. Experiment 2 found that individual differences in need for affect influenced receptivity to an affect-based (but not cognition-based) message, whereas individual differences in need for cognition influenced receptivity to a cognition-based (but not affect-based) message. Experiment 3 found that individual differences in need for affect were associated with increased recognition of information from an affect-based (but not cognition-based) message, whereas individual differences in need for cognition were associated with increased recognition of information from a cognition-based (but not affect-based) message. Overall, the studies point to the importance of individual differences in need for affect and need for cognition in understanding how individuals respond to different types of persuasive messages.*

**Keywords:** *affect; cognition; persuasion; message content*

In the 1970s, a series of famous television advertisements featured former professional athletes exalting their preference for a particular brand of beer. While some of the athletes noted that the beer *tasted great*, others replied that it was *less filling* than other beers. The first component of the message highlighted a positive affective response associated with the beverage (i.e., its taste), whereas the second component highlighted a positive attribute about the

beverage (i.e., its low caloric intake). This difference in focus illustrates a long-standing distinction between affective attempts at persuasion and cognitive attempts at persuasion. Despite a tradition of research on this topic, research has not yet tested whether the relative effectiveness of these components in eliciting attitude change varies across people, depending on individual differences in the desire to seek out affective and cognitive information. In this article, we describe three experiments designed to assess whether the effectiveness of affect- and cognition-based messages is dependent on individual differences in need for affect (Maio & Esses, 2001) and need for cognition (Cacioppo & Petty, 1982).

## Attitude Content and Persuasion

Several experiments have tested the hypothesis that persuasive messages induce more attitude change when their arguments match the affective and cognitive content of the recipient's attitude toward the issue (see Maio & Haddock, 2007, for a review). This research has proceeded on the assumption that an attitude will be more influenced by an affective or cognitive message as a function of whether the basis of the attitude is affective or

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cognitive. In typical studies testing this matching hypothesis, an affect- or cognition-based attitude is *created* toward a novel object that is then the subject of a persuasive message that is affect or cognition based. For example, Edwards (1990, Experiment 2) created attitudes toward a fictional beverage named *Power-Plus*. These attitudes were affect or cognition based, dependent on the order in which participants were exposed to positive affective and cognitive information about *Power-Plus*. Some participants first tasted the drink before reading about its properties (affect-based attitude); the remaining participants first read about the beverage's properties before tasting it (cognition-based attitude). After this stage, participants indicated their attitude toward the beverage. Subsequently, participants were provided with both negative affective information and negative cognitive information and then provided a second attitude rating. As in the attitude-formation stage, the basis of the persuasive message was manipulated by varying the order of presentation of the affective and cognitive information, with the information presented first representing the basis of the message. Edwards found evidence of content-based matching: The affect-based message was significantly more effective in changing attitudes that had been created experimentally to be affect based than in changing attitudes that were cognition based, whereas the cognition-based message was slightly (but not significantly) more effective in changing cognition-based attitudes than affect-based attitudes (see also Edwards & von Hippel, 1995).

Fabrigar and Petty (1999) extended Edwards's (1990) results by addressing a number of methodological ambiguities and using different persuasive messages. Similar to Edwards, Fabrigar and Petty created affect- or cognition-based attitudes that were subsequently subjected to an affect- or cognition-based message. In their Experiment 2, Fabrigar and Petty created an affect- or cognition-based attitude toward a fictional animal called the lemphur (see Crites, Fabrigar, & Petty, 1994). Unlike in Edwards's experiment, participants in this experiment were provided *either* positive affective or cognitive information at the attitude formation stage. Upon reporting their attitude, participants were subsequently presented with additional contrary information that was either affect- or cognition-based (before providing a second attitude rating). Similar to Edwards, Fabrigar and Petty found that an affect-based message was significantly more effective in changing an affect-based attitude than a cognition-based attitude, whereas a cognition-based message was somewhat more successful in changing a cognition-based attitude than an affect-based attitude.

Although these experiments provide consistent evidence in support of content-based matching in persuasion

(cf. Millar & Millar, 1990, for an exception), it is important to note that both experiments share the feature of *creating* an initial attitude that is based on either affect or cognition. It can be argued that differences in exposure to information at the attitude-formation stage may highlight a particular source of attitudinal information in response to a persuasive message. Evidence for the generality of content-based matching effects would be greatly enhanced by the adoption of other paradigms producing analogous findings that do not involve the creation of a novel affect- or cognition-based attitude. One particularly convincing paradigm would incorporate attitudinally relevant individual difference constructs from personality and social psychology. If effects were observed using stable individual difference measures, it would offer an important alternative source of support for content-based matching effects.

