

# Spontaneous Inference Processes in Advertising: The Effects of Conclusion Omission and Involvement on Persuasion

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An experiment investigated the relation between inference and persuasion. Subjects were exposed to an ad in which presence or absence of conclusions and level of involvement were manipulated orthogonally. Omitted conclusions were more likely to be inferred spontaneously in high than in low involvement conditions. Further, when conclusions were omitted and high involvement made spontaneous inference formation likely, brand attitudes were more favorable and accessible than attitudes formed in low involvement conditions. Brand attitudes based on spontaneous inferences were as favorable and more accessible than attitudes formed in explicit conclusion conditions. The effects of motivation and effort on inference are discussed.

Is stating the conclusion explicitly in an ad more effective, or should consumers be encouraged to infer the conclusion on their own? Previous research addressing this topic has yielded mixed findings: some studies suggest that explicit conclusions lead to greater opinion change, but others suggest that implicit conclusions are more persuasive (for a review, see Sawyer 1988). The purpose of this article is to extend current theory and research on the role of inference in persuasion (see Batra and Ray 1986; Mitchell and Olson 1981; Petty, Cacioppo, and Schumann 1983).

## CONCLUSION EXPLICITNESS

In the classic Hovland and Mandell (1952) study, subjects were exposed to a communication that described the economic conditions under which currency devaluation is desirable as opposed to undesirable. Later in the communication, it was argued that current conditions match the conditions under which devaluation is desirable. In explicit conclusion conditions, the message ended with the statement that de-

valuation is desirable, but in implicit conclusion conditions, this statement was omitted. The results indicated that more favorable attitudes toward devaluation were formed in explicit than in implicit conclusion conditions. Fine (1957) later replicated this finding using a different message topic.

However, explicit conclusions may not be more effective under all circumstances. Thistlethwaite, de Haan, and Kamenetzky (1955) argued that implicit conclusions should be persuasive only when message recipients are sufficiently motivated to infer missing conclusions. To test this notion, they exposed Korean War Air Force recruits to a personally relevant communication about U.S. involvement in Korea. In explicit conclusion conditions, the message ended with the statement that the United States was justified in fighting a limited war in Korea, but in implicit conclusion conditions, this statement was omitted. Although implicit conclusions were found to be persuasive, they were no more persuasive than explicit conclusions.

The finding that implicit conclusions are no more (and often less) persuasive than explicit conclusions is surprising, given that there are several reasons for expecting implicit conclusions to be effective. Walster and Festinger (1962) demonstrated that an influence agent is more persuasive if the intent to persuade is not obvious. That is, a message is more persuasive when incidentally overheard by a recipient than when intentionally directed to the recipient. The hidden-camera technique in advertising is based upon this principle.

Research on the hard sell versus soft sell approaches to advertising (Moore and Hutchinson 1985; Silk and

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Vavra 1974) also suggests that implicit conclusions may be effective. The hard sell approach involves aggressively telling recipients what they must believe. Thus, the influence agent makes no attempt to disguise the intent to persuade, and, as a consequence, reactance may be induced and the persuasion attempt may backfire (Clee and Wicklund 1980). This boomerang effect is much less likely to occur, however, when subtle soft sell tactics are employed.

Finally, Linder and Worchel (1970) found direct evidence for the effectiveness of implicit conclusions. In this study, subjects were exposed to a set of seven syllogisms having a vertical arrangement (i.e., the conclusion of one syllogism served as the first premise of the next one). The arguments were presented one at a time, leading to the final conclusion that smoking cigarettes causes cancer.

Subjects were assigned randomly to one of three conditions. In high effort conditions, the communicator explicitly presented the conclusion of the first syllogism and subjects were asked to infer the conclusion of each of the remaining six syllogisms. Immediately after subjects wrote a self-generated conclusion, the correct answer was provided to ensure that all subjects would be aware of the appropriate conclusions. In moderate effort conditions, subjects received three conclusions and were induced to draw four conclusions for themselves. In low effort conditions, subjects received five conclusions and were asked to generate only two conclusions. The results indicated that acceptance of the target conclusion (i.e., smoking cigarettes causes cancer) decreased as effort decreased.

