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THE COMMUNICATIONS EFFECTIVENESS OF COMPARATIVE ADVERTISING UNDER CONDITIONS OF PRODUCT INVOLVEMENT AND BRAND USAGE

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MARK BECKER TRAYLOR

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THE COMMUNICATIONS EFFECTIVENESS OF COMPARATIVE ADVERTISING UNDER CONDITIONS OF PRODUCT INVOLVEMENT AND BRAND USAGE

By

Mark B. Traylor

A DISSERTATION

Submitted to
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ABSTRACT

COMMUNICATIONS EFFECTIVENESS OF COMPARATIVE ADVERTISING UNDER CONDITIONS OF PRODUCT INVOLVEMENT AND BRAND USAGE

By

Mark B. Traylor

This study was an experiment that examined recall and attitude toward one's own brand for comparative, Brand X, and noncomparative advertising. The market context for the study was that a new, unknown brand was entering a mature product market in which a well-recognized brand could be "attacked" in the comparative advertisement.

Print advertisements for a fictitious brand of automobile (a relatively high involvement product) and a fictitious brand of non-diet cola soft drink (a relatively low involvement product) were shown to 120 subjects drawn from a residential area of East Lansing, Michigan. Half of those who saw the automobile ads drove an Oldsmobile which the comparative automobile ad attacked; and half of those who saw the cola ads drank Coca-Cola most often which the comparative cola ad attacked. Measurements of the subjects' attitudes toward their own brands were taken in three time periods--a pretest, an immediate posttest, and a delayed posttest--to examine attitude change over time.

Besides analyzing results based on an a priori classification of advertisement type and product involvement, subjects reported any comparative type advertisement they saw and rated the level of involvement they had with the product advertised. Thus, the analysis was carried out on a perceptual, subject-defined basis as well as on an a priori, researcher-defined basis of what constituted a comparative advertisement and a high involvement product.

Results indicate that comparative advertising--regardless of who defines it--is more effective from a recall standpoint, but not in attitude change. Among the subjects who used Coca-Cola or drove an Oldsmobile, the effectiveness of the comparative advertisement was particularly striking when measured by their ability to recall the content of the advertisement if they recognized that the comparison was taking place.

Based on the measures of communications effectiveness used in the study, comparative advertising was consistently the most effective or was equally effective relative to Brand X and non-comparative advertising. Thus, it may be an effective competitive tool for new or poorly known brands in mature product markets and for low market share brands generally when there is at least one well-recognized brand already in the market.

DEDICATION

To my parents

ACKNOWLEGMENTS

I owe much appreciation to Dr. Gil Harrell, chairman of my dissertation committee and to Dr. Terry Allen and Dr. Don Taylor, my other two committee members. Their comments resulted in a dissertation that is a substantial improvement over anything I could have produced on my own.

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CHAPTER I

INTRODUCTION AND OBJECTIVES

Comparative advertising compares two or more recognizable brands on one or more attributes. While not a new form of advertising, it was seen infrequently before the Federal Trade Commission's encouragement of its use around 1973. Casual observation reveals a spread of comparative advertising from analgesics and a few other product classes shortly after the FTC's support to photocopying machines, automobiles, spray furniture polishes, wine, mini-computers, liquid bleaches, deodorants, and many other products more recently.

Despite the increase in comparative advertising, very little published research has reported on its effectiveness. One suspects that, in the course of advertising research and copy testing carried on by advertising agencies and research suppliers, a substantial bank of proprietary data has been built up. That is, the use of a comparative advertisement is likely to be based on some evidence accumulated by the advertiser or its agency. Unfortunately, these reports have not been published and, in fact, very little attention in the marketing literature has been paid to the communications effectiveness of comparative advertising.

The main objective of this research was to test the communications effectiveness of a comparative form of advertising against

Brand X or to noncomparative forms of advertising in the context of a new, unknown brand's entering a mature product market. The communications effectiveness of comparative advertising has not been examined in this light; nevertheless, this form of advertising could offer a marketing strategist particular benefits of building awareness, positioning his brand, and establishing a brand concept very quickly by relating the new brand explicitly to those already in the market.

The research also offers an opportunity to test one of the bases of the FTC's position: comparative advertising conveys more information to consumers, so more comparative advertisements will mean better informed consumers.

Other objectives of this research will be to examine differences in comparative advertising's effectiveness for high and low involvement products; and for users or nonusers of the brand that is being compared. Finally, attention will be paid to the issue of selective learning in an advertising context.

CHAPTER II

LITERATURE REVIEW

The literature reviewed in this section is organized under four major headings: Comparative Advertising; Attitude and Learning; Persuasive Communication and Attitude Change; and Involvement. The research will address itself to issues raised within each of these categories. These issues will be discussed in some detail in the literature review and then will be restated in summary form afterwards.

Comparative Advertising

Several recent articles have treated comparative advertising in an issue-related, non-empirical manner.

Chevins (1975) cited a history of comparative advertising and offered several speculations regarding its effectiveness and how it might be used by advertisers.

Barry and Tremblay (1975) cite issues raised among ad practitioners, including speculation that comparative advertising gives competitors free time, solidifies the position of the market leader, that consumers are unable to determine the source of the message correctly (i.e., the sponsoring brand), and that the success of the message is a function of source credibility. They also ran a survey in the Dallas area and found that 84 percent of their

respondents reported having seen a comparative ad and could give an example. Deodorants, headache remedies, autos, and furniture polish were the examples given most frequently.

Wilkie and Farris (1975) discuss comparative advertising in a general sense and from the point of view of regulators, media (especially the three commercial networks), and advertisers. For the last, they discuss tactical questions in terms of effectiveness, building brand awareness, and comprehension. Most importantly, they use the issues developed in their tactical considerations to generate a set of hypotheses to be tested empirically. These are based in the three broad areas of attention, comprehension, and message retention. The substantive hypotheses A and B in this research are adaptations of two of their hypotheses:

> Comparison ads will receive more attention from users of competing brands mentioned than from users of brands not mentioned.
>
> Aggregate recall levels of comparison ads will be higher than those for standard appeals (p. 12).

Wilkie and Farris derive the first hypothesis from the concepts of selective attention and selective exposure (p. 11). Brand usage as a potentially distinguishing factor in audience response will be elaborated further.