### Individual Differences in Attitude Bases

Within the domain of attitude content, the individual difference constructs of need for affect (Maio & Esses, 2001) and need for cognition (Cacioppo & Petty, 1982) should be associated with the effectiveness of affect- and cognition-based messages. With regard to the need for affect, considerable theory and research have addressed the extent to which people believe in the desirability of emotions and feel a need to pursue them (Maio & Esses, 2001; Sojka & Giese, 1997). In this research, the need for affect has been defined as the general motivation of people to approach or avoid situations and activities that are emotion inducing for themselves and others (Maio & Esses, 2001). Maio and Esses (2001) indicate that this need includes the desire to experience and understand the emotions of oneself and others, and it subsumes the belief that emotions are useful for shaping judgments and behavior.

Individual differences in need for affect are associated with outcomes relevant to the experiences and information people seek. For example, participants high in need for affect exhibit a stronger tendency to prefer emotional films over nonemotional films (Maio & Esses, 2001). Although positively correlated with affect intensity (Larsen & Diener, 1987) and negatively correlated with need for closure (Webster & Kruglanski, 1994), need for affect shares less than 10% of variance with each of these constructs, confirming its distinct properties (Maio & Esses, 2001). Furthermore, need for affect is associated with the degree to which individuals' attitudes are guided by affective information (Haddock & Huskinson, 2004). Taken together, these findings suggest that individuals high in need for affect seek out affective information in forming attitudes. Thus, individual differences in need for affect should be associated

with greater receptivity to a message emphasizing affective information.

The need for cognition refers to the tendency for an individual to engage in and enjoy effortful cognitive activity (Cacioppo & Petty, 1982). In a demonstration of the construct's predictive validity, Cacioppo and Petty (1982) had individuals perform a number-circling task employing either a simple or complex set of rules. They found that individuals high in need for cognition preferred the task with complex rules, whereas individuals low in need for cognition preferred the task with simple rules. Individuals high in need for cognition also tend to seek out more information and think more carefully about it before making an evaluation. For example, Haugtvedt, Petty, and Cacioppo (1992) found that individuals high in need for cognition were more likely to possess attitudes based on an evaluation of a product's attributes. Similarly, Pieters, Petty, and Haugtvedt (1985) found that participants high in need for cognition possessed attitudes about an energy-saving program that could be predicted by consideration of their stated beliefs regarding the program, whereas this was not the case for those low in need for cognition.

Research has revealed that individual differences in need for cognition are related to outcomes relevant to persuasion. For instance, previous research has demonstrated that individuals high in need for cognition exhibit greater responsiveness to differences in argument quality (see Cacioppo, Petty, Feinstein, & Jarvis, 1996). In other research, Wheeler, Petty, and Bizer (2005) found that a strong message suggesting that the recipient likes to consider details was more successful in eliciting attitude change among those high in need for cognition, whereas a strong message suggesting that the recipient does not like to consider details was more successful in eliciting attitude change among those low in need for cognition. Taken together, these findings suggest that individuals high in need for cognition should have a preference for beliefs and factual information. Thus, individual differences in need for cognition should be associated with greater receptivity to a message emphasizing cognitive information.

A small number of studies have assessed the association between measures of the need for affect and the need for cognition. For instance, in developing the Need for Affect scale, Maio and Esses (2001) found that the Need for Affect and Need for Cognition scales shared a correlation of  $r = .21$ . Additional research by Haddock and Huskinson (2004) found the two scales to be correlated at  $r = .15$  (see Maio, Esses, Arnold, & Olson, 2004). Thus, the need for affect and the need for cognition are relatively independent.

### The Present Research

Crucially, none of the prior research examining need for affect and need for cognition has simultaneously

included both measures and both types of message. Consequently, past research has not ascertained whether individual differences in need for affect influence receptivity to affect-based persuasive messages but not receptivity to cognition-based persuasive messages. In addition, past research has not tested whether individual differences in need for cognition influence receptivity to cognition-based persuasive messages but not to affect-based persuasive messages. Without an examination of both types of message and both individual difference constructs, past evidence cannot be clearly attributed to a content-based matching effect.

The first two experiments reported in this article tested this individual difference content-based matching hypothesis using distinct types of message manipulation. The final experiment tested the possible process underlying such a matching effect by considering whether individual differences in need for affect and need for cognition are associated with the amount of information individuals recognize from affect-based or cognition-based messages.