Why were implicit conclusions effective in the Linder and Worchel (1970) study, but not in the earlier studies? One plausible explanation for this inconsistency is that all subjects were made aware of the conclusions in the Linder and Worchel study, whereas in the earlier studies, implicit conclusion subjects may not have reached the appropriate conclusions on their own. If subjects are insufficiently motivated to draw conclusions, we cannot expect conclusion omission to be an effective persuasion technique. How, then, can we motivate subjects to draw conclusions? We know that subjects can be induced to draw conclusions by explicitly asking them to do so (Linder and Worchel 1970). A more interesting and a more important question is how can we motivate subjects to draw conclusions spontaneously, that is, without explicit prompting from an experimenter?<sup>1</sup>

## INVOLVEMENT

One motivational variable, involvement, has received a great deal of attention from advertising researchers. Considerable evidence demonstrates that in high involvement conditions, consumers are motivated to expend a great deal of cognitive effort when processing persuasive messages, but in low involvement conditions, less effort is expended (Batra and Ray 1986; Petty and Cacioppo 1986; Swasy and Munch 1985; Yalch and Elmore-Yalch 1984). If conclusion-drawing is contingent upon the effortful consideration of the message arguments that imply the conclusion, spontaneous conclusion generation may be more likely in high than in low involvement conditions.

Testing this prediction requires a measure of inference formation. Unfortunately, previous research on conclusion-drawing has either failed to measure inference formation (Hovland and Mandell 1952) or has employed multiple-choice measures (Fine 1957; Linder and Worchel 1970; Thistlethwaite et al. 1955). With multiple-choice measures, determining if subjects inferred a conclusion while reading the persuasive message or if the conclusion became apparent later during the multiple-choice task is impossible. *The measurement task may have prompted inference formation rather than assessing a preexisting inference.* The experiment in this article avoided this confound through the use of a response-latency methodology.

The distinction between retrieval and computational processes (Lichtenstein and Srull 1985) is crucial for understanding the logic underlying the use of response-latency methodologies. Suppose individuals are asked to respond to an inquiry about a particular inference. If the individuals have formed the inference prior to questioning, they may simply retrieve this inference from memory to answer the question. However, if the individuals have not formed the inference prior to questioning, they are forced to compute an inference on the spot, after receiving the question.

To elaborate, imagine that individuals are exposed to an ad about a technical product possessing a feature competing brands lack. Further, suppose that the ad contains information that implies this feature facilitates ease of use. If consumers spontaneously generate the conclusion that the target brand is superior on the "ease of use" dimension, they may retrieve this inference quickly and easily when subsequently asked about ease of use. In contrast, if consumers did not generate this conclusion prior to questioning, they would have to retrieve relevant information from memory and compute an inference on the spot. Given that the cognitive operations involved in computing this type of inference take time to perform, response latency to the inquiry should be slower in the latter than in the former case.

<sup>1</sup> The term "spontaneous" should not be confused with the term "automatic." Automatic, effortless processes can operate at the same time as other cognitive tasks; whereas controlled, effortful processes use up cognitive resources and are disrupted by other tasks. Recent evidence suggests a continuum rather than a qualitative distinction between automatic and controlled processes (Kahneman and Treisman 1984; Shiffrin forthcoming). Spontaneous processes occupy the middle range of this continuum.

In this article's experiment, it was reasoned that explicit conclusion subjects should respond to inquiries about the relevant conclusions relatively quickly (regardless of the level of involvement), because they can simply retrieve the conclusions provided to them earlier. However, implicit conclusion subjects should respond to inquiries relatively slowly when involvement is low, because they should be insufficiently motivated to generate missing conclusions on their own. The critical comparisons, then, involve the implicit conclusion-high involvement subjects. If these subjects can respond to the inquiries as quickly as explicit conclusion subjects, we can infer that the involvement manipulation was effective in eliciting spontaneous inference formation. Conversely, if these subjects respond as slowly as implicit conclusion-low involvement subjects, we can infer that the manipulation was ineffective. Implicit conclusion-high involvement subjects and explicit conclusion subjects might use a retrieval process to answer questions about their inferences, but implicit conclusion-low involvement subjects might use a computational process.

**H1:** Spontaneous inference formation may be more likely in high than in low involvement conditions. Specifically, response latencies to inquiries about message conclusions may be faster in implicit conclusion-high involvement and in explicit conclusion conditions than in implicit conclusion-low involvement conditions.