Ulanoff (1975) discusses comparative advertising from an historical perspective. He found that comparative advertising was used for razor strops, morning gowns, and other products at least as far back as 1710 (pp. 8, 10).

Two empirical studies on comparative advertising have been published recently and were used to develop some of the issues addressed in this research; both relate specifically to the communications-effectiveness of comparative ads.

In a laboratory experiment, Prasad (1976) used a durable consumer product (movie camera) a well-known target brand (Kodak), a fictitious sponsoring brand (Ronar) and a sample of 202 students. He tested four hypotheses and found clear evidence for one.

The hypothesis that was supported was:

> The perceived credibility of the claim of a comparative advertisement will be lower among consumers who prefer the competitors brand (i.e., target brand) explicitly named in the advertisement than among others (i.e., other Ss who did not state their brand preference for Kodak) (p. 130).

Prasad measured recall by both brand name recall and content recall and found no relationship among S's stated brand preference (Kodak or not Kodak), type of ad (comparative vs. Brand X advertising), and either of the recall measures.

Nor did he find evidence for a concern in the advertising industry that a comparative advertiser could "'trade on the reputation'" of the target brand, thereby enhancing consumers' perceptions of the competitive position of his own brand (p. 130).

Prasad found mixed support for his hypothesis that Ss would show higher recall for the comparative ad. This hypothesis was supported using the content recall measure, but not for the brand name recall measure. And these results held in both the immediate posttest and a delayed (one week) posttest.

The second empirical study on comparative advertising is an Ogilvy and Mather study using TV ads and reported by Levine (1976). The products tested were a beverage, four health and beauty aids, two drug products and a household product. Comparative ads for these products were evaluated against noncomparative ads.

Respondents held more negative attitudes toward the comparative ads and, by self-report, found them more confusing and less believable than the noncomparative ads. The comparative ads yielded no greater awareness of the sponsoring brand and, in one case, showed less awareness than the noncomparative advertisement. There was greater sponsoring brand misidentification for the comparative ads.

A comparative ad was found to be more persuasive (as measured by brand choice) when it was shown among noncomparative ads and Levine suggests this may be the result of novelty effects.

Surprisingly, awareness was not significantly greater for comparative ads under these conditions.

Levine concludes from his study that:

> . . . there is little to be gained from this type of advertising for the advertising industry, the advertiser, or the consumer. The only one who may benefit is the competitor who is named in the advertising . . . (p. 14).

As was the case with Prasad's study, some question remains regarding the generalizability of these findings to other products and media. Levine himself points out this limitation. There is also some suspicion, based on the argumentative tone of the

findings, that Ogilvy and Mather may have had something at stake in the outcome of the research. Nevertheless, the empirical research conducted by Prasad and by Ogilvy and Mather has not shown comparative advertising to be particularly effective. Some of its effects were also found to be detrimental to the advertiser.

Neither of these studies, however, consciously approached comparative advertising from the standpoint of a new brand entering a mature product market. Comparative advertising offers considerable potential for building awareness and positioning a new brand relative to one or more market leaders (Ulanoff, 1974; Wilkie and Farris, 1975). The basic tactic is relating and contrasting something unfamiliar to something familiar thus building a brand concept in a direct and efficient way.

While Prasad used a fictitous (and, therefore, "new") brand name against a market leader, neither his study nor the Ogilvy and Mather study attacked the question from precisely this standpoint. While both studies have made important contributions to the understanding of comparative advertising, a number of important empirical issues yet remain.

About midway through the data collection for this research, two more empirical studies on comparative advertising were published. While they arrived too late to be used in the development of research issues and hypotheses, they reinforce the notion that additional research on this topic is needed.

Jain & Hackleman (1978) used twelve products that they categorized into three goods classifications--convenience, shopping,

and specialty--and tested brand name recall for comparative versus noncomparative advertisements. All the brand names used in the study were fictional which obviated any differential effects of novelty, familiarity, usage, or brand loyalty. They found, in contrast to Prasad and Levine, that "brand names appearing in comparison ads were recalled better immediately" but not in a 24 hour delayed posttest (p. 24). These brand names were both the sponsoring and target brands and they concluded that "comparative advertising would work best for less-well-known brands" (p. 24). The comparative advertisements for convenience and specialty goods were more effective than for shopping goods. They did not qualify this finding with the caveat that other components of the advertisement--graphics, copy, headline, etc.--might also account for differences in addition to the product class or type of good being advertised.

A more ambitious study was reported by Shimp and Dyer (1978) who controlled for positioning a fictitious fast food brand (Big Steer) against a market leader (McDonald's) and a less dominant brand (Burger King). Their findings contradicted Prasad's since they found that copy recall was greater for a noncomparative than for a comparative form of advertising.

The sponsoring brand was correctly identified more often for the comparative than for the noncomparative advertisement, although the difference was not statistically significant. However, this finding contradicts that of Levine (1976) who found that

there was greater misidentification for the comparative advertisement. Prasad did not report the direction of his findings--only that there was no statistically significant greater correct brand name recall for the sponsoring brand among subjects exposed to the comparative advertisement.

The noncomparative advertisements, it was also found, resulted in greater credibility, were reported as being more informative, and were viewed more favorably. The comparative advertisements were judged as more interesting.

Attitude and Learning

The relationship between a person's prior attitude toward a topic and his subsequent learning of material related to that topic is a complex one.

An early study among pro and anti-communists (Levine and Murphy, 1943) apparently established that subjects will learn information that is consistent with their attitudes better than information that is discrepant. Forgetting of the discrepant information over time, it was found, was also greater than for the consistent information.

Partly, perhaps, because these findings made so much intuitive sense, social psychologists accepted this relationship between attitude and learning and subsequent studies focused on variations of the basic theme of selective learning.

In a study among thirty black and thirty white juvenile delinquents, Taft (1954) administered a communication containing

information that was favorable, unfavorable, ambiguous, and neutral toward blacks. He found that the black Ss recalled both the favorable and unfavorable material better than white Ss in an immediate recall. But in a delayed (3 day) recall measure, the black subjects recalled less of the racially unfavorable material than white Ss while recalling more of the favorable material.