## EXPERIMENT 1

To provide a simple and powerful first test of our hypotheses, Experiment 1 focused on participants who simultaneously possessed extreme scores on need for affect and need for cognition. Using a pretest, we identified participants high in need for affect and low in need for cognition *or* low in need for affect and high in need for cognition. We then exposed them to an affect-based or cognition-based message about a beverage. Consistent with a content-based matching effect, it was expected that the affect-based message would elicit more positive attitudes among those high in need for affect and low in need for cognition, whereas the cognition-based message would elicit more positive attitudes among those high in need for cognition and low in need for affect.

### Method

#### *Participants*

Twenty-four undergraduates (16 females, 8 males) participated in the experiment. Their ages ranged from 18 to 24 years ( $M = 19.8$  years), and they received either course credit or £3 for participation.

#### *Materials and Procedure*

At the beginning of the academic year, participants completed measures of the need for affect and the need for cognition. A few months later, individuals who were high on one construct and low on the other completed

the main experimental session. In the experiment, participants were instructed that they would be evaluating a new beverage named Power-Plus. Half of the participants were randomly assigned to receive an affective message, and the other half to receive a cognitive message. Participants in the affect-based message condition tasted a sample of a pleasant-tasting, unfamiliar beverage. The affect within the message is derived from the pleasant feeling resulting from having tasted the beverage (see Edwards, 1990; Fabrigar & Petty, 1999). Participants in the cognition-based message condition read a set of strong and positive attributes about the drink. For instance, they were told that the drink was made from natural ingredients and contained real fruit extracts (see Fabrigar & Petty, 1999, for additional details). Immediately after either tasting or reading about Power-Plus, participants indicated their attitude toward the beverage using a series of 9-point semantic differential scales (*good–bad*, *positive–negative*, *like–dislike*). The internal consistency of this scale was good ( $\alpha = .88$ ). Finally, participants were thanked and debriefed.

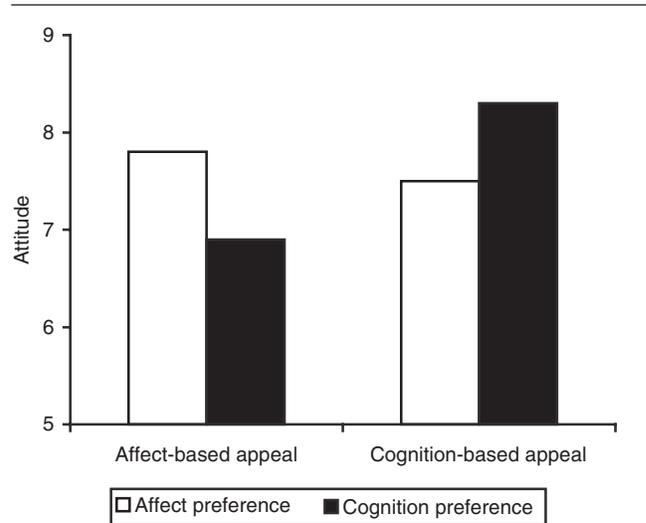
#### Individual Difference Measures

*Need for affect.* Maio and Esses's (2001) Need for Affect scale comprises 26 items. Participants use a scale from  $-3$  (*strongly disagree*) to  $+3$  (*strongly agree*) to rate the extent to which they agree with items such as "I like to dwell on my emotions" and "I would prefer not to experience either the lows or highs of emotion" (reverse scored). A score on need for affect was calculated by reverse scoring the negatively keyed items ( $\alpha = .84$ ). In previous research, this measure has yielded excellent test–retest reliability ( $\alpha = .85$ ; Maio & Esses, 2001).

*Need for cognition.* Cacioppo, Petty, and Kao's (1984) Need for Cognition scale uses 18 items to assess individuals' tendency to engage in and enjoy thinking. Participants use a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) to rate the extent to which they agree with items such as "I really enjoy a task that involves coming up with new solutions to problems" and "Thinking is not my idea of fun" (reverse scored). A score on need for cognition was calculated by reverse scoring the negatively keyed items ( $\alpha = .84$ ). In previous research, this measure has yielded excellent test–retest reliability ( $\alpha = .88$ ; Sadowski & Gulgoz, 1992).

#### Results and Discussion

Individuals high in need for affect and low in need for cognition were operationalized as having a preference for affect, whereas those low in need for affect and high in need for cognition were operationalized as having



**Figure 1** Experiment 1: Attitude favorability as a function of information preference and message type.

a preference for cognition.<sup>1</sup> These two groups of participants were then compared regarding their receptivity to the two types of messages.

