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Off-Target? Changing Cognitive-Based Attitudes

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Researchers argue that the effectiveness of cognitive versus affective persuasive appeals depends in part on whether the appeal is congruent or incongruent with a primarily cognitive or affective attitude base. However, considerable research suggests that these persuasion effects may hold only for predominantly affective attitudes and not cognitive attitudes. Indeed, results of Experiment 1 show that the relative effectiveness of congruent relative to incongruent persuasion appeals holds for brands with predominantly affective associations, but not those with predominantly cognitive associations. Experiment 2 explores one reason for this anomalous finding: Cognitive attitudes may be relatively impervious to persuasive appeals because the probability of targeting the specific attribute on which the cognitive attitude is based is smaller. The results are supportive, showing that significant persuasion effects are found when the specific beliefs on which cognitive attitudes are based are taken into account. However, these effects only occur under conditions of low cognitive load and not high cognitive load where resources for the cognitive processing of the appeals are limited. We discuss the implications of the research for the role of attitude structure in understanding persuasion effects and the interplay of affective and cognitive elements in persuasion processes.

Considerable research in consumer and social psychology has drawn on the multicomponent theory of attitudes to examine how the relation between affective and cognitive components of attitudes can influence persuasion (Bagozzi & Burnkrant, 1979; Pechmann & Stewart, 1989; Rosenberg & Hovland, 1960). Specifically, researchers show that persuasion depends on the relation between a persuasive appeal, which is any type of communication that attempts to influence an individual's attitude toward an object, and the base of an attitude, which refers to the primary component (affective, cognitive, or conative) that the attitude object affords. Researchers show that incongruity between a persuasive appeal and attitude base (e.g., when a predominantly affective attitude is paired with a cognitive appeal relative to an affective appeal), leads to greater persuasion when attitudes are well-established (Millar & Millar, 1990). On the other hand, congruity (e.g., when a predominantly affective attitude is paired with an affective versus cognitive appeal) leads to greater persuasion when attitudes are newly formed (Edwards, 1990; Millar, 1992; for related effects, see Meyers-Levy & Tybout, 1989; Shavitt, 1990).

However, interestingly, the majority of these studies that have sought to establish an empirical relation between the level of persuasion and attitude structure have found a relation only for predominantly affective attitudes (e.g., Celuch & Slama, 1993; Fabrigar & Petty, 1999; Millar, 1992; for an exception, see Millar & Millar, 1990; Experiment 1). Predominantly cognitive attitudes appear to be considerably more difficult to change; either when paired with an affective appeal (Millar & Millar, 1990; Experiment 2) or a cognitive appeal (Edwards, 1990).

The objective of this research is to explain these findings. We focus on the potential differences in the structure of affect relative to cognition, whereby predominantly affective attitudes tend to be operationalized in a more unidimensional manner organized along a single abstract evaluative dimension, whereas predominantly cognitive attitudes tend to be operationalized in a more multidimensional manner, based on any number of discrete specific attributes. Thus, cogni-

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tion-based attitudes may be relatively impervious to persuasive appeals because the probability of targeting the specific attribute on which the cognitive attitude is based is smaller.

In Experiment 1, we first conceptually replicate past findings of both congruity and incongruity effects in the context of brand attitudes. We show that brands that evoke predominantly cognitive attitudes are relatively impervious to affective or cognitive persuasion attempts, whereas brands that evoke predominantly affective attitudes are more mutable. This pattern of results is mitigated in Experiment 2 where we create cognitive appeals that take into account the specific belief or attribute on which the cognitive attitude is based. In these conditions, significant persuasion effects are found for cognition-based attitudes, although only in conditions of low cognitive load where the resources available to attend to the appeal are high. Implications for the multicomponent theory of attitudes, as well as more general persuasion effects for attitudes based on affect versus cognition, are discussed.

PERSUASION EFFECTS AND THE MULTICOMPONENT THEORY OF ATTITUDES

The multicomponent theory of attitudes views attitudes as having multiple independent components. These include an affective component (which refers to the feelings, emotions, or drives associated with an attitude object), a cognitive component (which refers to the beliefs, judgments, or thoughts associated with an attitude object), and a conative component (which refers to the primary motivational or behavioral consequences of attitudes). The theory suggests that the simultaneous consideration of these distinct attitudinal components rather than concentration on a single component provides better predictions of persuasion outcomes (e.g., Mayer, Gaschke, Braverman, & Evans, 1992; Murphy & Zajonc, 1993; Wilson, Lisle, Kraft, & Wetzel, 1989). Indeed, the theoretical and practical importance of the multicomponent theory of attitudes lies in its ability to predict persuasion outcomes, notably congruity and incongruity effects (see also Fabrigar & Petty 1999; Petty & Wegener, 1998).

However, a closer review suggests that the evidence is heavily one-sided. In particular, both types of persuasion effects, those based on congruity as well as incongruity, appear to hold mainly in the case of attitudes that are based on affect, but not cognition. Edwards (1990; Experiment 2), for example, manipulated attitude base by asking half of the participants to taste a fictitious brand of soft drink and then read information about the soft drink. The other half did the reverse. Attitudes based on tasting the soft drink were presumed to have a dominant affective base. Attitudes based on reading information about the soft drink were presumed to have a dominant cognitive base. When subsequently exposed to an affective relative to a cognitive persuasive appeal, participants with a predominantly affective base indicated more favorable attitudes. However, no significant effects of appeal type occurred for cognitive attitudes (Edwards, 1990; see also Fabrigar & Petty, 1999; Experiment 1). In other words, affective congruity effects, but not cognitive congruity effects, were found.