### Brand Attitude Favorability

Much of the research conducted on conclusion-drawing to date indicates that explicit conclusions can be very persuasive. Presumably, explicit conclusions facilitate message comprehension, and, if the message arguments are compelling, any variable that enhances comprehension should also increase persuasion. Implicit conclusions, however, may be effective only when recipients are sufficiently motivated to spontaneously infer missing information (i.e., under high involvement conditions). When involvement is low, consumers may fail to infer omitted conclusions, and, hence, they may miss the main point of the message.

**H2:** More favorable brand attitudes may be formed in implicit conclusion-high involvement and in explicit conclusion conditions than in implicit conclusion-low involvement conditions.

### Brand Attitude Accessibility

Attitude accessibility, or the readiness or ease with which an attitude (affect) can be retrieved from mem-

ory, was measured in terms of the speed with which subjects could respond to an attitudinal inquiry. Previous research, which manipulated the strength of the association between an object and an evaluation, has shown that response latency decreases as strength of association increases (Fazio et al. 1982). Moreover, as attitude accessibility increases, the likelihood that the attitude will influence subsequent overt behavior also increases (Fazio 1986).

Given that attitude accessibility is a critical step in the process by which attitudes guide behavior, identifying the determinants of attitude accessibility becomes important. Some determinants, such as repeated attitude activation and direct behavioral experience with an attitude object, have been identified (Fazio 1986; Smith and Swinyard 1983). Recent memory research suggests another determinant: effortfully processed information is more likely to be retrieved from memory than is less effortfully processed information (Greenwald and Leavitt 1984; Moore, Reardon, and Durso 1986; Tyler et al. 1979). If effortful information processing increases retrieval ease as well as retrieval likelihood, effort may also increase attitude accessibility. That is, attitudes formed on the basis of effortfully derived conclusions (i.e., attitudes formed in implicit conclusion-high involvement conditions) may be more accessible than attitudes formed on the basis of less effortful information processing.

**H3:** More accessible brand attitudes may be formed in implicit conclusion-high involvement conditions than in other conditions. Specifically, response latencies to attitudinal inquiries may be faster in implicit conclusion-high involvement conditions than in explicit conclusion and in implicit conclusion-low involvement conditions.

## METHOD

### Design

One hundred ninety-two undergraduates from a large Midwestern university were assigned randomly to conditions in a  $2 \times 2 \times 2$  between-subjects design with two levels of conclusion explicitness (explicit or implicit), two levels of involvement (high or low), and two levels of measurement order. Response latency to conclusion questions (conclusion latencies) was measured prior to the measurement of response latency to attitudinal inquiries (evaluation latencies) for half of the subjects, and evaluation latencies were measured prior to conclusion latencies for the remaining subjects.<sup>2</sup>

<sup>2</sup> A fourth independent variable, consolidation, was included to test spontaneous attitude formation (see Fazio, Lenn, and Effrein 1984). Comparing the evaluation latencies of subjects who com-

## Procedure

Subjects participated in groups of one to four. They were seated in isolated cubicles so they could participate independently. Subjects were told they would be asked to evaluate several ads and were given a folder containing four print ads. They were allowed 90 seconds to read each ad (pilot testing indicated that all subjects could read the entire ad within this time). The target ad was presented last, and after subjects read this ad, the ads were collected and removed. Next, response latency measures were taken, a questionnaire was administered, and finally, subjects were thanked and debriefed.

## The Target Ad

The target ad featured a boldface header, a picture of a compact disc player, and text describing the attributes of the target product (the CT-2000 Compact Disc player).

*The Conclusion Explicitness Manipulation.* The text contained three sets of arguments pertaining to three attributes of the target product. The first set implied the conclusion that "Inserting a disc is easy with the CT-2000" (Conclusion 1). The second set implied the conclusion that "The CT-2000 filters out sampling frequency distortions at less cost" (Conclusion 2). The third set implied the conclusion that "The CT-2000 reduces more distortion from surface irregularities than most CD players" (Conclusion 3). These three conclusions were stated explicitly in explicit conclusion conditions, but were omitted in implicit conclusion conditions. The text was identical in all other respects. The Appendix contains the arguments leading to the three conclusions.

