Cognitive and Affective Components of A_{ad} in a Low Motivation Processing Set

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ABSTRACT

It was hypothesized that for television ads the cognitive and affective components of A_{ad} would predict brand attitude in a low motivation processing set, and that the relative influence of the components would be a function of ad execution format. These hypotheses were supported, and it was found that the program context had little influence on the relationships. © 1995 John Wiley & Sons, Inc.

The effectiveness of an advertisement in influencing brand attitudes and consequent purchase decisions is often a function of the audience's attitude toward the advertisement (A_{ad}). A_{ad} has been widely studied with regard to how it mediates the process of brand attitude formation and with respect to its potential antecedents. Previous research on the "dual mediation hypothesis" (MacKenzie & Lutz, 1989; MacKenzie, Lutz, & Belch, 1986) has shown that A_{ad} influences brand attitudes (A_b) regardless of the audience's level of involvement with the message (message involvement) or their level of involvement with the executional elements of the ad (executional involvement, Homer, 1990;

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MacKenzie & Lutz, 1989; Muehling, Laczniak, & Stoltman, 1991). Recently research has also shown that decomposing A_{ad} into cognitive and affective components as suggested by Shimp (1981) can yield greater understanding of how A_{ad} influences A_b (Burton & Lichtenstein, 1988). The purpose of this research is to examine how different ad executional formats (informational and combined informational/image) may work through different components of A_{ad} (cognitive and affective) to influence A_b when the motivation to process ad information is low.

Decomposing the A_{ad} Measure

Most researchers have measured A_{ad} as a unidimensional concept using single-item or summative scales that capture evaluations of and/or affective reactions to the advertisement (Burton & Lichtenstein, 1988). There is increasing evidence that treating A_{ad} as a multidimensional concept can be useful in understanding the processes determining advertising effectiveness. Burton and Lichtenstein (1988) found that decomposing A_{ad} into cognitive evaluations of the ad and affective reactions to the ad resulted in better prediction of attitudes toward an advertised price deal (which was a measure of advertising effectiveness in their study) than did using a unidimensional measure of A_{ad}. Their research showed that price information that required cognitive processing influenced A_{ad}, particularly through the cognitive component of A_{ad}. Therefore, it would seem to be a mistake to assume that a unidimensional measure of A_{ad} could capture the full impact of differing types of ad information (cognitive and affective) on A_{ad}.

Madden, Allen, & Twible (1988) also divided the A_{ad} measure into multiple dimensions. Similar to Burton and Lichtenstein (1988) they made the distinction between cognitive and affective reactions to advertisements. However, they further distinguished between cognitive evaluations of the ad's execution (e.g., the ad was likable/unlikable, interesting/boring) and affective reactions that occurred during the ad (e.g., the ad made me feel cheerful, calm etc). They found that cognitive responses and cognitive evaluations of humorous ads behaved differently from affective reactions to humorous ads when processing sets were varied.

Miniard, Bhatla, & Rose (1990) decomposed A_{ad} into claim-oriented and nonclaim-oriented components. They found that for subjects with high involvement, brand cognitions and attitudes were driven only by the claim component of A_{ad}, whereas for subjects with low involvement, brand cognitions and attitudes were driven by both the claim and nonclaim components of A_{ad}. They also found that picture manipulations impacted the nonclaim component of A_{ad} and claim manipulations influenced the claim component of A_{ad}.

A_{ad} Components and Ad Execution

In these studies, which have decomposed A_{ad}, two major findings emerge. First, better prediction of advertising effectiveness occurs and second, different ad executional elements affect different components of A_{ad}.

It seems that different ad executional elements work through different components of A_{ad} to influence advertising effectiveness and that these relationships may be influenced by the ad processing set. If this proposition is correct an informational (cognitive) appeal should work through the cognitive component of A_{ad} to influence brand attitude (A_b) and a combined image/informational (cognitive and affective) oriented appeal should work through both the cognitive and affective components of A_{ad} to influence A_b. These relationships may, however, be subject to the influence of the processing set.

Low Motivation Processing Sets

In an attempt to integrate the diverse findings on advertising information processing, MacInnis and Jaworski (1988) have suggested six levels of information processing that vary with respect to the audience's motivation (sometimes referred to as involvement) to process brand information. When motivation to process an advertisement is low, but the audience is not distracted by a secondary task, heuristic evaluation is thought to take place. This condition is a common natural advertising setting.

When heuristic processing occurs salient ad cues should influence brand attitudes. Both cognitive and affective ad cues could be influential, depending on whether utilitarian or value expressive needs are relevant. According to MacInnis and Jaworski (1988) ad cues concerning the comprehensibility of the ad or ad cues creating certain emotional responses will be used as heuristics in forming brand evaluations. These ad cues should be captured in the components of A_{ad} and should be the dominant influence on A_b rather than brand attribute based beliefs. Thus, it is expected that the cognitive and affective components of A_{ad} will have greater influence on overall brand attitude than cognitive responses regarding the brand and its attributes (termed brand cognitions, C_b, by MacKenzie & Lutz, 1989).