Of interest, Millar and Millar (1990), who suggested the opposite pattern—that incongruity rather than congruity between the type of persuasive appeal and attitude base leads to greater attitude change—also found significant persuasion effects for predominantly affective attitudes, but not cognitive attitudes. Rather than manipulating attitude base, Millar and Millar measured participants' attitude base toward preexisting beverages (e.g., Diet Coke, milk, orange juice) to determine whether the attitude was predominantly affective or cognitive. Two months later, participants were asked to read a cognitive or affective advertising appeal. Affective incongruity effects were found, whereby participants with predominantly affective attitudes had more favorable attitudes after exposure to the cognitive than affective appeal. In contrast, no cognitive incongruity effects were found. Participants with a cognitive-based attitude were not differentially persuaded by the affective or cognitive appeal.

Although Millar (1992) parsimoniously explained why Edwards (1990) documented congruity effects, whereas Millar and Millar (1990) documented affective incongruity effects, the subsequent question has not been empirically explored: Why are persuasion effects only found in the domain of affect? Millar demonstrated that individuals with weak attitudes, such as those used in Edwards, are more persuaded by congruent appeals, whereas individuals with strong attitudes, such as those used in Millar and Millar, are more persuaded by incongruent appeals. More important, however, Millar only explored affective attitudes in his study. Persuasion effects relying on cognitive attitudes were not empirically explored. Thus, the question remains, what might explain the difficulty in finding congruity or incongruity effects for predominantly cognitive attitudes?

One explanation for the anomalous results may be due to inherent differences in the structure of affect versus cognition. Specifically, attitudes based on affect tend to have a more unidimensional structure organized along a global evaluative dimension that allows specific attributes to be readily assimilated or discounted (Edwards, 1990; Zajonc, 1980). In contrast, predominantly cognitive attitudes tend to have a more multidimensional structure based on specific attributes. To illustrate, an individual could hold a number of cognitive beliefs about an attitude object (e.g., Ford cars are safe, have good gas mileage, rarely break down). However, affect tends to be a more abstract and global response to the attitude object and so has fewer dimensions (e.g., I like Ford cars). In this way, the number of cognitive beliefs or attributes associated with an attitude object tends to be greater relative to the number of affective responses (Fishbein & Ajzen, 1975).

As a result of these structural differences involving dimensionality, individuals with predominantly cognitive relative to affective attitudes may be relatively impervious to

persuasive appeals. Appeals consisting of specific information about an attitude object (i.e., cognitive appeals) may only be effective to the degree that they directly refute or weaken the specific belief(s) comprising the cognitive attitude. In this light, the multidimensional structure and specific nature of predominantly cognitive attitudes makes them more difficult to target than affective attitudes and thus to change.[1]

Targeting a Cognition: The Role of Attitude Strength and Valence

Two factors may dictate whether directly targeting a specific cognitive belief leads to enhanced persuasion effects. The first factor is attitude strength. Nedungadi, Mitchell, and Berger (1993) distinguished between individuals whose attitudes are not yet formed and those whose attitudes are well-established. As individuals progress through the evaluation process, they are increasingly likely to form specific cognitive beliefs about an attitude object, such as a brand. Therefore, specific brand beliefs are accessible to individuals with well-established attitudes, or those who are experts, to a greater degree than individuals with newly-formed attitudes or those who are novices (Alba & Hutchinson, 1987; Sujan, 1985). Consequently, targeting effects should be strongest in the context of well-established attitudes (Maheswaran & Sternthal, 1990), where specific beliefs have been processed and comprise the cognitive attitude. In contrast, they should be weak, or not occur at all, in the context of newly-formed attitudes where there is nothing specific to target (or mistarget) in memory (Anderson & Bower, 1973).

The second factor is the valence of the established attitude. For individuals who have a positive prior attitude toward an object, targeting specific beliefs highly associated with the attitude object should serve to strengthen the preexisting positive attitude (for a review, see Tesser, Martin, & Mendolia, 1995). Hence, appeals that target the specific belief on which a positive attitude is based should lead to more favorable attitudes (Powell & Fazio, 1984). In contrast, appeals that target the specific belief on which a negative attitude is based should lead to less favorable attitudes because targeting those beliefs will only serve to strengthen the already negative attitude. Instead, targeting another belief, one less related to the attitude object, should be more effective for changing negative attitudes.