*The Involvement Manipulation.* Boldface headers were employed to manipulate involvement. In high involvement conditions, the headers were "You Will Probably Own a Compact Disc Player Sooner Than You Think" and "Some CD Players are Very Bad and Some are Very Good." The headers were designed to enhance the personal relevance of the message and to emphasize that brands within the target product category vary greatly in quality. Personal relevance should increase the amount of cognitive effort allocated to message processing, and high perceived variability should influence the manner in which this effort is expended. Specifically, high perceived variability implies that knowledge about one brand may

not necessarily apply to other brands, and, hence, high perceived variability should motivate recipients to spontaneously infer missing information to fill gaps in their knowledge about a target brand and to reduce uncertainty (Kruglanski and Freund 1983). In low involvement conditions, the header was "Compact Disc Players," which has no implications for personal relevance or for perceived variability.

## Dependent Measures

*Conclusion Latency Measures.* Response latencies to questions about the three target conclusions served as the primary measure of spontaneous inference formation. Statements appeared on a monitor (e.g., "CT-2000: Is inserting a disc easy?") and subjects were instructed to press a button labelled "Yes" if they believed the statement was true, or a button labelled "No" if they believed the statement was false. Both speed and accuracy in responding were stressed, but a greater emphasis was placed on accuracy. Trial onset started a clock, and the response stopped the clock. A microprocessor automatically recorded response latency. To ensure that subjects understood the instructions and to eliminate short-term memory effects, a series of five practice trials involving trivia irrelevant to the present study preceded the response-latency task.

Nineteen filler items, pertaining to information stated explicitly in the filler ads, were included to prevent subjects from suspecting that the CT-2000 ad was the target ad. Half of the items pertained to information consistent with the presented ads (and the appropriate answer was "Yes") and half pertained to inconsistent information (and the appropriate answer was "No"). In addition, an item instructing subjects to "Press the Yes button" was included to provide a baseline latency to control for individual differences in overall response speed (Jonides and Mack 1984).

*Evaluation Latency Measures.* Response latency to attitudinal inquiries was also measured. Each trial involved the presentation of the name of a product (e.g., "CT-2000"). Subjects were asked to press a button labelled "Like" if they liked the product, or a button labelled "Dislike" if they disliked the product. Again, speed and accuracy were stressed. Response latencies to the "Press the Yes button" or the "Press the No button" items provided baseline latencies for subjects with favorable ("Like") or unfavorable ("Dislike") brand attitudes, respectively. The filler and target products were presented one at a time in two blocks. Presentation order was randomized within each block.

*Attitudinal Measures.* Attitude favorability toward the filler and target products was measured on seven-point semantic differential scales, with end points labelled "Very good" and "Very bad." Seven-

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pleted standard paper-and-pencil attitude scales before (consolidation) as opposed to after (no consolidation) the evaluation latency task permits a test of whether the paper-and-pencil scales prompted attitude formation. No effects and no interactions involving consolidation were found. Hence, spontaneous attitude formation occurred in all cells of the present experiment.

TABLE 1

CONCLUSION LATENCIES AS A FUNCTION OF CONCLUSION EXPLICITNESS AND INVOLVEMENT

	Explicit conclusion		Implicit conclusion	
	High involvement	Low involvement	High involvement	Low involvement
Conclusion 1	3886 ( <i>n</i> = 41)	3641 ( <i>n</i> = 41)	3832 ( <i>n</i> = 39)	4112 ( <i>n</i> = 40)
Conclusion 2	4643 ( <i>n</i> = 37)	4587 ( <i>n</i> = 42)	4616 ( <i>n</i> = 39)	4992 ( <i>n</i> = 36)
Conclusion 3	5003 ( <i>n</i> = 43)	4810 ( <i>n</i> = 41)	4877 ( <i>n</i> = 41)	4917 ( <i>n</i> = 38)
Overall mean	4520 ( <i>n</i> = 48)	4413 ( <i>n</i> = 48)	4503 ( <i>n</i> = 48)	4722 ( <i>n</i> = 48)

NOTE: The conclusion latency means (in milliseconds) are adjusted for the covariate (see Keppel 1982, pp. 499–500). This procedure was employed to control for individual differences in overall response speed, which are irrelevant to the focus of the present experiment.

point semantic differential scales were also used to measure evaluations of the filler and target ads, interest in seeking additional information, and purchase intentions.

Filler items were included in the conclusion latency, evaluation latency, and paper-and-pencil measurement tasks to prevent subjects from guessing the hypotheses. In addition, complex interactions were predicted and a between-subjects design was employed to minimize demand effects.