Support for this idea comes from previous research, which has found that when message involvement is low, unidimensional measures of A_{ad} dominate C_b in influencing A_b (MacKenzie & Lutz, 1989; Muehling et al., 1991). Furthermore, Park and Young (1986) have found that under most conditions (including high affective involvement and low involvement) A_{ad} is dominant to a brand-beliefs-based model of attitude formation in predicting A_b.

Therefore in a low to moderate motivation processing situation (a relatively common natural setting) the components of A_{ad} should have a stronger influence on A_b than C_b. In addition, it is expected that the cognitive component of A_{ad} should best predict A_b for informational appeals, and for combined appeals the cognitive and affective components of A_{ad} should both predict A_b better than C_b.

Context Effects

It is also possible that the nature of the surrounding program material could influence the processing of ad information. McClung, Park, and Sauer (1985) propose a congruity hypothesis specifying that when *cognitive or affective program involvement* exist with *cognitive or affective ad involvement* (respectively) brand attitudes will be more favorably influenced (because of priming effects) than when incongruity between the types of involvement exists. McClung et al. (1985) expect that the congruity effect will be strongest for moderate levels of program involvement combined with high levels of ad involvement. However, it is possible that program material may also influence ad processing when motivation to process the ad is low to moderate (MacKenzie & Lutz, 1989). Therefore, the test ads in this research were embedded in informational (cognitive) and image (affective) program types to examine how the advertising context might impact the influence of the A_{ad} components and C_b on A_b. This was done to determine if context effects might influence the mediating effects of the A_{ad} components. Given the inconclusive previous literature, no hypothesis was made regarding whether the congruity effect would occur.

Research Hypotheses

The current research was designed to test the following hypotheses.

- **H1:** C_b will have an insignificant influence on A_b for low motivation processing.
- **H2:** The cognitive component of A_{ad} will have a significant influence on A_b for informational ads.
- **H3:** The cognitive and affective components of A_{ad} will both have a significant influence on A_b for combined information/image appeals.

METHOD

Subjects

A total of 148 students enrolled in business classes at a large midwestern university participated in this study. A pretest involved 51 students, and 97 students were involved in the main experiment. A

student sample was viewed as appropriate, given the theoretical nature of the research. Further, as noted by Calder, Phillips, and Tybout (1981), the homogeneity of students increases the statistical power of tests of hypothesized relationships.

Pretest

A pretest was used as a means of selecting the product category to be represented in stimulus ads. A measure used by the advertising industry that operationalizes the level of involvement in a purchase decision as well as the nature of the decision (think/feel) (Ratchford, 1987) was used for this purpose. Based on the results of the pretest, a briefcase was selected. Decision making regarding this product category was viewed by students as moderately involving ($M = 13.7$, scale range 3–21), and balanced between thinking and feeling ($M = 20.9$, scale range 5–35). Thus, the product category appeared to be relevant to the target audience while lending itself equally to informational as well as image advertising appeals.

Procedure

The main experiment employed a 2 (program type: informational or image) $\times$ 2 (ad type: informational or combined informational/image) factorial design in which subjects were randomly assigned to one of the four conditions. Subjects were tested in small groups, a viewing context which is not atypical for this audience. Individuals were read a cover story explaining that they were participating in research related to the development of new measurement instruments. Subjects were told that the study would involve watching a program clip with a semifinished commercial embedded at the end. Next, they were provided instructions for completing the measures. Subjects were then exposed to one of the stimulus ad/program conditions and, following exposure, asked to complete a measurement packet. Finally, after completing the measures, subjects were debriefed and had their names verified for awarding extra credit points for participation.

Stimulus Materials

Stimulus materials for the study consisted of 30-second ads embedded in 10–15-minute program segments. Ads for a fictitious brand of briefcase (the Johnson Image 100) were created. A nonexistent brand was utilized in order to minimize any attitudinal contamination that could occur by using an existing brand. A straight informational ad and a combined informational/image-oriented ad were developed for the same fictitious brand of briefcase. Both ad types contained the same attribute information (i.e., attractively styled, sturdy, and spacious).

The straight informational ad shows a close-up of the briefcase with a voice-over providing the attribute information. In the combined informational/image ad, the attribute information is integrated within the context of a male/female student interaction in which the female compliments the male on his "professional look" (which includes the briefcase).