Attitude scores were subjected to a 2 (message type: affect vs. cognition)  $\times$  2 (information preference: affect vs. cognition) ANOVA. As predicted, there was a significant interaction,  $F(1, 20) = 9.34$ ,  $p < .01$  (see Figure 1). Consistent with our predictions, the affect-based message produced more positive attitudes among individuals with an affect preference ( $M = 7.8$ ) than a cognition preference ( $M = 6.9$ ),  $t(10) = 2.13$ ,  $p < .05$ , whereas the cognition-based message produced more positive attitudes among individuals with a cognition preference ( $M = 8.3$ ) than an affect preference ( $M = 7.5$ ),  $t(10) = 2.22$ ,  $p < .05$ .

These results provide initial evidence that the effectiveness of cogent affect- and cognition-based persuasive messages depends on individual differences in need for affect and need for cognition. As expected, an affect-based message was more persuasive among individuals with an affect preference (i.e., individuals high in need for affect and low in need for cognition), whereas a cognition-based message was more persuasive among individuals with a cognition preference (i.e., individuals low in need for affect and high in need for cognition).

Although these results are encouraging, there are a number of caveats that need to be highlighted. First, our method of preselecting participants with extreme scores involved treating need for affect and need for cognition together as a single index of information preference. Given the relative independence of these constructs, such an analytic approach is not able to assess the unique predictive effects of the two individual difference constructs (see

Carver, 1989). Second, the affect-based message involved the effects of tasting the beverage, whereas the cognition-based message involved reading about the beverage's properties. Of course, research has demonstrated that experience with an attitude object influences processes relating to attitude formation and change (Eagly & Chaiken, 1993; Fazio & Zanna, 1978). Although experience should not account for the significant interaction, such a difference should be further discounted empirically. As a result of these concerns, we conducted a second study that examined the separate roles of need for affect and need for cognition and that used the same mode of persuasion across both messages using a different attitude object.

## EXPERIMENT 2

Some participants in Experiment 2 read an affective message that was designed to elicit positive emotions about a fictional animal called the lemphur. Other participants read a cognitive message that conveyed positive attributes about the animal. These messages were designed to be strong in research by Fabrigar and Petty (1999), and these researchers obtained evidence supporting their effectiveness as affect- and cognition-based persuasive messages. Assuming the cogency of the messages, we expected that need for affect and need for cognition would predict participants' yielding to affect- and cognition-based messages.

### Method

#### *Participants*

Fifty undergraduates (45 females, 5 males) participated in the experiment. Their ages ranged from 18 to 29 years ( $M = 20.0$  years), and they received either course credit or £3 for participation.

#### *Materials and Procedure*

In a pretest session, participants completed the Need for Affect and Need for Cognition scales. The main experiment took place a few months later. In the experiment, participants took part alone or in groups of up to five people. Participants in the affect-based message condition read a transcript about an individual's encounter with a lemphur. The message was designed to induce positive emotions in the reader. Sample sentences from the affect-based passage include "It then made a beautiful sound that reminded me of a kitten's purr" and "It was truly an amazing experience with the most wonderful animal." Participants in the cognition-based message condition read a set of positive attributes

about the lemphur. The passage took the form of an encyclopedia excerpt providing positive factual information. Sample sentences from the cognition-based message include "A remarkably adaptive animal, lemphurs can be found in ocean waters as far north as Alaska and as far south as Antarctica" and "Because lemphurs are social animals and closely care for their offspring, most young lemphurs survive to adulthood" (see Crites et al., 1994; Fabrigar & Petty, 1999, for additional information about the messages). After reading the affective or cognitive message, participants rated their attitude toward the lemphur using a series of 7-point semantic differential scales (*good–bad*, *positive–negative*, *like–dislike*, *favorable–unfavorable*). The internal consistency of this scale was good ( $\alpha = .88$ ). Finally, participants were thanked and debriefed.