## RESULTS

### Spontaneous Inference Formation

Conclusion latency data were analyzed to determine the conditions under which spontaneous inference formation is likely to occur. Response latencies to the "Press the Yes button" item were employed as baseline latencies to control for individual differences in overall response speed. The appropriate response for each of the target conclusion questions was "Yes," and a  $2 \times 2 \times 2$  analysis of variance performed on latencies to the "Press the Yes button" item indicated that the treatments did not influence this measure. Further, this measure was significantly related to conclusion latencies ( $ps < 0.001, 0.02, 0.001$ , for the first, second, and third conclusion questions, respectively) and explained a significant proportion of the variance. Thus, this measure meets the requirements of an appropriate baseline measure for the analysis of covariance (Keppel 1982), and, hence, this measure was employed as a covariate in all subsequent analyses performed on conclusion latency data.

Table 1 shows response latencies (in milliseconds) to inquiries about Conclusions 1, 2, and 3 as a function of conclusion explicitness and involvement. For

Conclusion 1, a planned comparison revealed that, as predicted, conclusion latencies were faster in implicit conclusion-high involvement conditions and in explicit conclusion conditions than in implicit conclusion-low involvement conditions,  $F(1,157) = 4.73, p < 0.04$ .<sup>3</sup> Moreover, this contrast accounted for 70 percent of the between-subjects variance (Keppel 1982). This pattern of results indicates that subjects used a retrieval process in implicit conclusion-high involvement and in explicit conclusion conditions. However, when conclusions were omitted and when subjects were insufficiently motivated to infer missing conclusions, subjects employed a computational process.

Conclusion latencies for Conclusion 2 also were faster in implicit conclusion-high involvement conditions and explicit conclusion conditions than in implicit conclusion-low involvement conditions,  $F(1,150) = 4.41, p < 0.04$ . This contrast accounted for more than 99 percent of the between-subjects variance.

For response latencies to inquiries about Conclusion 3, the predicted contrast was not significant ( $F < 1$ ). Subjects may have processed the arguments presented at the end of the text less extensively than the earlier arguments (Cirilo and Foss 1980; Manelis 1980).

Response latencies to questions about the three conclusions were averaged and an a priori contrast performed on this index (Cronbach's alpha = 0.58,  $p < 0.001$ ) revealed that conclusion latencies were faster in implicit conclusion-high involvement conditions and in explicit conclusion conditions than in implicit conclusion-low involvement conditions,  $F(1,188) = 5.28, p < 0.02$ . This contrast accounted for 87 percent of the between-subjects variance. Thus, the conclusion latency data provide consistent support for the hypothesis that when conclusions are omitted, spontaneous inference formation is more likely in high than in low involvement conditions.

### Brand Attitude Favorability

Table 2 presents brand attitude favorability and attitude toward the ad as a function of conclusion ex-

<sup>3</sup> Separate  $2 \times 2 \times 2$  analyses of variance were performed on the number of errors committed for each conclusion question to determine whether error rates varied across conditions. Errors were operationalized as the failure to respond to a target conclusion item within the allotted time of seven seconds or as pressing the button labelled "No" (the target questions were worded in the affirmative direction). No significant main effects or interactions were found. Response latencies to questions upon which errors were committed were deleted from subsequent analyses.

Planned comparisons should be conducted instead of overall  $F$  tests when interactions involving differences between specific cells are predicted (Hays 1981; Keppel 1982; Kirk 1982). Nevertheless, the reader may be interested in the results of omnibus  $F$  tests. The  $F$  values for the conclusion explicitness by involvement interaction were 4.08 ( $p < 0.05$ ), 2.07 ( $p < 0.16$ ), 1.10 (*ns*), and 3.11 ( $p < 0.08$ ) for the first, second, third, and averaged conclusion latencies, respectively.

plicitness and involvement. An a priori contrast revealed that brand attitudes were more favorable in implicit conclusion-high involvement conditions and in explicit conclusion conditions than in implicit conclusion-low involvement conditions,  $F(1,188) = 5.87, p < 0.02$ . This contrast accounted for 71 percent of the between-subjects variance.