Based on the results of earlier research in which student perceptions regarding the content of six program segments had been assessed, two programs were selected for use in the present study. A segment of 20-20 ("Shopping in the USSR") was chosen to represent an informational program environment. An episode of the Cosby Show was chosen to represent a more image-oriented program environment. The program takes place within a family context and involves characters dealing with schoolwork and dating issues. All ads were erased from the programs and one stimulus ad embedded at the end of a program in accordance with design conditions.

Measures

The measurement packet contained assessments of overall brand attitude, cognitive responses, cognitive A_{ad}, affective A_{ad}, and manipulation checks related to the program and the ad. Measures appeared in the same order as noted above and, except for the cognitive response model, involved scale items. *Overall brand attitude* was assessed via three, 7-point semantic-differential-like evaluative adjectives (MacKenzie & Lutz, 1989). A thought elicitation procedure reported in MacKenzie and Lutz (1989) was used to capture *cognitive responses* generated while watching the ad. In accordance with the coding scheme outlined in Laczniak, Muehling, and Grossbart (1989), subject responses were categorized by trained coders as message, brand, product, ad related, or other. Further, responses were also assessed as to their evaluative valence (positive, negative, or neutral). Three 9-point semantic-differential-type items—informative, believable, and convincing (positive endpoints) and warmhearted, pleasant, and attractive (positive endpoints)—were used to measure *cognitive* and *affective* A_{ad}, respectively (adapted from Burton & Lichtenstein, 1988).

Manipulation checks involved measuring perceptions of the program and ad executions. *Program involvement* was examined through the use of four 7-point items [attention getting, boring (reverse scored), stimulating, and interesting] scaled "not at all" to "very." Perceptions of program and ad content were assessed via scales adapted from Stanford (1984) and Schlinger (1979). Specifically, perceived *information content* was measured by three items

1. I learned information from the program (commercial).
2. The program (commercial) was informative.

3. The program contained information that is relevant to current events/topics (the commercial contained product-relevant information).

Perceived *image orientation* was measured by four items:

1. Aspects of the program (commercial) were attractive to me.
2. I could personally relate to aspects of the program (commercial).
3. I felt as though I was right there in the program (commercial).
4. The program (commercial) portrayed the way people feel at times.

The above items utilized 7-point scales with endpoints strongly disagree/strongly agree.

RESULTS

Reliabilities

Cronbach's coefficient alpha was used to assess the internal consistency of the multiple-item measures used in the study. The dependent variable measure, A_b, was found to be quite reliable (0.93). Internal consistency estimates for independent variable measures ranged from 0.77 (cognitive A_{ad}) to 0.86 (affective A_{ad}). Last, manipulation check estimates ranged from 0.74 (ad informational content) to 0.88 (program informational content). Overall, the internal consistency estimates for measures used in this study compare favorably with estimates reported in research in this area.

Manipulation Checks

The intent of this study was to examine program-advertising-related attitude formation effects under low motivation processing conditions. Thus, subjects were not explicitly cued to pay attention to the message points in the ad.

As a means of checking the likely processing state, cognitive responses generated by subjects while viewing the ad were examined. Recall that cognitive responses of subjects were classified as message, brand, product, ad related, and other. In addition, evaluative valence of responses was also categorized.

Two independent coders agreed 77% of the time regarding response categorization. In cases of disagreement, one of the researchers served as arbiter. Out of over 400 discrete responses generated by subjects, less than 5% were classified as message or brand related. The vast majority of responses were categorized as ad related or other. This

indicates that the subjects were *not* strongly motivated to process ad claim information. Such cognitive responses are consistent with low motivation–heuristic processing as delineated by MacInnis and Jaworski (1989) in their integrative framework of information processing from advertising.

With respect to program involvement (as opposed to ad involvement), both programs were found to be equally interesting to students (informational, $M = 19.6$; image, $M = 20.3$; $t = 0.51$, $p < .61$; scale range 4–28). Thus, given the fact that subjects found the programs to be moderately–highly involving, and that their motivation to process the ads was found to be low, more of their attention/interest was likely to be invested in the programs rather than the ads (Park & McClung, 1986; Soldow & Principe, 1981).

Manipulation checks were also obtained regarding subject perception of program and ad content. Consistent with earlier research, the informational program ($M = 17.2$) was found to be more information oriented compared to the image program ($M = 13.8$) ($t = 4.20$, $p < .0001$). Conversely, the image program ($M = 20.5$) was found to be more image oriented than the informational program ($M = 13.9$) ($t = 6.05$, $p < .0001$).

Both ads were designed to contain the same attribute information in order to provide an opportunity for message information to influence processing in all conditions. However, the ads were designed to differ in terms of image content. Consistent with expectations, manipulation checks confirmed that subjects perceived no differences in information content between the informational ($M = 10.5$) and the combined informational/image ($M = 11.1$) ads ($t = 0.82$, $p < .42$). As expected, the combined ad ($M = 13.2$) was perceived to be more image oriented than the informational ad ($M = 10.5$) ($t = 2.56$, $p < .012$). In sum, manipulation checks confirmed the intended low motivation ad processing orientation, as well as the specific program and ad manipulations.