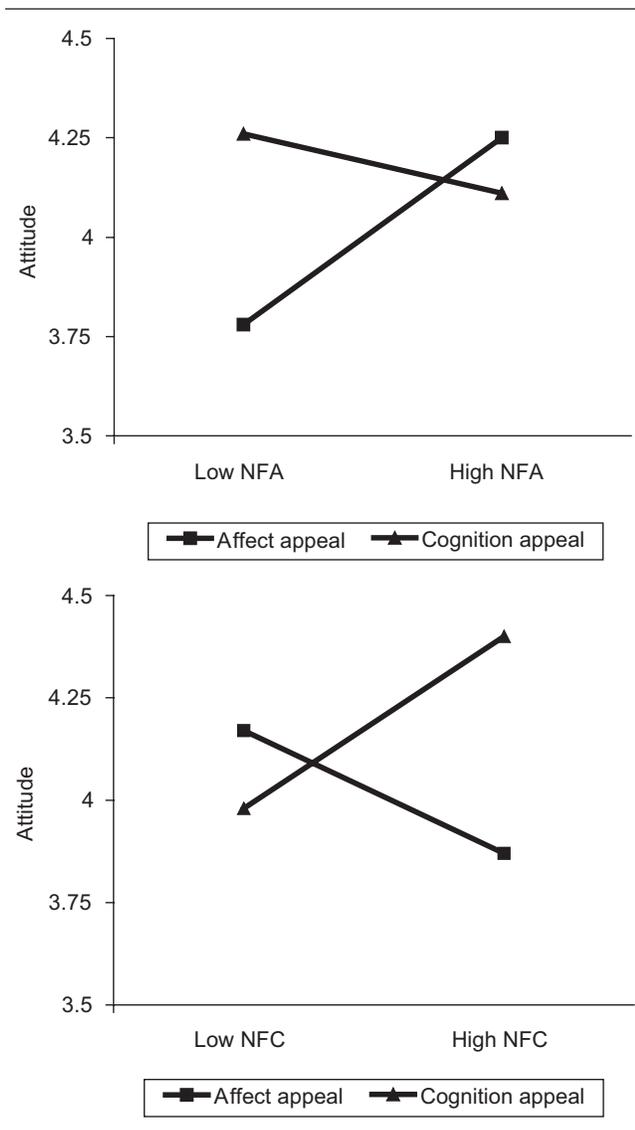
The measures used in Experiment 1 for need for affect and need for cognition were used in the current experiment.

### Results and Discussion

To test our hypothesis, a simultaneous regression analysis was performed on attitude scores where need for affect, need for cognition, message type (effect coded), and all interactions were entered as predictor variables (using recommendations by Aiken & West, 1991). As expected, the only significant effects were 2 two-way interactions. First, there was a significant interaction between need for affect and message type ( $\beta = .33$ ,  $p < .05$ ). As can be seen in the top panel of Figure 2, need for affect was positively correlated with attitude favorability when participants received the affect-based message ( $r = .47$ ,  $p < .05$ ) but not when they received the cognition-based message ( $r = -.10$ , *ns*). This pattern of results demonstrates that individual differences in need for affect were associated with receptivity to the affect-based message but not to the cognition-based message.

Second, there was a significant interaction between need for cognition and message type ( $\beta = -.39$ ,  $p < .05$ ). As can be seen in the bottom panel of Figure 2, need for cognition was positively correlated with attitude favorability when participants received the cognition-based message ( $r = .44$ ,  $p < .05$ ) but not when they received the affect-based message ( $r = -.16$ , *ns*). This pattern of results demonstrates that individual differences in need for cognition were associated with receptivity to the cognition-based message but not to the affect-based message.

Replicating Experiment 1, these results provide evidence that individual differences in need for affect and need for cognition influence receptivity to affect- and cognition-based persuasive messages. As expected, the



**Figure 2** Experiment 2: Attitude favorability as a function of message type and need for affect (NFA; top) and need for cognition (NFC; bottom).

success of an affect-based message was influenced by individual differences in need for affect (but not individual differences in need for cognition), whereas the success of a cognition-based message was influenced by individual differences in need for cognition (but not individual differences in need for affect). The results of Experiment 2 extend those of Experiment 1 by using messages that did not differ in direct experience and directly showing that individual differences in need for affect and need for cognition uniquely influence receptivity to affect-based and cognition-based messages. Taken together, the results of Experiments 1 and 2 clearly demonstrate content-based matching to individual differences in the preference for affective and cognitive information.

### EXPERIMENT 3

Although research provides evidence that persuasion is enhanced by matching a message to an attitude's affective-cognitive content, less is known about the process(es) mediating matching effects (see Petty, Wheeler, & Bizer, 2000). In research that matched message frames to individual differences in need for cognition, Wheeler et al. (2005) found that matched messages elicited greater message elaboration. Similarly, within the literature on attitude *function-based* matching effects, Petty and Wegener (1998) found that when elaboration likelihood was not constrained to be high or low, participants devoted greater attention to a persuasive message that matched the function of their attitude. In Experiment 3, we tested this explanation by considering whether individual differences in need for affect and need for cognition influence the amount of information correctly recognized from an affect- or cognition-based message.

Experiment 3 exposed participants to an affect- or cognition-based message about the lemphur. After a short delay, participants were tested on their knowledge of the information contained within the message. Specifically, we assessed participants' ability to recognize information from the passage. An enhanced recognition of information suggests deeper information processing ( Craik & Lockhart, 1972; see also Wyer & Hartwick, 1980, 1984). We expected that individual differences in need for affect would influence the amount of information recognized from the affect-based message, whereas individual differences in need for cognition would influence the amount of information recognized from the cognition-based message.