Since the material was highly ego-involving for the blacks, Taft hypothesized that the black Ss learned all the material better than the whites at the outset, but then repressed the unfavorable material as time passed. Neutral statements in the communication were recalled least by both racial groups.

Taft's immediate findings contradict the Levine and Murphy findings of selective learning since the pro and anti-communist communication used by Levine and Murphy was very likely highly ego-involving for their subjects as well. This was not noted specifically by Taft, although he did state that one cannot predict " . . . for any group of Ss . . . whether positive and negative ego involvement will lead to sensitization or repression (of information)" (p. 27).

Jones and Aneshansel (1946) tested and found support for the hypothesis that Ss will actually learn discrepant information better than Ss to whom the same information is "covaluant" (i.e., consistent with their values) if they know they will later be asked to formulate counterarguments. They concluded that it is easier to learn contravaluant (i.e., discrepant) material in high

motivation settings and that persons ". . . tend to be autistic in the retention of congenial material under conditions of low motivation . . ." (p. 31). They further stated that:

> The assumption that we . . . learn statements that we agree with better than statements with which we disagree must be placed in the broader context of the learner's over-all purpose in the task (p. 32).

And:

> When the contravaluant material is given a new utility for the learner, the wish that is otherwise autistically pampered is supplanted by more powerful motives of ego enhancement (p. 31).

This, of course, modifies the Levine and Murphy findings by introducing a task (counterargument) that requires absorbing discrepent information.

Jones and Kohler (1958), in two separate experiments on racial segregation, found "striking" evidence that persons holding extreme positions not only learn plausible statements supporting their view, but implausible (outlandish and ridiculously absurd) statements against their views. Persons with neutral attitudes on the subject matter learn plausible and implausible statements about equally well.

So it would seem that this study too modified the Levine and Murphy finding that persons learn information consistent with their attitudes better than discrepant information. Jones and Kohler explain it this way:

> While the results show that learning of a controversial statement cannot be predicted solely from the direction of the argument, they still support the functionalists' basic assumption that cognitive processes operate . . . to promote the constancy of attitide and belief (p. 320).

So it is not so much the "objective" position advocated by the communication that determines learning as it is the receiver's perception of that position. This perception, which is itself a function of attitude, (Hovland, Harvey, and Sherif, 1957) thus assumes a mediating role in the relationship.

Nevertheless the basic relationship, modified in perceptual and functionalist terms, is still consistent with the original selective learning phenomenon of Levine and Murphy. While ego involvement, motivation to learn, and plausibility of the discrepant information may modify the relationship, the basic attitude-learning model still holds.

Even this relationship, however, was seriously questioned by Waly and Cook (1966) who replicated the Jones and Kohler study for purposes of developing attitude measures on race. When they failed to duplicate the Jones and Kohler results, Waly and Cook ran two more experiments and still failed to confirm the findings. In two of the three studies, Waly and Cook also failed to confirm the Levine and Murphy findings.

Waly and Cook's major finding was that statements evoked <u>equal learning difficulty</u> regardless of prior attitudes. In trying to explain the discrepancies among the studies, Waly and Cook also found no consistent relationship between prior familiarity and

ease of learning. This was rather surprising in itself, since it seems intuitively reasonable that familiarity should positively affect recall.

Another blow to the original attitude-learning relationship came with a set of three studies conducted by Greenwald and Sakumura (1967) who found that S's attitudes did not affect his recall of statements on the Vietnam War. They also found, like Waly and Cook, no relationship between S's familiarity with a statement and his ability to recall it correctly subsequently. However, regardless of S's prior attitude, learning increased for "novel" information--in this case, the more novel anti-war statements were recalled better by both anti-war and pro-war Ss than were pro-war statements.

This too is a surprising finding, since one would expect that familiarity and novelty would be direct opposites of each other and thus two measures of the same attribute. But in a posttest check using a separate sample, Greenwald and Sakumura found an r of -.73 between familiarity and novelty which yields an r^2 of .52 (p. 397). Thus, they concluded variations in one account for only about half the variation in the other. Empirically, novelty and familiarity seem to be two different components of a communication.

Novelty as an aid in learning is also supported by work on the Von Restorff Phenomenon (Wallace, 1965) as Greenwald and Sakumura (1967) point out. The Von Restorff Phenomenon states that "isolating an item against a crowded or homogeneous background facilitates the learning of that isolated item" (Wallace, 1965, p. 410).

Finally, the absence of a significant relationship between familiarity and recall is indirectly supportive of work reported by Krugman (1972; 1975) that repeated exposures of the same advertisement, beyond two or three, results in a detachment of the audience and a withdrawal of their attention. To the extent that learning is a necessary (but not sufficient) condition of attitude change, these results are also supportive of Winter's (1973) findings of decreasing attitude change as a function of exposure to advertising.

Persuasive Communications and Attitude Change

Although it has been suggested that comparative advertising is based more on cognitive dissonance than social judgment-involvement (Barry and Tremblay, 1975), this seems a somewhat specious argument since it is possible to borrow from either theory and since one can easily entertain the two notions simultaneously. But the failure to confirm a positive relationship between prior attitude and subsequent learning of information (as reported in the previous section) bears disturbing implications for one of the main correlates of cognitive dissonance theory, especially as it relates to advertising.

Cognitive Dissonance

Cognitive dissonance theory states that when information is received that is incompatible with a person's cognitive set--his beliefs and information about the world--a state of psychological

discomfort will exist. The individual will engage in behavior intended to reduce the discomfort and re-establish consistency in his cognitive system. This behavior can take several forms, such as screening out discrepant information, distorting the information to make it consonant with his existing attitudes, or changing his existing attitudes.

In the more recent studies conducted on attitude and learning (Waly and Cook, 1966; Greenwald and Sakumura, 1967), the dependent measure was a range of correct recall of the information--a measure that should have picked up screening and distoring behavior among the Ss receiving dissonant material. However, it did not.

Other specific exceptions in the theory of cognitive dissonance have been reported including voluntary exposure to dissonant information that is novel (Sears, 1965). The Sears finding is consistent with the Greenwald and Sakumura finding on the relationship between novelty and learning.