Fitzsimons and Morwitz (1996) integrated the research streams on the two factors, attribute strength and valence. Specifically, by asking purchase intention questions, Fitzsimons and Morwitz (1996) increased the accessibility of consumers' attitudes. When attitudes toward a specific brand were well-established and positive, subsequent behavior was more consistent with the valence of the attitude when that attitude was made accessible. For example, current owners of cars whose attitude toward their brand was positive, were more likely to repurchase the brands they currently own when they were asked intent questions than when they were not asked intent questions. First-time car buyers, on the other hand, were more likely to purchase brands with large market shares when they were asked intent questions than when they were not asked intent questions. In the case of current car owners, the process underlying these effects appears to depend on the accessibility of the specific beliefs that form the basis of the positive attitude toward the brand. That is, asking intent questions leads to direct retrieval of the specific positively-valenced cognitive beliefs and increased attitude accessibility (Fazio, Powell, & Williams, 1989), which in turn, guides subsequent behavior (Morwitz, Johnson, & Schmittlein, 1993). For first-time car buyers, measuring intent appears to increase the accessibility of brand names that easily come to mind (e.g., popular brands) and the processing that relates to these brands (Fitzsimons & Morwitz, 1996).

In Experiments 1 and 2, we draw on this research to examine why congruity and incongruity effects occur for brands with predominantly affective, but not cognitive associations. In Experiment 1, we conceptually replicate prior findings in the persuasion literature. However, although past research has documented congruity and incongruity effects by manipulating attitude base at the individual level, we explore congruity and incongruity effects when attitude base is manipulated at the brand level, specifically through brand associations. In doing so, we minimize potential demand effects that may exist when individuals are asked to state the affective or cognitive nature of their own attitude before a manipulation of appeal type, and we also can examine the degree to which attitude structure effects generalize across distinct operationalizations of attitude base. In Experiment 2, we test the premise that predominantly cognitive attitudes tend to be more multidimensional than predominantly affective attitudes and are based on specific brand attributes. Thus, changing cognitive brand attitudes requires consideration of prior attitude strength and valence, as well as the beliefs most highly associated with the attitude object.

EXPERIMENT 1

Method

Hypotheses. In Experiment 1, we test the extent to which attitude structure effects hold for brand attitudes with primarily affective associations, but not cognitive associations. Specifically, for individuals with no prior brand attitude, we predict greater persuasion effects when a brand with affective associations is paired with an affective appeal versus

[1]One implication of this premise is that, if cognitive appeals incorporate the multiple beliefs on which the cognitive attitude is based, the persuasion effects hypothesized to exist may in fact be even stronger. Although testing this premise is beyond the scope of this research, this theoretical question merits addressing in future research.

a cognitive appeal, but that insignificant congruity effects will occur in the case of brands with cognitive associations. For individuals with established brand attitudes, we predict that affective incongruity effects, but not cognitive incongruity effects, will occur. That is, greater persuasion effects will occur when a brand with affective associations is paired with a cognitive appeal versus an affective appeal. However, no significant effects will occur in the case of brands with cognitive associations.

Stimuli development. Pretest 1 was conducted to identify the brands to serve as stimuli. To manipulate the brand association variable, the chosen brands were to have predominantly affective versus cognitive associations. Furthermore, to manipulate attitude strength and enhance external validity, the brands were real and well-known. Finally, to reduce the chance of confounds such as product category effects, two brands in a single product category were selected. Shampoo was chosen as the product category of focus because well-known brands that have predominantly affective or cognitive associations could be identified. Furthermore, persuasion appeals that are highly cognitive, but not affective, and vice versa, could be created in this category. To select the brands, a pretest was conducted where participants ($n = 30$, M age = 22, 45% women) were asked to rate seven brands of shampoo (*Agree*, *Head & Shoulders*, *LA Looks*, *L'Oreal*, *Pantene*, *Vidal Sassoon*, and *Johnson & Johnson Baby*) on four items that assess affective and cognitive associations. Participants rated the brands on affect (1 = *using the brand does not evoke feeling, this brand does not evoke feeling,* and 7 = *using this brand evokes feeling, this brand evokes feeling;* $r = .94$) and cognition (1 = *brand is not functional, logical,* and 7 = *is functional, logical;* $r = .88$; Ratchford, 1987; Schmitt, 1999). Results indicated that *Head & Shoulders* shampoo received the lowest scores on the affective items ($M = 2.85$) and highest on the cognitive items ($M = 3.40$), $F(1, 29) = 3.55$, $p < .05$, whereas *Johnson & Johnson Baby* shampoo scored highest on the affective items ($M = 3.99$) and lowest on the cognitive items ($M = 2.86$), $F(1, 29) = 5.78$, $p < .01$. Furthermore, levels of awareness for both brands were high (100%) among the pretest sample. Finally, the two brands did not differ in overall measures of liking based on ratings on three items using a 7-point scale (bad–good, not at all likable–likable, and unfavorable–favorable, $\alpha = .93$; $F < 1$).