### Method

#### Participants

Fifty-eight undergraduates (52 females, 6 males) participated in the experiment. Their ages ranged from 18 to 35 years ( $M = 19.5$  years), and they received course credit for participation.

#### Procedure

In a pretest session, participants completed measures of the need for affect and need for cognition. The main experiment took place a few months later. In the experiment, participants took part alone or in small groups. All participants received one of the messages used in Experiment 2. After reading the passage (and a subsequent delay of approximately 10 min), participants were given a series of 12 statements about the passage. In both conditions, 6 of the statements (i.e., *old* statements) had appeared in the passage (e.g., "It was truly

an amazing experience with the most wonderful animal”—affect; “Lemphurs are approximately six feet in length and weigh 400 pounds”—cognition), whereas the remaining statements (i.e., *new* statements) had not appeared in the passage (e.g., “Consciously, I reached up and grasped its side”—affect; “Lemphurs lay millions of eggs each year”—cognition). Participants were asked to indicate whether each of the 12 statements had appeared in the passage they had read. A score was computed that represented the number of correct responses (i.e., correct positives indicating that an old statement had appeared in the passage *and* correct negatives indicating that a new statement had not appeared in the passage). Thus, recognition scores ranged from 0 to 12, with higher scores suggesting deeper information processing. After completing the recognition task, participants completed other measures not relevant to the current discussion before being debriefed.

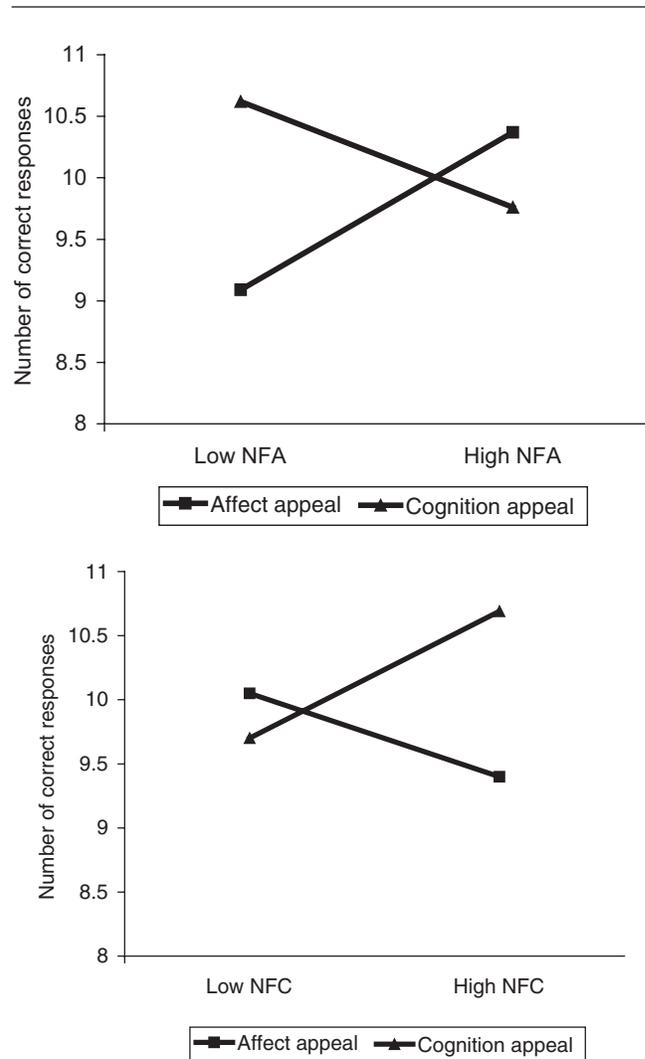
The measures used in Experiments 1 and 2 for need for affect and need for cognition were used in the current experiment.

## Results and Discussion

To test our hypothesis, a simultaneous regression analysis was conducted on the number of correct responses, with need for affect, need for cognition, message type (effect coded), and all interactions entered as predictor variables. As expected, the only significant (or marginally significant) effects were 2 two-way interactions. First, there was a significant interaction between need for affect and message type ( $\beta = .33, p < .05$ ). As can be seen in the top panel of Figure 3, need for affect was positively correlated with the number of correct responses when participants read the affect-based message ( $r = .38, p < .05$ ) but not when they read the cognition-based message ( $r = -.20, ns$ ). This pattern of results demonstrates that individual differences in need for affect were associated with greater recognition of information from the affect-based message but not from the cognition-based message.