A review of the selective exposure literature (Freedman, 1965) indicates the empirical tests have not been conclusively in support. There is just as much evidence that individuals prefer non-supportive information, depending upon the situation. For example, the usefulness of the information may override any discrepancy, as when a staunch environmentalist reads oil company literature in order to counterargue more effectively. Thus, preference may not be exhibited in exposure, but in the individual's evaluation of the material.

Social Judgment-Involvement Approach

The social judgment-involvement approach makes predictions that are more precise than cognitive dissonance theory (Sherif, Sherif and Nebergall, 1965). Cognitive dissonance theory always allows attitude change toward a discrepant communication as a possibility; the social judgment-involvement approach specifies conditions in which such an attitude change cannot be a consequence: when the position advocated in the message falls within the individual's latitude of rejection.

Assimilation-contrast theory grew out of observations of a "boomerang effect" in communications studies. Hovland and Pritzker (1957) found a direct relationship between the amount of attitude change advocated in a communication and the amount of change in the direction advocated for lower-involvement issues communicated by highly respected sources. So the greater the discrepancy, the greater the attitude change. The attitude change taking place among the subjects increased, but at a decreasing rate.

It was also found that 5-8% of the responses in each amount-of-change-advocated category were in a negative direction, i.e., opposite that advocated in the communication. This is the "boomerang effect."

Two studies conducted almost simultaneously and published shortly after this one began refining the concept of assimilation-contrast.

In a study in which Ss evaluated the weights of stimuli relative to an "anchoring" stimulus (i.e., reference point), Sherif, Taub, and Hovland (1958) found that:

> . . . introduction of anchoring stimuli immediately adjacent to the stimuli being judged will cause displacement of judgments in the direction of the anchor. This would constitute an "assimilation effect." Anchors considerably beyond the stimulus range . . . will produce a displacement of judgments away from the anchor ("contrast effect") (p. 154).

In other words, S perceived discrepant information as being closer to his reference point than it really was, as long as it was not too discrepant. If the stimulus was discrepant beyond a certain limit, it was perceived as being farther from his anchor than it really was.

Hovland, Harvey, and Sherif (1957) obtained supportive findings for the assimilation-contrast effect in a study on prohibition--a controversial topic where the research was carried out--and introduced the terms "latitude of acceptance" and "latitude of rejection" (p. 250).

The latitude of acceptance consisted of ". . . S's own position and other acceptable positions" and the latitude of rejection consisted ". . . of all unacceptable positions" (p. 250).

If the communication was within the subject's latitude of acceptance, he: 1) perceived the message to be closer to his own position than it "really" was; 2) judged the communication to be "fair and factual" (p. 251), and 3) moved toward the position advocated by the communication. If the communication was within

the subject's latitude of rejection, he: 1) perceived the message as farther from his position than it "really" was; 2) judged it as "propagandistic and unfair" (p. 251), and 3) remained unchanged in his initial attitude. The authors did not find significant occurrences of a "boomerang effect" in this study.

The sources of the communications were unidentitied and there was no manipulation of issue involvement.

Sherif, Sherif and Nebergall (1965) introduced the concept of latitude of noncommitment which included all the positions the individual judged to be neither acceptable nor objectionable. Thus, it could be described as the range of positions left over, after the latitudes of acceptance and rejection were defined.

It is intuitively appealing to make a direct analogy between the latitudes of acceptance, rejection, and noncommitment on issues and the concept of evoked set in consumer behavior (Campbell, 1973). The evoked set could be defined analogously to the latitude of acceptance as the individual's favorite brand of a product plus all other brands he would consider acceptable. Those brands the consumer would absolutely reject would form the analogy of his latitude of rejection. Finally, there may be some brands he considered neither acceptable nor objectionable (e.g., new brands he has never confronted) which would comprise his latitude of noncommitment.

The analogy can be carried only so far however. Sherif, Sherif and Nebergall (1965) used political issues, such as those

of the 1960 presidential election, that clearly had two diametrically opposing positions that could be adopted by a voter. Other, more moderate positions, could then be arrayed in a continuum between the two extremes. Such an a priori continuum is not possible where four, five or more brands can be defined in advance for consumers.

The latitudes of acceptance, rejection and noncommitment also relate closely to the concept of involvement which has direct bearing on this research.

Involvement

The concept of involvement has a fairly long history among social psychologists and has more recently become a prominent topic in consumer behavior.

Sherif & Cantril (1947) described the ego as a bundle of attitudes ". . . that determines the more or less enduring character of one's personal identity . . ." (p. 4). They go on to state that "all attitudes that define a person's status or that give him a relative role with respect to other individuals . . . are ego-involved" (p. 98). That is, the closer something impinges upon an individual's sense of identity, the more ego-involved that individual becomes--the more he perceives to be at stake in the way he relates to the rest of the world.

The authors then state, ". . . the intensity with which we hold these attitudes found in relation to social values . . . depends on the degree to which those attitudes are

ego-involved" (p. 151). In other words, the more ego-involving something is to an individual, the more firmly held that attitude is. A person to whom the issue of segregation is highly ego-involving will be less likely to change his attitude toward segregation than someone to whom segregation is not so involving.

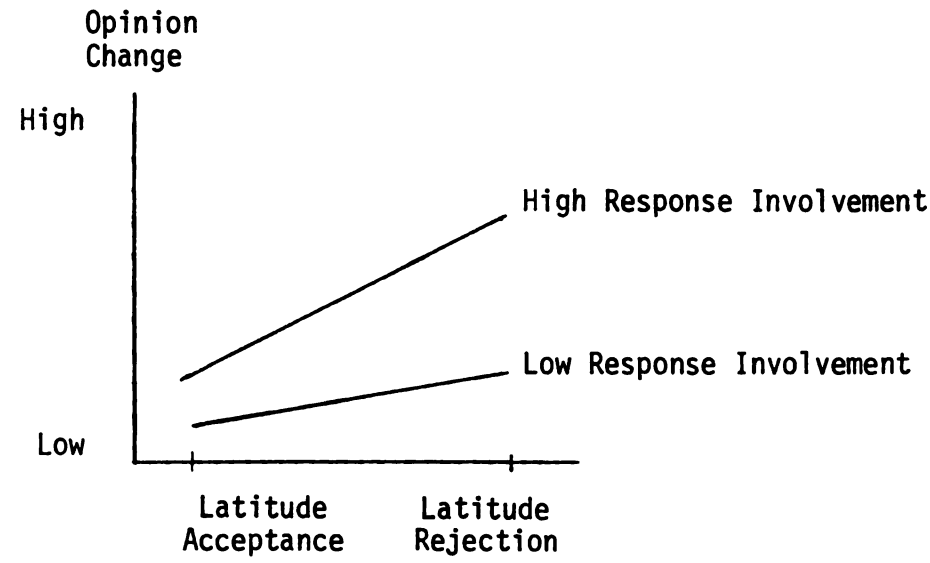
In a later study relating involvement to opinion change, Zimbardo (1960) found that high response-involvement acted to increase opinion conformity.