Pretest 2 was conducted to create the persuasion appeal manipulation. To enhance external validity, positively-valenced persuasive appeals were created.[2] To decrease the possibility that other variables (e.g., advertisement likability or credibility) might be responsible for the pattern of effects, and allow for a conceptual replication of past research documenting congruity and incongruity effects, we relied on the manipulation used in Millar and Tesser (1986, 1989), which employed a simple change of the words, "know" versus "feel," to alter the nature of the appeal. Participants ($n = 84$; M age = 21, 50% women) read the proposed advertising slogans, "Head & Shoulders [Johnson & Johnson Baby] Shampoo for your hair—You'll *know* [*feel*] how clean it is!" and then rated the extent to which they *strongly disagreed* ("1") or *strongly agreed* ("7") with the following statements: "This advertisement made me focus on my thoughts about the brand" (cognitive appeal); "This advertisement made me focus on my feelings about the brand" (affective appeal); "This advertisement was directed at making me think something about the brand" (cognitive appeal); and "This advertisement is directed at making me feel something about the brand" (affective appeal). An analysis of variance (ANOVA) yielded a significant effect for appeal type, whereby the cognitive appeal ($M = 4.59$) relative to the affective appeal ($M = 3.87$) was rated higher on the cognitive items, $r = .90$, $F(1, 83) = 3.09$, $p < .05$. In contrast, the affective appeal ($M = 4.95$) relative to the cognitive appeal ($M = 4.08$) was rated higher on the affective items, $r = .83$, $F(1, 83) = 6.55$, $p < .01$.

Participants and procedure. Participants were undergraduate students recruited through e-mail and a university newspaper advertisement. The notice invited individuals to participate in an advertising study for $5. To participate, they were asked to return a hard copy of a questionnaire entitled "Background Information" in which they were asked whether they used 20 well-known brands; 18 were filler brands and two were the target brands (*Head & Shoulders* shampoo and *Johnson & Johnson Baby* shampoo). In addition, they were asked to respond "yes" or "no" when asked whether they had an opinion about each of the brands. If they responded "yes," they were asked to rate their attitude toward the brand using 7-point scales on the three items anchored by bad–good, not at all likable–likable, and unfavorable–favorable.[3]

Based on the background information, two groups of participants were invited to take part in the experiment: those who reported having no opinion of the brand and those who reported having an unfavorable opinion of the brand, *Head & Shoulders* shampoo (or *Johnson & Johnson Baby* shampoo; $MS < 4.00$). This selection process eliminated 43 individuals who completed the Background Information questionnaire. The remaining participants ($n = 103$, M age = 29.1, 40% women) were divided into four groups:

1. No opinion about *Head & Shoulders* shampoo (i.e., no prior attitude, cognitive brand associations).

[2]Accordingly, to remain consistent with past research on congruity and incongruity effects that examines counterattitudinal persuasion, we focus on consumers pre-identified to have negative attitudes toward the brand.

[3]None of the participants who indicated that they had "no opinion" rated the subsequent attitude measures.

2. No opinion about *Johnson & Johnson Baby* shampoo (i.e., no prior attitude, affective brand associations).
3. Prior unfavorable opinion about *Head & Shoulders* shampoo (i.e., established prior attitude, cognitive brand associations).
4. Prior unfavorable opinion about *Johnson & Johnson Baby* shampoo (i.e., established prior attitude, affective brand associations).

No participant was assigned to more than one group. Participants (approximately half) that fell into more than one group were randomly assigned to a group.

Two weeks later, participants in each group were recontacted and invited to take part in a study in which they would read an advertisement for a brand of shampoo. Participants were told that because this was the first phase of advertising research, they would see only an advertising slogan for an existing brand on the market and then they would be asked questions about the brand and its advertising. Depending on their group, participants were presented with the brand association manipulation. Participants in the cognitive association conditions received *Head & Shoulders* shampoo. Participants in the affective association conditions received *Johnson & Johnson Baby* shampoo. Then all participants read the persuasive appeal manipulation: an advertisement that had either a cognitive or affective appeal based on altering one word in the advertising slogan–that is, "*Head & Shoulders* (*Johnson & Johnson Baby*) shampoo for your hair—You'll *feel* (*know*) how clean it is!" Finally, attitude toward the brand measures, manipulation checks, and demographic information were collected, and participants were debriefed and excused.

RESULTS

The hypotheses were tested based on a 2 (Prior Attitude: none versus established) × 2 (Brand Associations: affective versus cognitive) × 2 (Appeal Type: affective versus cognitive) between-subject ANOVA.

Manipulation Checks

The four items comprising the appeal-type manipulation checks (i.e., "This advertisement made me focus on my thoughts about the brand;" "This advertisement was directed at making me think something about the brand;" "This advertisement made me focus on my feelings about the brand;" and "This advertisement is directed at making me feel something about the brand") supported two factors: the first two comprised the Cognitive Appeal Index ($r = .82$), and the latter two comprised the Affective Appeal Index ($r = .74$). An overall 2 × 2 × 2 ANOVA run on the Cognitive Appeal Index yielded two significant effects. A main effect of appeal type showed that the cognitive ($M = 4.04$) relative to the affective ($M = 3.00$) appeal was rated higher on the Cognitive Appeal Index, $F(1, 95) = 12.55$, $p < .001$. There was also a main effect of prior attitude, where participants with established prior attitudes ($M = 3.92$) rated the appeals higher on the Cognitive Appeal Index than did the participants with no prior attitudes ($M = 3.12$), $F(1, 95) = 6.23$, $p < .01$, which is consistent with the research on consumer knowledge (Maheswaran & Sternthal, 1990). The same overall 2 × 2 × 2 ANOVA was run on the Affective Appeal Index. Participants rated the affective appeal relative to the cognitive appeal marginally higher on the Affective Appeal Index ($M = 4.22$ vs. 3.81), $F(1, 95) = 3.17$; $p < .07$. No other effects were significant.