Additional analyses indicated that in explicit conclusion conditions, attitudes were equally favorable regardless of the level of involvement,  $F(1,94) = 1.24$  (*ns*), but in implicit conclusion conditions, subjects formed more favorable brand attitudes when spontaneous inference formation was likely (i.e., in high involvement conditions) as opposed to unlikely,  $F(1,94) = 6.75, p < 0.01$ . Further, subjects tended to form the most favorable brand attitudes in implicit conclusion-high involvement conditions ( $M = 5.65$ ). The data support the hypothesis that more favorable brand attitudes are formed in implicit conclusion-high involvement conditions and in explicit conclusion conditions than in implicit conclusion-low involvement conditions.

Brand attitude favorability was strongly related to interest in acquiring additional information about the target product,  $r = 0.41, p < 0.001$ , and to purchase intentions,  $r = 0.42, p < 0.001$ . As attitudes toward the target product increased in favorability, interest in information acquisition and purchase intentions also increased.

A  $2 \times 2 \times 2$  analysis of variance revealed that attitudes toward the target ad were more favorable in high than in low involvement conditions,  $F(1, 176) = 4.22, p < 0.05$ . No other main effects or interactions were found.

### Brand Attitude Accessibility

Evaluation latency data were analyzed to test the hypothesis that brand attitudes may be more accessible from memory when spontaneous inference formation is likely than when conclusions are provided

TABLE 2

BRAND ATTITUDE FAVORABILITY AND ATTITUDE TOWARD THE AD AS A FUNCTION OF CONCLUSION EXPLICITNESS AND INVOLVEMENT

Dependent measure	Explicit conclusion		Implicit conclusion	
	High involvement	Low involvement	High involvement	Low involvement
Brand attitude	5.54	5.21	5.65	4.88
Attitude toward the ad	4.77	4.21	4.67	4.21

NOTE: *n* per cell = 48. Higher numbers indicate more favorable attitudes.

TABLE 3

ATTITUDE ACCESSIBILITY AS A FUNCTION OF CONCLUSION EXPLICITNESS, INVOLVEMENT, AND ORDER

Order	Explicit conclusion		Implicit conclusion	
	High involvement	Low involvement	High involvement	Low involvement
Conclusion latencies first	2380 ( <i>n</i> = 20)	2316 ( <i>n</i> = 23)	2452 ( <i>n</i> = 22)	2464 ( <i>n</i> = 22)
Evaluation latencies first	2734 ( <i>n</i> = 21)	2431 ( <i>n</i> = 20)	2063 ( <i>n</i> = 17)	2459 ( <i>n</i> = 21)

NOTE: Means are adjusted for the covariate.

explicitly or when spontaneous inference formation is unlikely. Evaluation latencies were averaged across blocks (Cronbach's alpha = 0.56,  $p < 0.001$ ) and response latencies to the "Press the Yes button" or the "Press the No button" item served as baseline latencies for subjects who liked or disliked the target product, respectively. A  $2 \times 2 \times 2$  analysis of variance indicated that the manipulations did not influence this measure, and, hence, this measure was employed as a covariate in all subsequent analyses on evaluation latency data.<sup>4</sup>

Table 3 shows attitude accessibility as a function of conclusion explicitness, involvement, and order. An a priori contrast indicated that brand attitudes tended to be more accessible from memory in the implicit conclusion-high involvement cell ( $M = 2283$ ) than in the remaining cells ( $M$ s = 2561, 2369, and 2462),  $F(1,162) = 2.39, p < 0.13$ . This contrast accounted for 59 percent of the between-subjects variance.

A  $2 \times 2 \times 2$  analysis of covariance performed on attitude accessibility indicated that a marginally significant conclusion explicitness by involvement by order interaction,  $F(1,157) = 2.81, p < 0.10$ , moderated the predicted contrast. Marginally significant conclusion explicitness by involvement,  $F(1,157) = 3.04, p < 0.09$ , and conclusion explicitness by order interactions,  $F(1,157) = 3.86, p < 0.06$ , were also found.