Regression Analyses

Four regression models were examined (one for each treatment condition) to test hypothesized relationships between the dependent variable (A_b) and the independent variables (cognitive A_{ad}, affective A_{ad}, and C_b). For the purposes of these analyses, the C_b measure employed consisted of all positive, brand-related thoughts minus all negative brand-related thoughts (consistent with MacKenzie & Lutz, 1989).

To *check for context effects* the standardized regression coefficients of the independent variables were compared for given ad types across program types using a t test for independent regression coefficients (Cohen & Cohen, 1983). Program type made no significant difference in the regression coefficients given specific ad types (t's ranged from 0.14 to 0.97). Therefore, the program cells for specific ad types were

combined to test the main hypotheses regarding the influence of A_{ad} components and C_b on A_b.

The *first hypothesis* that C_b would have an insignificant influence on A_b for informational and combined ads is supported with the coefficients of C_b for both ad types being insignificant at the 0.05 alpha level (see Table 1). The *second hypothesis* that the cognitive component of A_{ad} would be significant for informational ads is supported at an alpha level of 0.001. The *third hypothesis* that both the components of A_{ad} would significantly influence A_b for combined appeals is also supported at the 0.05 alpha level. It is noteworthy that the largest coefficient for informational ads is for cognitive A_{ad}, whereas the largest coefficient for the combined informational/image ad is affective A_{ad}.

SUMMARY AND DISCUSSION

A growing body of empirical literature confirms the significance of attitude toward the ad as a mediator of advertising effectiveness. The present study increases our understanding of this important area. Specifically, the influence of two dimensions of A_{ad} (cognitive and affective) on brand attitude formation was demonstrated under low motivation processing conditions. Consistent with expectations, brand-attribute-related cognitions did not significantly affect overall brand attitude. More importantly, for informational ads, cognitive A_{ad} was the most important predictor of overall brand attitude, whereas, for combined informational/image ads, cognitive and affective A_{ad} offered more equal prediction.

The results of the current study are consistent with those previous researchers who emphasize the importance of cognitive and affective reactions to advertisements (Batra & Ray, 1986; Burton & Lichtenstein, 1988; Madden et al., 1988; Shimp, 1981), and those who have found that different executional elements influence different components of A_{ad} (Burton & Lichtenstein, 1988; Miniard et al., 1990).

Table 1 Regression Results Explaining Overall Brand Attitude for Each Ad Condition

	Standardized Estimates	
Independent Variables	Informational	Informational/Image
Affective attitude toward ad	0.233*	0.373*
Cognitive attitude toward ad	0.643**	0.346*
Brand cognitions	0.117	0.200
	(R^2 = 0.67)	(R^2 = 0.48)

*$p < .05$.
**$p < .001$.

It is interesting to note that MacKenzie and Lutz (1989) predicted that ad credibility, a concept (measure) similar to the one used in the present study to represent cognitive A_{ad}, would influence brand attitude through overall A_{ad}. They found a weaker than expected effect for ad credibility on overall A_{ad} as well as an unexpected independent effect of ad credibility on brand attitude. Taken together, this finding as well as the results of the present study support the potential usefulness of examining the direct effects of cognitive A_{ad} and affective A_{ad} on A_b, particularly under low motivation conditions.

From an advertising practitioner perspective, the findings clearly suggest the usefulness of employing both the A_{ad} components in ad pretesting. For low motivation processing conditions, the typical processing orientation for TV advertising contexts, the current research suggests that for informational ad executions it is important to assess cognitive A_{ad} because it has a stronger influence on A_b than the specific brand-attribute-related beliefs generated by the information in the ad. For combined informational/image executions it is important to assess audience perceptions of affective A_{ad}.

The current study offers little support for the idea that congruity between ad execution style and program context influences information processing. Informational and combined informational/image ads were processed similarly whether they were embedded in informational or image-oriented programs. This finding may have been due to the low motivation to process the ads. McClung et al. (1985) suggest that the congruity effect should occur when high cognitive or affective involvement with the advertising message is paired with moderate involvement in the television program. Future research should manipulate the involvement with the ad message to determine whether a congruity effect may be achieved.

Limitations of the present research relate to the restricted range of subjects, products, ad executions, and programs used. Obviously, additional research is called for that replicates and extends the present study through the use of other samples, alternative products, ad executions, and programs. These limitations notwithstanding, the present study reconfirms the richness of the attitude toward the ad domain and offers insights for conceptual and empirical work in the area as well as for practitioners involved in ad pretesting.

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