Second, there was a marginally significant interaction between need for cognition and message type ( $\beta = -.26, p = .06$ ). As can be seen in the bottom panel of Figure 3, need for cognition was positively correlated with the number of correct responses when participants read the cognition-based message ( $r = .34, p < .05$ ) but not when they read the affect-based message ( $r = -.16, ns$ ). This pattern of results demonstrates that individual differences in need for cognition were associated with greater recognition from the cognition-based message but not from the affect-based message.

The aim of Experiment 3 was to serve as an initial test of the enhanced attention explanation of the individual



**Figure 3** Experiment 3: Number of correct responses as a function of message type and need for affect (NFA; top) and need for cognition (NFC; bottom).

difference content-based matching effect. Consistent with predictions, individual differences in need for affect predicted the amount of information correctly recognized from an affect-based message but not from a cognition-based message. Conversely, individual differences in need for cognition predicted the amount of information correctly recognized from a cognition-based message but not from an affect-based message. Although the current paradigm does not allow us to determine precisely whether matched information enhanced storage or retrieval processes, or both, the observed pattern of findings suggests that matched information was processed with greater depth than nonmatched information. As such, the results of the experiment are consistent with Petty and Wegener (1998; see also Petty et al., 2000), who argued that when elaboration likelihood is not

constrained to be very high or very low (as in the present study), function-based matching effects are attributable to individuals devoting greater attention to a message that matches the function of their attitude. The current results provide evidence suggesting that the same process underlies content-based matching effects when elaboration likelihood is unconstrained (see also Wheeler et al., 2005).

## GENERAL DISCUSSION

The findings of the present experiments consistently demonstrate that individual differences in need for affect and need for cognition influence receptivity to affect-based and cognition-based persuasive messages. In Experiment 1, an affect-based message was more persuasive among individuals high in need for affect and low in need for cognition, whereas a cognition-based message was more persuasive among individuals low in need for affect and high in need for cognition. In Experiment 2, individual differences in need for affect influenced receptivity to an affect-based (but not cognition-based) message, whereas individual differences in need for cognition influenced receptivity to a cognition-based (but not affect-based) message. As such, both experiments provide support for individual difference content-based matching effects. This support is cogent, partly because the pattern was consistent across two different persuasive interventions focusing on different topics and because both interventions have received support for their validity in past research. Given this robust effect, Experiment 3 considered its assumed mechanism. The results of Experiment 3 supported our hypothesis that individual differences in need for affect and need for cognition are associated with the amount of information individuals are able to recognize from an affect- or cognition-based message.

It is also worth noting that in all three experiments there was a long delay between the assessment of need for affect and need for cognition and the experimental session. The presence of significant differences in light of this delay is testimony to the strength of the effects. Moreover, the effects across a delay support our assumption that the effects are attributable to stable individual differences.

The present data extend past research that has explored content-based matching for persuasive messages. Whereas past research (e.g., Edwards, 1990; Fabrigar & Petty, 1999) examined the differential susceptibility of experimentally created attitudes to affect- and cognition-based messages, the current experiments used a paradigm that focused on individual differences in the desire to seek out affective and cognitive information. The use of an

individual differences paradigm avoids potential difficulties associated with the creation of an affect- or cognition-based attitude. That said, the mechanism underlying the observed effects may be somewhat different from those invoked to explain previous research findings. Edwards and colleagues (Edwards, 1990; Edwards & Von Hippel, 1995) interpreted their findings by referring to fundamental differences in the nature of affect- and cognition-based attitudes. They asserted that affect-based attitudes are unidimensional in nature (i.e., positive vs. negative feelings), whereas cognitive attitudes possess a more complex structure (i.e., different informational dimensions). In the current experiments, however, the affect- and cognition-based messages were not directed toward changing newly created attitudes, and thus the mechanism proposed by Edwards and colleagues is not applicable. Instead, the proposed mechanism focused on the differential susceptibility across individuals to affective and cognitive information per se.

The results of Experiment 3 indicate that need for affect and need for cognition influenced the amount of information individuals correctly recognized from affect- and cognition-based messages. As such, the findings of this study are consistent with the notion that individual differences in need for affect and need for cognition elicit differential scrutiny of affective and cognitive messages. Furthermore, the findings of Experiment 3 are consistent with previous research that has considered the mechanism mediating the effects of messages that address salient psychological needs (e.g., Petty & Wegener, 1998), implying that the same process might underlie different types of matching effects in the attitudes literature.