Dunn comparisons were performed to interpret the three-way interaction while controlling for the compounding of alpha (Keppel 1982). Evaluation latencies were faster in the implicit conclusion-high involvement cell than in the remaining three cells when

<sup>4</sup> Care was taken to ensure that the time required for attitude formation would not be confounded with evaluation latency. Because no consolidation effects were observed on evaluation latencies (see Footnote 2), it can be inferred that attitude formation occurred prior to the measurement of evaluation latency. In addition, a  $2 \times 2 \times 2$  analysis of variance performed on the number of errors committed during the evaluation latency task revealed that error rates were evenly distributed across conditions.

evaluation latencies were measured prior to conclusion latencies ( $p < 0.05$ ), but not when conclusion latencies were measured first ( $p > 0.20$ ). This pattern suggests that when conclusion latencies were measured first, subjects were forced to think about the message arguments and conclusions to respond to the questions. The activation of this information in memory tended to increase attitude accessibility across conditions, and, consequently, the predicted contrast was suppressed. This contrast was significant, however, when evaluation latencies were measured prior to conclusion latencies. Thus, two different manipulations, high involvement and direct questioning, led to conceptually similar but nonadditive effects. When either high involvement or direct questioning induces subjects to generate inferences that have strong attitudinal implications, more accessible attitudes are formed than when attitudes are formed through a less effortful process.

One additional Dunn comparison is important for interpreting the previous interactions. In high involvement conditions, more accessible brand attitudes were formed in implicit ( $M = 2063$ ) than in explicit ( $M = 2734$ ) conclusion conditions ( $p < 0.01$ ) when evaluation latencies were measured prior to conclusion latencies. Thus, although equally favorable brand attitudes were formed in explicit-conclusion and implicit conclusion-high involvement conditions, these attitudes differed in accessibility. Moreover, across conditions, attitude favorability was uncorrelated with attitude accessibility,  $r = -0.03$  (*ns*). Hence, attitudes that appear to be equivalent, on the basis of standard paper-and-pencil attitude scales, can differ in the readiness with which they can be accessed from memory.

## DISCUSSION

Subjects were more likely to infer omitted conclusions spontaneously in high than in low involvement conditions. Further, when conclusions were omitted, subjects formed more favorable and more accessible brand attitudes when spontaneous inference formation was likely as opposed to unlikely. The results also indicate that subjects formed more accessible attitudes in implicit conclusion-high involvement conditions than in explicit conclusion conditions, even though subjects formed equally favorable attitudes across these conditions.

The Figure summarizes the joint effects of conclusion omission and involvement on spontaneous inference formation, brand attitude favorability, and brand attitude accessibility. When conclusions are omitted and when involvement is high, spontaneous conclusion generation is likely to occur. Brand attitudes formed on the basis of these effortfully drawn conclusions are likely to be both favorable and accessible (if the attitudinal implications of these infer-

ences are favorable). However, when conclusions are omitted and when involvement is low, attitudes are likely to be formed on the basis of very limited information because message recipients are insufficiently motivated to infer missing conclusions. Moreover, little cognitive effort is involved in this type of attitude formation process, and, consequently, relatively inaccessible attitudes are formed. Finally, favorable brand attitudes are formed on the basis of explicit conclusions, but because little effort is required to reach these conclusions, attitudes formed through this process are relatively inaccessible.