Response-involvement, as distinct from ego-involvement:

> . . . denotes the instrumental relationship of a given opinion or response to the achievement of a desire goal. The opinion becomes a means of securing reward, approval, or recognition . . . (p. 92).

Since response involvement ties the opinion of an individual to a reward, it can be manipulated more readily in an experimental setting than can ego-involvement. For example, Zimbardo manipulated the response-involvement of his subjects by telling half that the opinions they formed from reading a passage would indicate their social values and personalities; the other half were told that the passage was too short, so the opinions they formed would tell nothing about their values or personalities. The first group thus formed their opinions assuming their personalities and values could be evaluated by these opinions; this group was Zimbardo's high response-involvement group.

Zimbardo's findings can be summarized in the following graph:



These results, at first glance, seem inconsistent with the results obtained in earlier studies on assimilation-contrast. Highly involved individuals, according to assimilation-contrast, should show no opinion change or even boomerang if the message falls within their latitude of rejection. Zimbardo's findings clearly show that opinion changed even more when the message fell within the individual's latitude of rejection, whether S was highly involved or not.

It should be specified, however, that response-involvement and involvement in an issue may have entirely different effects on opinion change. When Zimbardo manipulated his high response-involvement Ss by increasing the instrumentality of their responses, he may have overcome any previous involvement in the issue. Issue involvement was replaced by what was at stake in S's response. Thus, he automatically "widened" S's latitude of acceptance.

If the latitude of acceptance for the high response-involvement condition is indeed wider, this would contrast with earlier suggestions that the latitude of acceptance is wider for low involvement issues (Hovland and Pritzker, 1957, p. 260; Hovland, Harvey and Sherif, 1957, pp. 250-251).

It is interesting to speculate on situation-specific effects as determinants of the acceptability of a message by S. A high issue involvement that S brings with him to the research setting may easily be moderated by manipulating his response-involvement. This would be accomplished by changing the perceived instrumentality--changing his perception of the benefits to be received by his response to the questions posed by the researchers so that S's "true" feelings are overcome, not by the position advocated in the communication, but by what rewards he thinks his answer will get him. Response-involvement, in this sense, is simply another term for reactivity in behavioral measures.

Zimbardo's study is important in illustrating the effects involvement might have on the results of certain empirical tests. A possible explanation for the failure to confirm earlier relationships between prior attitudes and learning (Waly and Cook, 1966; Greenwald and Sakumura, 1967) is the involvement of S with the issue at hand. Segregation may have been a much "hotter" topic in the mid-1960's than it was in studies conducted a decade earlier. One also suspects that the Vietnam War was a highly involving topic on the college campus where Greenwald and Sakumura conducted their study.

Triandis (1971), after reviewing the literature, tried to tie selective exposure (and, indirectly, selective learning) together with involvement when he concluded:

> . . . people in everday life are exposed to disproportionate amounts of supportive information. On the other hand, laboratory results do not support the view that people prefer to be exposed to supportive . . . information. Only under certain conditions (i.e., high ego-involvement) will they prefer supportive arguments . . . (p. 64).

Freedman (1964) related issue involvement to attitude change in a study among college freshmen and high school students. He found that attitude change is moderated by concern (high involvement) or unconcern (low involvement) with an issue. S's latitude of acceptance was wider for the low involvement condition. This result was basically supportive of conclusions drawn by Sherif, Sherif and Nebergall (1965) who found that the latitude of acceptance did not vary with the degree of issue involvement, but the latitude of rejection grew wider as involvement increased. Naturally, the latitude of noncommitment grew narrower as involvement rose.

Miller (1965) found that "high issue involvement consistently reduced the persuasive effects of a discrepant communication . . ." among high school students (p. 130). This finding was consistent with Freedman (1964). Miller also found that issue involvement had no relationship to S's latitude of acceptance which supported Sherif, Sherif and Nebergall (1965).

At this point, the evidence in social psychology indicated that attitude change was inversely related to the degree of

ego-involvement in the issue. However, there was conflicting evidence on the relationship between issue involvement and the size of the individual's latitude of acceptance.

It was around this time that the concept of involvement was picked up and applied to marketing or, more specifically, to advertising. Interestingly, Sherif and Cantril had noted almost two decades earlier (1947) that advertising tries to associate products with consumers' self interest. These interests, they stated, were composed of ego-involving values (p. 352).

Nevertheless, serious interest in involvement by the marketing discipline stems primarily from Krugman (1965) who first suggested that television advertising might be an example of uninvolved learning: the same U curves were showing up in recall tests of TV advertising that social psychologists had shown for recall of nonsense material. Ignoring the possibility that this similarity may be due to nonsense in TV ads (a plausible hypothesis), Krugman used the concept of involvement to account for the similarity. That is, a relative lack of involvement among subjects characterized both nonsense material and television advertising stimuli.

Krugman defined involvement in terms of the number of personal connections the viewer made with the stimulus: the more connections, the greater the involvement.

In three studies of TV vs. print advertising, Krugman (1966-1967) found that consumers' involvement with advertised products was higher for magazines than for TV when high involvement products

were used. There was no difference for the two media when low involvement products were used.

Krugman spoke in terms of a general stimulus involvement at this time, rather than making clearcut distinctions among medium, content, and product involvement. In the course of this work, somehow, he became associated primarily with involvement in media and the more general topic of learning in low involvement conditions.