Attitudes

To test hypotheses, the overall 2 × 2 × 2 ANOVA was run on attitude toward the brand (Abrand), measured based on an averaging of 7-point ratings of three items: bad–good, dislike–like, and unfavorable–favorable ($\alpha = .95$). The ANOVA yielded a significant main effect for prior attitude, $F(1, 94) = 5.50$, $p < .05$, whereby more favorable attitudes were found in the no prior attitude condition than in the established prior attitude condition ($M = 4.65$ vs. 4.26). The two-way interaction between prior attitude and appeal type was also significant, $F(1, 94) = 5.50$, $p < .05$. For participants with no prior attitude, the affective appeal lead to more favorable attitudes ($M = 4.91$) compared to participants with an established negative prior attitude ($M = 3.66$), $F(1, 94) = 2.91$, $p < .01$. Conversely, in the cognitive appeal condition, no such difference was found for individuals with no prior attitudes ($M = 4.35$) and individuals with an established prior negative attitude ($M = 4.51$; $F < 1$).

More important, these results were qualified by a significant three-way interaction between prior attitude, attitude base, and persuasion appeal, $F(1, 94) = 18.23$, $p < .001$. To understand the nature of the interaction and test the hypotheses, follow-up contrasts were run. For participants with no prior attitude, there was a significant two-way interaction between brand associations and appeal type, $F(1, 47) = 6.29$, $p < .02$. Planned contrasts demonstrated significant affective congruity effects, as predicted. Specifically, the attitudes toward the brand with predominant affective associations were more favorable in the affective persuasion appeal condition ($M = 5.82$) relative to the cognitive persuasion appeal condition ($M = 4.35$), $t(47) = 3.00$, $p < .001$. Furthermore, the attitudes toward the brand with predominant cognitive associations did not differ in the cognitive persuasion appeal condition ($M = 4.36$) relative to the affective persuasion appeal condition ($M = 4.00$), $t(47) = .69$, $p = .49$.

For participants who reported a negative prior attitude, there was a significant two-way interaction between brand associations and appeal type, $F(1, 47) = 11.92$, $p < .001$. Contrasts showed that attitudes toward the brand with predominantly affective associations were more favorable in the

cognitive persuasion appeal condition ($M = 5.85$) relative to the affective persuasion appeal condition ($M = 3.38$), $t(47) = 3.89$, $p < .001$. In contrast, the attitudes toward the brand with predominantly cognitive associations did not differ in the cognitive persuasion appeal condition ($M = 3.16$) relative to the affective persuasion appeal condition ($M = 3.94$), $t(47) = 1.12$, $p = .26$. See Table 1 for means.

DISCUSSION

The results of Experiment 1 are consistent with those reported in the attitude structure literature. For brands with predominant affective associations, congruity or incongruity effects occurred depending on whether a prior attitude was established (Millar, 1992). In contrast, no effects for cognitive attitudes were found. Thus, a similar pattern of results was found when the construct of focus was aggregate-level brand associations rather than individual-level attitude base. Specifically, affective congruity and incongruity effects were found when brand associations were manipulated as when attitude base is manipulated (e.g., Edwards, 1990; Millar & Millar, 1990). These results also directly address an empirical question raised by Millar (1992) and Fabrigar and Petty (1999): When attitude strength is taken into consideration in a single experiment, do cognitive persuasion effects occur? These findings suggest that the answer may be no. The question is why.

The premise on which Experiment 1 is based suggests that individuals with predominantly cognitive attitudes may be relatively impervious to persuasive appeals due, at least in part, to the specific nature of cognitive attitudes. Therefore, persuasion appeals consisting of specific information about an attitude object may only be effective to the degree that the information directly refutes or weakens the specific belief(s) comprising the cognitive attitude. If true, identifying the specific beliefs on which a cognitive attitude is based (termed here *targeted* information) may shed light on conditions under which it may be changed (Fitzsimons & Morwitz, 1996). Furthermore, identifying specific beliefs that are not highly associated with the cognitive attitude (*mistargeted* information) may also shed light on processes of attitude change. More favorable attitudes should occur when the persuasion appeal mistargets versus targets specific attributes highly associated with the brand. Targeting attributes should only serve to strengthen the preexisting negative attitudes of individuals. In contrast, mistargeting, or focusing on unrelated attributes or traits in the appeal, should create relatively new and more positive associations with the brand (Anderson & Bower, 1973), and thereby increase the favorability of previously negative attitudes.

However, it should be noted that the process highlighted earlier is one that requires cognitive processing capacity. That is, we contend that individuals attend to the attributes in the appeal, assess the degree to which the attributes in the appeals are mistargeted (or targeted), and then change (or do not change) their preexisting negative attitude. Greater confidence in this process may therefore be gained by manipulating the degree to which individuals have the capacity to attend to the attributes in the appeal. The predictions should hold only in conditions where the capacity to attend to the attributes in the appeals is high. In conditions where the capacity is lowered, these effects should be eliminated because individuals should have less access to the attribute-based associations.