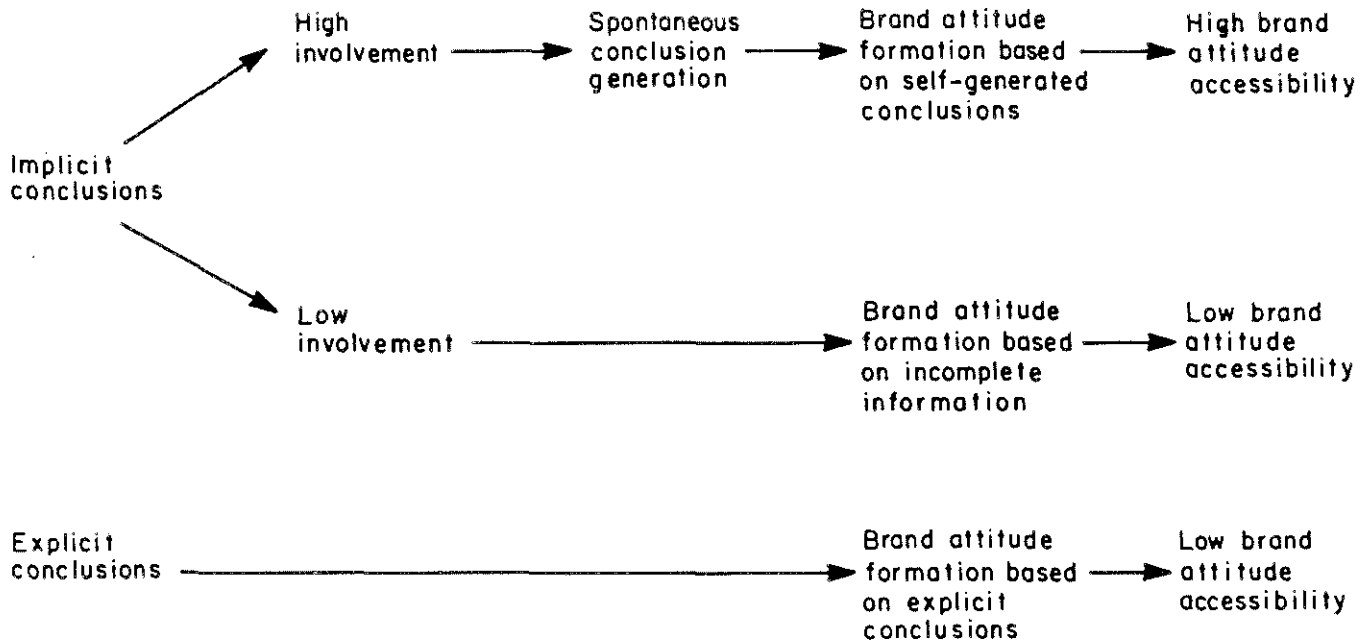
The process model depicted in the Figure has several interesting implications. First of all, the model suggests that the amount of effort involved in the attitude formation process is one important determinant of attitude accessibility. Hence, any variable that increases the amount of effort involved in attitude formation should also increase attitude accessibility. For example, rhetorical questions, message comprehensibility, repetition, distraction, and other variables may influence effort and attitude accessibility. Moreover, any variable that increases effort and attitude accessibility also increases the likelihood that the attitude will guide subsequent overt behavior (Fazio 1986).

The model also suggests that the amount of effort expended in information processing is likely to vary across situations and across individuals. In general, more effort should be expended as involvement increases, but several factors are likely to moderate the effects of involvement on effort. For example, effortful processing may be more likely to occur for some products than for others. In this article, the focal product was a consumer durable based on a new technology, and, consequently, it was possible to use a simple manipulation performed in the text of an ad to influence involvement. However, it may be difficult to induce consumers to effortfully process information pertaining to less involving or less interesting products (e.g., toothpaste). Moreover, undergraduates participated in the present experiment and inducing individuals less likely to enjoy effortful cognitive activities to engage in effortful information processing may be difficult. Hence, spontaneous inference generation and effortful attitude formation may be induced more readily for some products and for some individuals than for others.

## CONCLUSION

Considered together, the results of this article's experiment indicate that relatively simple manipulations performed within the text of an ad can influence the processing objectives of consumers. Highlighting the personal relevance of the message and emphasizing that the brands within a product category vary on an important dimension can induce effortful information processing. If consumers can be induced to

FIGURE  
EFFECTS OF CONCLUSION OMISSION AND INVOLVEMENT



form brand attitudes through an effortful process, they will spontaneously draw inferences about omitted attitude-relevant information and form strong, accessible attitudes. However, if consumers are unmotivated or unable to process information effortfully, they will overlook important omitted information and form less favorable and less accessible brand attitudes. Thus, consumers' processing objectives influence the content and the accessibility of attitudes formed on the basis of advertising claims.

## APPENDIX

### The Conclusion Items

- Conclusion 1:** The CT-2000 also features a horizontal disc load, a current track display, and a motorized drawer. Other CD players lack a motorized drawer. Inserting a disc is difficult without one. *Inserting a disc is easy with the CT-2000.*
- Conclusion 2:** All CD players require digital filters, because the decoding of digital sound creates sampling frequency distortions that must be filtered out. Digital filters are expensive and each filter accounts for a large portion of the total price. One advanced filter is sufficient for filtering out sampling frequency distortions and two less advanced filters are

no better than one advanced filter. Most CD players have two less advanced filters. The CT-2000 has one advanced filter. *The CT-2000 filters out sampling frequency distortions at less cost.*

- Conclusion 3:** Best of all, the CT-2000 brings you a sophisticated laser technology. The purpose of lasers is to reduce distortion from dust and scratches. Most CD players have one laser. The CT-2000 has three. *The CT-2000 reduces more distortion from surface irregularities than most CD players.*<sup>5</sup>

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<sup>5</sup> The italicized statements were omitted in implicit conclusion conditions.



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