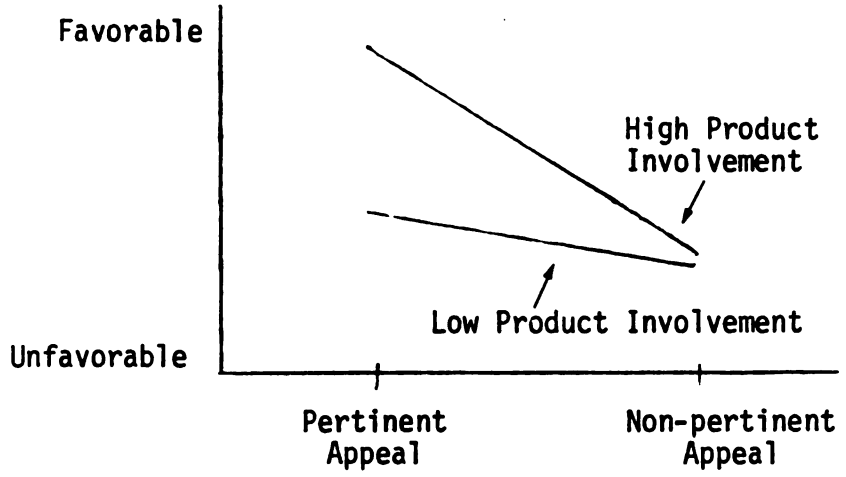
For example, he demonstrated with brain wave measures that relatively high involvement learning took place with print media while low involvement learning occurred with television (Krugman, 1971). Print advertising he concluded, sparked active learning while TV advertising produced passive learning.

Preston (1970) took exception to Krugman's attributing involvement effects to media in an interesting study: Preston simply monitored the kinds of products advertised on TV vs. magazines. Products with low differentiation among brands and high substitutability (soap, aspirin, soft drinks, etc.) are advertised on television. Highly differentiated products (furniture, clothing, etc.) tend to appear more in print. Thus, media may be confounded by what products are being advertised.

Hupfer and Gardner (1971) had undergraduates rate the importance of ten products and ten issues. They found that products are a quite trivial matter to consumers, relative to the issues used in the study. Exceptions to this were a house and automobile which were rated more important than membership in a fraternity and the Apollo space flights. They concluded that since much of the

social psychology literature on attitude change dealt with relatively ego-involving issues, it may not be directly applicable to consumer behavior.

Bowen and Chaffee (1974) related product involvement to "pertinent" advertising. They defined pertinence as: ". . . the comparative discrimination a person makes between two objects . . . when he is evaluating alternatives" (p. 614). They specifically noted comparative advertising as an example of what could be a pertinent ad. Bowen and Chaffee found a strong interaction between pertinence of ad appeal and product involvement as summarized below:



Clearly, these results show that a high involvement product advertisement will be received more favorably if it contains "pertinent" information.

This conclusion suggests that one reason why so much of the empirical work on comparative advertising has been negative is that is has not been used properly. That is, when combined with a highly involving product, comparative advertising may be extremely

effective in terms of favorable evaluation of the ads. This is in direct contrast to the study reported by Levine (1976).

Bowen and Chaffee conclude:

> As involvement increases, so does information need, so that the advertiser who provides pertinent information where it is appropriate stands to gain two kinds of rewards. First, he would seem more likely to gain . . . consumer acceptance of his claims. Second, he should reduce the risk of . . . constraints by consumer protection agencies (p. 615).

This rests on the assumption that consumers desire more information about highly involving products--an assumption shared by others (Chaffee and McLeod, 1973; Day, 1973; Robertson, 1976).

The relationship between the consumer's involvement in the product and the type of ad has also been considered by Rothschild (1977) and Tybejee (1977). Both make the much-needed distinction between product involvement and message involvement and suggest that a highly involving message may compensate for a low involvement product. If this is the case, and if a comparative ad is indeed more pertinent, its effectiveness should increase regardless of the type of product being advertised.

One final issue is the relationship between involvement and attitude change. The conventional wisdom has been that the more ego-involved an individual is in something, the less likely he will be to change his attitude (Sherif and Cantril, 1947; Sherif, Sherif, and Nebergall, 1965; et. al.). There is only a short step from this assumption to that of a direct relationship between product involvement and brand commitment. That is, the more involved someone is in a product class, the more firm he will be in his commitment to a brand.

This is not conceptually reasonable, since it is possible to be highly involved in a product class and completely uncommitted to a particular brand (e.g., when evaluating all different brands of automobiles in anticipation of a purchase), or to be completely uninvolved in a product class but highly committed to a brand because it simplifies the purchase decision (e.g., always buying Skippy Peanut Butter because the consumer feels a more thorough evaluation is a waste of time).

Lastovicka and Gardner (1977) found what they termed two components of product involvement: normative importance and brand commitment. But since they defined normative importance more or less identically to the traditional definition of involvement, they probably did not discover two components of involvement, but, rather, rediscovered involvement plus another construct, namely, brand commitment.

Perhaps with the benefit of hindsight, it seems strange that it required a piece of empirical work to uncover something so conceptually apparent--doubly so, since this difference had been discussed over a decade earlier as it related to issue involvement and commitment to a stand on an issue (Freedman, 1964).

Once the distinction is made, it calls into question much of the work performed on involvement. Lastovicka and Gardner, for instance, question whether the latitudes of acceptance, rejection and noncommitment really refer to the individual's involvement on an issue or his commitment to a position on that issue (p 17).

The analogous concepts in marketing would, of course, be evoked set and product involvement. Does high product involvement necessarily mean a small evoked set size? Perhaps, but high brand commitment certainly implies a small evoked set size.

The relationship between brand commitment and attitude change seems fairly straightforward: the higher the commitment, the smaller the attitude change.

The relationship between product involvement and attitude change, however, is not so obvious. Part of this research will be to test that relationship.

Summary of Issues and Substantive Hypotheses

Based on the literature reviewed in the previous section, the major research issues can be summarized in this way:

1. While some empirical work into the communication effectiveness of comparative advertising has been done, the effects of product involvement and brand usage have not been explicitly taken into account.

2. There is contradictory evidence on the relationship between prior attitude and learning (selective learning). This may relate to the level of involvement the communication has for the receiver.

3. Intuitively, it seems the less involved the individual is in the product class, the more readily he will change his attitude toward a particular brand. This research offers an opportunity to test this empirically.