The findings of the present experiments generate a number of important questions for future research. Perhaps most notably, it is worthwhile to consider how manipulating the *quality* of affective and cognitive messages would influence message receptivity as a function of individual differences in need for affect and need for cognition. Of course, numerous past experiments examining the processing of *cognitive* messages have manipulated the quality of the arguments within them. These studies have shown that individuals high in need for cognition are more responsive to differences in argument quality than are individuals low in need for cognition because of the enhanced scrutiny paid to the messages by those high in need for cognition (see Cacioppo et al., 1996; Petty, Cacioppo, Strathman, & Priester, 2005). Furthermore, extant research in the matching literature has demonstrated that whereas strong matched messages elicit greater attitude change, weak matched messages elicit less attitude change (see Petty & Wegener, 1998). Consistent with this evidence, Experiments 1 and 2 in the present research demonstrated that strong affective and cognitive messages yield matching effects as a function of individual differences in

need for affect and need for cognition. Furthermore, the effect of individual difference-based matching on depth of processing in Experiment 3 suggests that matching effects for affective and cognitive messages should be confined to strong messages. That said, future research should examine how manipulating the quality of affective *and* cognitive messages influences message receptivity as a function of individual differences in need for affect *and* need for cognition. This would be particularly relevant with respect to an affect-based message, where, to our knowledge, message quality manipulations have not been considered in previous research. Similarly, future research might also consider how varying the elaboration likelihood to be very high or very low might affect how individual difference content-based matching effects occur (see Petty & Wegener, 1998).<sup>2</sup>

The results of the present research are important in a number of other ways. First, they represent an effort to simultaneously consider the implications of two attitudinally relevant individual difference constructs: need for affect and need for cognition. When considered together, need for affect and need for cognition influenced how individuals responded to affective and cognitive messages and the recognition of affective and cognitive information. The current results imply that researchers interested in exploring variables that moderate important findings in domains such as attitude formation, attitude change, and attitude-behavior relations should assess both need for affect and need for cognition. These variables may be particularly useful when the attitudes being investigated are likely to be capable of including strong affective or cognitive bases. The consideration of only one of these individual difference constructs might mask important effects.

The findings of the present research have a number of theoretical implications. For instance, individual differences in need for affect and need for cognition are likely to be related to the pursuit and experience of emotions. Bargh (1990) has suggested that motives can be activated automatically from memory and spontaneously influence people's perceptions of situations, outside of conscious awareness. As the activation of motives involves the activation of emotions (see Aarts, Custers, & Holland, 2007), it is conceivable that need for affect and need for cognition determine the extent to which emotions are automatically activated. Individuals high in need for affect and low in need for cognition should be more sensitive to the presence of emotional stimuli in their environment, and they may project their emotions into this environment. There are several testable implications of this reasoning. For example, researchers could test whether need for affect (but not

need for cognition) is associated with distraction by emotional words in Stroop color-word detection tasks, whereas need for cognition (but not need for affect) is associated with distraction by nonemotional words. In addition, researchers can test whether need for affect and need for cognition determine the degree to which individuals infer emotional themes from the ambiguous pictures that are used in thematic apperception tests (Murray, 1938).

In addition to these interesting theoretical issues, there are a number of practical implications of our findings. For instance, need for affect and need for cognition might moderate the acceptance of fear messages. This finding has applied importance because fear messages can backfire under particular conditions (e.g., Janis & Feshbach, 1953). Such findings have caused many people who work in public safety to conclude that fear messages do not work. In contrast, our results indicate that fear messages might work among individuals high in need for affect (see Maio et al., 2004). In fact, it is easy to find advertising spots that are likely to be seen by these individuals. As individuals with an affect focus are drawn to television shows and films that promise a range of emotions (see Maio & Esses, 2001), fear messages that are inserted into advertising before or during such emotive shows may be more successful than fear messages that are inserted in less emotive shows (e.g., documentaries) that attract a different audience. Such audience-targeted marketing is already employed heavily for commercial products.

In sum, the experiments described in this article provide evidence integrating the study of individual differences in information processing with the classic issue of affect-based and cognition-based matching effects in persuasion. This integration revealed that need for affect and need for cognition reliably predict whether people are more persuaded by cogent affective or cognitive messages and revealed evidence for a role of enhanced attention in producing content-based matching effects. Perhaps more important, the findings draw attention to the myriad issues that can profitably be investigated by considering the roles of both need for affect and need for cognition in understanding attitudes and behavior.

## NOTES

1. In the studies reported in this article, need for affect and need for cognition showed small correlations ( $r$ s between .02 and .20; overall  $r = .13$ ). The magnitude of these correlations is consistent with other research that has assessed both constructs (Maio & Esses, 2001; Maio, Esses, Arnold, & Olson, 2004).

2. We thank an anonymous reviewer for highlighting research questions associated with the variation in elaboration likelihood.

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