In support, Gilbert, Pelham, and Krull (1988) showed that the ability to use information is disabled in conditions of high cognitive constraint (e.g., high cognitive load where individuals are given dual tasks) in contrast to conditions of low cognitive constraint (e.g., low cognitive load where individuals are given only a single task). Furthermore, the decreased capacity to utilize information affects subsequently-formed attitudes and behavior. Ward and Mann (2000), for example, demonstrated that cognitive load prevents individuals from using information regarding the dietary consequences of eating behavior, thereby disinhibiting food consumption. In a consumer context, Campbell and Kirmani (2000) showed that cognitive load reduces the ability of consumers to use persuasion knowledge information, which in turn affects salesperson evaluations. And, Drolet and Simonson (2001) found that cognitive load decreases the amount of product attribute information that consumers process and rely on in preference formation and choice.

In light of this research, these findings suggest that persuasion appeals may influence cognitive-based attitudes when the specific beliefs on which the attitude is based are taken into account, but, more important, that these effects should only occur when the capacity to process the information in the appeal is high. Experiment 2 is conducted to test this premise, and in doing so seeks to provide greater confidence of the process underlying the predicted attitudinal effects.

EXPERIMENT 2

Method

Hypotheses. In Experiment 2, we examine whether persuasion effects will occur for cognitive brand attitudes when a persuasive appeal targets versus mistargets a specific cognitive belief that is strongly associated with the cognitive attitude. We identify consumers with a prior negative attitude toward a brand with predominantly cognitive associations, and then manipulate the targetedness of the persuasion appeal to examine its effect on brand attitudes. More favorable attitudes are expected to occur when the persuasion appeal mistargets versus targets specific attributes highly associated with the brand, but only under conditions of low cognitive load when individuals have the capacity to attend to and process the attributes in the appeals.

TABLE 1
Experiment 1: Attitude Means (and Standard Deviations) as a Function of Appeal Type, Prior Attitude, and Brand Associations

	Brand With Affective Associations (Johnson & Johnson Baby shampoo)								*Brand With Cognitive Associations (Head & Shoulders shampoo)*							
	Affective Appeal				*Cognitive Appeal*				*Affective Appeal*				*Cognitive Appeal*			
	No Prior Attitude		*Prior Attitude*		*No Prior Attitude*		*Prior Attitude*		*No Prior Attitude*		*Prior Attitude*		*No Prior Attitude*		*Prior Attitude*	
Brand Type: Dependent Measure	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Abrand	5.85	1.87	3.38	2.03	4.35	1.33	5.85	1.84	4.00	0.68	3.94	1.29	4.36	0.77	3.16	1.15

Note. Abrand = attitude toward the brand. Higher means indicate more positive attitudes (n ranges from 11 to 15 in each cell).

Stimulus material. In contrast to Experiment 1, where we manipulate appeal type at a general level by varying the words "think" and "feel" (Millar & Tesser, 1986, 1989), in Experiment 2 we manipulate appeal type at a specific level by varying the targetedness of the appeal. This was accomplished by identifying attributes strongly associated with the brand (target condition) and those less associated with the brand (mistarget condition). To identify the targetedness manipulation, a pretest (n = 12; M age = 21, 50% women) was conducted whereby participants were asked to rate the extent to which *Head & Shoulders* shampoo could be described by a set of 10 product attributes, which included dandruff control attribute ("fewer flakes"), as well as nine other attributes collected from shampoo advertisements, packages, and Web sites (e.g., promotes shiny hair, moisturizing, expensive, healthy, drying). The pretest results indicated that the three cognitive attributes that best described *Head & Shoulders* shampoo were healthy, less drying, and fewer flakes[4]; these three attributes thus comprised the targeted appeal (M = 5.50). The cognitive attributes that scored the lowest on this criteria were shiny, radiant, and luminous (M = 3.35), $t(11) = 5.98$, $p < .001$; these three attributes comprised the mistargeted appeal.

Finally, a second pretest was conducted to ensure that the cognitive attributes that would comprise the targeted and mistargeted appeal conditions were equally liked. An independent set of participants (n = 10; M age = 23, 50% women) were asked to rate their liking for a shampoo (no brand name given) that was described as either: (a) shiny, radiant and luminous, or (b) healthy, less drying, and fewer flakes (good–bad, not all likable–likable, or favorable–unfavorable; r = .90). The shampoo description involving the cognitive attributes that would comprise the mistargeted appeal condition (M = 3.79) was equally liked as that which comprised the targeted appeal condition (M = 4.24; $F < 1$).

Participants and procedure. The same procedure outlined in Experiment 1 was followed in Experiment 2. Forty-eight participants (M age = 23, 55% women), who were identified 2 weeks prior to the main study as having an unfavorable prior attitude toward *Head & Shoulders* shampoo, participated for $5. Half of the participants then received the high cognitive load condition manipulation where they were given 2 min to memorize a set of 20 words in anticipation of a recognition memory test. After the 2 min, they were then exposed to the appeal type manipulations (for related dual-task procedures, see Britton & Tesser, 1982; Ward & Mann, 2000). The other half of the participants in the low cognitive load condition were told simply that the task would involve reading the appeals, and then responding to a set of questions. Specifically, participants read one of the following sets of persuasion appeals: "*Head & Shoulders* shampoo: Knowing your hair is healthy, less dry, and has fewer flakes" (targeted appeal) versus "*Head & Shoulders* shampoo: Knowing your hair is shiny, radiant, and luminous" (mistargeted appeal). All participants completed the targeted manipulation checks on 7-point scales and demographic information, were debriefed, and thanked. Finally, participants in the load condition were also asked to recall as many of the 20 words as possible.