The substantive research hypotheses flow directly from these issues.

A. Comparative advertising is a more effective form of advertising than Brand X or noncomparative advertising.

B. The effectiveness of comparative advertising will be greater among users than nonusers of the target brand.

C. The effectiveness of advertising will be greater if a high involvement product is being shown than if a low involvement product is.

D. There is no relationship between one's brand attitude and recall of a high involvement product advertisement.

E. There is a positive relationship between one's brand attitude and his recall of a low involvement product advertisement.

CHAPTER III

RESEARCH DESIGN

Basic Design

The research design was an experiment with repeated measures of the dependent variables. Chi-square analysis and analysis of variance (ANOVA) were the major statistical tools used in the analysis.

The independent variables were: 1) product type (high versus low involvement); 2) brand usage (users versus non-users of the target brand); 3) and advertisement (comparative versus Brand X versus noncomparative). The dependent variables were advertising recall and the subject's attitudes toward the brand he used most often.

To look at changes in attitude and recall over time, the study was conducted in three time periods: a pretest (also used to screen subjects and randomly assign them to see the different advertisements): a posttest administered immediately after the subject was shown the advertisement; and a delayed posstest. The data matrix for the study is given in Appendix D.

A control group was not used since the study aims at differences based on which type of advertisement is seen rather than differences between seeing an advertisement and not seeing one. Unwanted effects that carry over from one time period to the next are assumed to be uniform since the advertisement a subject sees is assigned at random; if this assumption is met, the differences that are observed can be attributed to which advertisement the respondent saw.

Besides being of interest in itself, the usage factor was intended to serve as a blocking variable. That is, it was thought that users of the target brand would be more homogeneous in characteristics that correlated with their attitude toward the target brand and their ability to recall advertisements explicitly mentioning the target brand. To the extent that this relationship did exist, it would reduce the error terms of the F-tests, thus increasing the power of the overall design.

Measurement of Dependent Variables

Recall

Recall of the ads was determined using unaided brand name recall and unaided content recall. Name recall was scored into three major categories: no recall of the ad; incorrect name recall; and correct name recall. In addition, two dichotomous methods of scoring name recall were used: 1) recall versus no recall of the advertisement; and 2) correct versus incorrect name recall.

Content recall was scored by the percentage of items of information the subject correctly recalled from the ad. Since any advertisement normally consists of several pieces of information (e.g., a headline, a price, a list of attributes, a photograph, etc.), a respondent who could recall more of these pieces of information was so recognized in the measurement and differentiated from one who recalled, say, only a single item of information.

The items of information were defined ahead of time thus generating an a priori system of coding the open-ended responses of content recall. (See Appendix B for a list of these items.)

Since content recall depends on the subject's ability to remember the advertisement, each subject was reminded of the sponsoring brand when asked to recall what the advertisement said. Recall was measured twice: in the immediate posttest (Time 2) and in the delayed posttest (Time 3).

Attitude

The subject's attitude toward his own brand was determined with three items: 1) brand preference; 2) intention to buy his brand again; and 3) general liking for his brand.

These brand attitudes were measured three times: during the pretest, in the immediate posttest, and in the delayed posttest.

All the attitude items were measured using 7-point bipolar scales. Identical bipolar semantics were used for each of the three time periods to ensure consistency. (See the questionnaires in Appendix C).

Selection of Products and Brands

The two products used for the study were a non-diet cola soft drink and an automobile. The cola was found to be a relatively low involvement product and the automobile a high involvement product in an earlier published survey and in a survey conducted by the researcher in the local area (Hupfer and Gardner, 1971; Traylor, 1978). In this latter study, it was also determined that an automobile yielded a good brand split on Oldsmobile versus non-Oldsmobile drivers (roughly, 40%-60%); the cola had a good brand split on Coca-Cola versus non-Coca-Cola users (roughly 45%-55%). The brand split was operationally important because brand usage was an independent variable in the study: half the automobile users had to drive a particular brand and half the cola drinkers had to use a particular brand.

Development of Advertisements

Advertisements were developed by a senior student in the Graphic Arts Department at Michigan State University with advertising experience. Copy was written by the researcher.

The ads were developed according to the following guidelines:

1. Gain the attention and interest of the reader.
2. Instill awareness of the brand name.
3. Communicate the brand's major attributes and benefits for the consumer; that is, the reader should remember not only the brand, but its superiorities as well.
4. Shift the consumer's liking, preference, and buying intentions away from his or her current brand to the new brand.

5. Create a liking for the advertisement itself.

These guidelines were developed to simulate those that might actually occur for a new brand entering a mature product market and to facilitate communication of objectives between the graphics designer and the copywriter.

Coca-Cola was the target brand for the soft drink comparative advertisement. Vesta Cola was the name given to the fictitious brand.

Oldsmobile was the target brand for the automobile ad and DeOrlean was the name given to the sponsoring brand. To lend credibility to the automobile ad, the DeOrlean was represented as a division of Renault.

In drawing up the ads, an approach considered was to make the advertisements completely comparable except for the product advertised. That is, the same brand name, amount of copy, graphics, etc. would have been used for both the cola and the automobile. However, this was not possible if the advertisements were to be at all credible to the subject. For example, all automobile advertisements contain EPA mileage estimates which would not be appropriate for a cola. Therefore, different types of advertisements were developed for the two types of products. The automobile advertisements were relatively copy-heavy and used a testimonial. The cola advertisements relied more on graphics and stressed only a few points in the copy. The attempt was to make the automobile advertisement a plausible representation of a print advertisement

for a fairly expensive consumer durable; and to make the cola advertisement representative of an ad for an inexpensive, nondurable, convenience item.

Within the automobile advertisements and within the cola advertisements, the only differences were in the comparative, Brand X, or noncomparative approaches. This can be seen in Appendix A which shows the six advertisements developed for the study.

Data Collection

Data collection took place in three phases. The questionnaires are given in Appendix C. Time 1 was a self-administered questionnaire used for screening subjects and assigning them to one of the twelve cells in the design. The questionnaire, a cover letter, and a self-addressed stamped envelope were left at the door or by the mailbox of 600 residences in East Lansing. The residences were chosen for convenience and were primarily apartments. Some single family houses and duplexes were also included. Instructions stated that the questionnaire was to be filled out by the person who did most of the household shopping.