RESULTS

The hypotheses were tested using a 2 (Appeal Type: target versus mistarget) × 2 (Cognitive Load: low versus high) between-subject ANOVA.

Manipulation Checks

A manipulation check was included to assess perceptions of the targetedness of the persuasive appeal. Specifically, par-

[4]It should be noted that an independent pretest (n = 10; M age = 28, 60% women) was conducted to complement the closed-ended responses that were the focus in the first pretest. In an open-ended question, participants were asked to name the first attribute that came to mind when they thought of *Head & Shoulders* shampoo. For 100% of these participants, dandruff control (e.g., "reduces the chance of dandruff," "fewer flakes") was the attribute that first came to mind.

ticipants rated the degree to which the advertisement was consistent with their impressions of the brand, as well as the degree to which it was congruent with their impressions of the brand (1 = *not at all,* 7 = *very*). Averaged, the two items created a Targetedness Index (r = .93). A 2 × 2 ANOVA found a significant interaction, $F(3, 44) = 6.43$, $p < .01$. Simple effects analysis shows that, as expected, participants in low load condition rated the mistargeted persuasion appeal lower on the Targetedness Index than the targeted appeal (M = 3.25 vs. 6.00), $t(22) = 18.70$, $p < .01$. In contrast, participants in the high load condition did not report significant differences in targetedness of the appeals (M = 3.30 vs. 3.54), $t(24) < .10$, $p < .76$.

Attitudes

The overall 2 × 2 ANOVA on the 3-item measure for brand attitudes (α = .90) yielded a significant main effect for appeal type, $F(3, 44) = 9.20$, $p < .01$, whereby the mistargeted appeals (M = 4.20) were preferred to targeted appeals (M = 3.02). Furthermore, there was a marginally significant main effect of cognitive load, $F(3, 44) = 3.67$, $p < .06$, whereby attitudes were more favorable in the low load (M = 3.98) versus high load (M = 3.24) conditions. These main effects were qualified by a marginal interactive effect of appeal type and cognitive load, $F(3, 44) = 3.13$, $p < .08$.[5] Planned contrasts were run (Aiken & West, 1991) and showed support for the predictions. In the low load condition, the mistargeted appeal (M = 4.91) was significantly preferred to the targeted appeal (M = 3.05), $t(44) = 3.33$, $p < .01$, for the participants with negative prior attitudes. In the high load conditions, this effect was reduced. There was no difference in attitudes toward the mistargeted appeal (M = 3.49) and the targeted appeal (M = 3.00), $t(44) = .91$, $p = .38$, for the participants with negative prior attitudes.[6]

[5]The pattern of results was identical when change in attitude (i.e., attitude measured in Time 2 subtracted from that measured at Time 1) was analyzed as the dependent variable.

[6]To gain additional insight into the attitudinal effects based on exposure to the targeted persuasive appeal relative to those based on exposure to the more general cognitive appeal, (Experiment 1; *Head & Shoulders* shampoo for your hair—You'll know how clean it is!"), the general cognitive appeal was rerun as a separate between-subject control condition for Experiment 2. An additional set of participants (n = 11, mean age = 21, 55% female) received the general cognitive control appeal in the low load condition (where they were asked directly their attitudes after exposure to the appeal). These participants had marginally less favorable attitudes (M = 3.97) than those in the mistargeted appeal condition (M = 4.91), $t(69) = 1.81$, $p < .08$, and marginally more favorable attitudes than those in the targeted condition (M = 3.06), $t(69) = 1.80$, $p < .08$. This pattern of findings is consistent with the premise that changing preexisting negative attitudes that are predominantly cognitive may be more effectively done by taking into account the specific cognitive beliefs on which the cognitive attitude is based.

DISCUSSION

The results of Experiment 2 support the premise that mistargeted appeals are more effective at changing negative cognitive-based attitudes toward the brand than targeted appeals. In brief, negative attitudes became more favorable after exposure to appeals that contained specific cognitive attributes that were not highly associated with the brand. In the case of negatively-valenced attitudes toward the brand (*Head & Shoulders* shampoo), the set of specific cognitive beliefs or attributes most highly associated with the brand are likely to be seen as negative. Consequently, targeting a different set of attributes that have a weaker association with the brand (e.g., shiny, radiant, and luminous) lead to more favorable attitudes. However, these results were found only under conditions of low cognitive load where individuals had the capacity to attend to and process the specific information in the appeal. In conditions where individuals had a lowered capacity to process the attribute-based associations in the appeal, the persuasion effects were eliminated.

GENERAL DISCUSSION

This research examines the anomalous results found in the attitude structure effect literature (Celuch & Slama, 1993; Fabrigar & Petty, 1999; Millar, 1992). Replicating past findings (Edwards, 1990), we document congruity and incongruity effects for brands with predominantly affective, but not cognitive associations in Experiment 1. Experiment 2 tests the premise that predominantly cognitive attitudes tend to be more multidimensional than predominantly affective attitudes and based on specific brand attributes. Accordingly, changing cognitively-based brand attitudes requires consideration of prior attitude strength and valence, as well as the beliefs most highly associated with the attitude object. In support, persuasive appeals that mistarget specific beliefs of cognitive attitudes are significantly more effective at improving attitudes than targeted appeals (or nontargeted appeals, i.e., general appeals that rely on "think" and not specific attribute information) for individuals with negative established attitudes. However, these effects only occur in low cognitive load conditions where individuals have the resources to attend to and process the appeal.

These results suggest several interesting implications. Most important, the results are consistent with Edwards's (1990) untested notion that different structures underlying predominantly cognitive versus affective attitudes may account for the difficulty in finding symmetric persuasion effects when exposed to cognitive or affective appeals. In particular, the findings imply that, for predominantly cognitive attitudes, the effectiveness of persuasive appeals depends on the degree to which appeals target or mistarget specific cognitive beliefs highly associated with a brand. Relative to mistargeted appeals, targeted appeals appear to reinforce neg-

ative attitudes. Additional exploration of this finding may shed light on the mechanism underlying the negative attitudes in the general appeal versus targeted appeal conditions. We suggest that, in Experiment 1, the general appeals may have been inadvertently activated, and thereby reinforced salient negative existing beliefs (general cognitive appeal) or feelings (general affective appeal) on which attitudes were based. The effect of targeted appeals (Experiment 2) is less inadvertent, and in this way targeted appeals are more likely to reify negative attitudes. By measuring the specific thoughts and feelings that negatively-minded consumers have in response to targeted and general appeals, we may gain deeper insight to the underlying process by which these appeals lead to negative attitudes.

Indeed, the results suggest other areas of future research as well. Notably, this research focused on attitude change when prior attitudes were negatively-valenced. However, the extent to which the mistargeting and targeting effects have similar effects in case of prior established *positive* attitudes may also be explored. For example, if the cognitive attribute most strongly associated with the attitude object (e.g., "no flakes") is perceived favorably rather than unfavorably, individuals with a prior established attitude toward the brand may have more favorable attitudes in conditions of targeted appeals relative to mistargeted appeals. An initial follow-up study (n = 15) provides some support for this premise. Specifically, individuals who were pre-identified to have a positive prior attitude toward *Head & Shoulders* shampoo reported more favorable brand attitudes when exposed to the targeted persuasive appeal ($M = 5.67$) than the mistargeted appeal ($M = 4.73$), $p < .10$. Additional research is needed to explore more deeply the mechanism underlying these effects.

Furthermore, this research raises the question, to what degree may affective attitudes benefit from the targetedness in a persuasive appeal? One premise in this research is that cognition, relative to affect, tends to be more multidimensional and specific. Although this premise may be true, it does not preclude the possibility of enhanced persuasion effects if persuasion appeals target a specific affect type. One way to examine this question is by focusing on specific emotion types, such as warmth, excitement, and pride (e.g., Aaker & Williams, 1998; Edell & Burke, 1987). To the extent that these emotion types are more specific than general evaluation or feelings of liking (Frijda, 1986), targeting and mistargeting effects may also be found in the domain of affect. This possibility may be tested, for example, by identifying brands with strong associations with a single specific emotion (e.g., Hallmark and warmth, MTV and excitement), and then manipulating the type of emotion conveyed in a persuasion appeal (e.g., warm, exciting). This research would suggest that more favorable persuasion effects may occur if individuals with prior negative attitudes toward Hallmark, for example, were exposed to an exciting emotional appeal than *to* a warm emotional appeal.

A final direction of future research lies in exploring how attitudes that are both highly affective and cognitive may be changed, as well as the dynamic nature of affect and cognition. For example, how do specific affect types and cognitive beliefs relate? In a set of experiments, Calder and Gruder (1989) addressed part of this question by manipulating through hypnosis specific types of affect, making participants experience either anger or disgust. Participants were then exposed to a set of cognitions regarding an unknown local restaurant. These cognitions were primarily anger-based (e.g., "Just as the entrees were served, a passing waiter hit the side of my head a glancing blow with a tray") versus disgust-based (e.g., "Our table was located so that every time the kitchen door opened, we had a clear view of the dishwasher scraping plates into a garbage can"). They found that when the anger emotion was activated and the anger (vs. disgust) cognitions were processed, more negative attitudes resulted. The opposite pattern occurred for the disgust emotion. In other words, in the context of newly formed attitudes, Calder and Gruder (1989) documented a congruity effect between the specific affect types and cognitive beliefs. One interpretation of these results is that specific cognitive beliefs relate more to certain affect types than others. To illustrate, specific cognitions (e.g., "is effective for baby's hair") associated with different shampoo brands (e.g., *Johnson & Johnson Baby* shampoo) may relate more to specific affect types than others (e.g., warmth versus excitement). Taken together, these results suggest that the interplay between affective and cognitive attitudinal components in persuasion processes may follow a similar process as that outlined in Experiment 1.

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