Items in the questionnaire asked for the brand used most often for five products: a non-diet cola soft drink, an automobile, and three other products intended only to divert attention from the products of interest.

For each product, the respondent completed the three attitude questions about his most-used brand using the 7-point scaled items listed earlier.

Returned questionnaires were classified into one of four groups:

1) Cola users who drank Coca-Cola most often;

2) Cola users who drank a brand other than Coke most often;

3) Automobile drivers who drove an Oldsmobile most often;

4) Automobile drivers who drove a car other than Oldsmobile most often.

Each respondent who filled out a Time 1 questionnaire fit into one of these categories. Within the first two categories, subjects were randomly assigned to see one of the three Vesta Cola ads; in the other two categories, subjects were randomly assigned to see one of the three DeOrlean ads.

Time 2 was the treatment phase during which subjects were shown one of the six test advertisements. Trained interviewers arranged appointments with subjects from Time 1 who indicated a willingness to participate in the research. These face-to-face interviews usually took place in the subject's home, although several took place at work. Each interview took place at least seven days after the Time 1 questionnaire was received.

Although the interviewers were experienced and had been trained on the Time 2 questionnaire, they were kept naive regarding the study's objectives.

During Time 2, the subject was shown a booklet of thirteen black and white full page advertisements. The advertisements always appeared on the right-hand page facing; innocuous editorial appeared on the left. Each subject was instructed to flip through

the booklet as though he were doing so with a magazine. The interviewers were instructed to make the setting relaxed and informal. The order of the advertisements was the same and the test advertisement was always the seventh to appear in the booklet; thus, it was always in the middle, whether the respondent went through the booklet front-to-back or vice-versa.

After the respondent had finished looking through the booklet or after a maximum time of four minutes, the booklet was removed from his sight and the brand name and content recall questions were asked. The booklet was then returned to the respondent and the attitude and credibility questions were asked while the respondent had an opportunity to look at the advertisement being discussed. Thus, each subject saw the test advertisement twice: once when he flipped through the booklet and again when the attitude questions were asked.

A "hand card" with the 7-point scale and the appropriate polar items was given to the subject to use in answering these questions.

In addition to the test ad, four of the twelve filler advertisements were also used for the same series of recall, attitude, and credibility questions. The purpose of asking questions about these advertisements was solely to disguise the purpose of the study which the respondent and interviewer might have guessed had all the questions focused only on the test advertisement.

The interviewers were systematically reassigned to interview respondents in different cells to reduce interviewer bias.

Nevertheless, a chi-square test of interviewer by advertisement type was highly significant ($p < .01$) because two interviewers completed a disproportionate number of interviews within certain cells.* The measure that would most readily indicate interviewer bias would be the open-ended content recall question of Time 2. A significant difference across interviewers would indicate differences in probing and recording open-ended responses. Fortunately, this difference is not significant ($p = .43$) nor is the interviewer x advertisement interaction ($p = .54$). Thus, although the systematic rotation of the interviewers was not effective in "spreading them out" over the treatment conditions, significant interviewer bias probably did not occur.

At the end of Time 2, the interviewers were debriefed and the study was explained to them. At that time, it was learned that none of the interviewers had guessed that the study compared the effectiveness of different advertisements. While they were aware of the car versus cola advertisements, none had noticed the comparative versus Brand X versus noncomparative advertisements on each product. Nor had any interviewer realized that half the "cola respondents" were users of Coca-Cola or that half the "auto

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*This was accounted for by two "real world" problems. Some of the cells of the design were easier to fill than others; for example, it was easier to find an automboile driver than a cola drinker and easier to find a non-Oldsmobile driver than an Oldsmobile driver. Interviewers initially assigned to the "easy" cells had a much larger proportion of the cell quota to draw from in a given time period than would interviewers assigned to the "hard" cells. Complicating this were differences in scheduling and interviewer productivity.

respondents" drove Oldsmobiles. Thus, the interviewers remained naive throughout the study.

Time 3 was a telephone interview conducted by the researcher and took place at least ten days following the Time 2 interview. Calls were made to the respondent's home or, in some instances, to his place of work, depending on his preferences stated during Time 2.

The attitude questions about the subject's own brand were the same as those in Times 1 and 2. By this time, the respondent had had considerable experience with the 7-point scaled items and there was no difficulty in applying these over the phone.

Demographic information was obtained at the end of the Time 3 interview and the respondent was asked if he knew the nature of the study. Most knew it "was about advertising" or "how much people remember from advertising," but none guessed the experimental nature of the study or the comparisons of communication effectiveness. Surprisingly, none guessed that the test focused on the DeOrlean advertisement or the Vesta Cola advertisement, even though Time 3 did not refer specifically to any phony advertisement. Thus, the subjects remained naive.

Respondents were debriefed and asked not to discuss the research with anyone else.

Coding

Coding of the open-ended questionnaires was done in a three-step process: each questionnaire was coded by the researcher; each was then checked independently by another coder; any disagreement

was then resolved by discussion until agreement was reached between the researcher and the coder.

The content recall items were coded using the a priori codes in Appendix B. The percentage of content recall was computed by counting the number of items of information reported by the subject and dividing by the total number of items in the advertisement. In the DeOrlean comparative advertisement, for example, there were 25 items of information; so, a subject who recalled, say, three items received a score of 12.

Of the 120 questionnaires coded, there were seven disagreements between the researcher and the coder on the correct value for the content recall variable; and since content recall was measured twice (once in Time 2 and once in Time 3), there were actually 240 potential disagreements. Each of the seven disagreements was resolved by discussion.

Reclassification of Advertisements and Involvement Advertisements

Although the advertisements were defined a priori as being comparative, Brand X, or noncomparative, question #33a in the Time 2 questionnaire was used to check this classification on a perceptual basis; that is, each subject was asked to identify any comparative ads he had seen in the booklet. Table 1 shows the number of respondents who named the Vesta or DeOrlean advertisement as a comparative advertisement broken down by the a priori type of advertisement they "actually" saw. It is obvious from this table

TABLE 1.--Advertisements Perceived as Comparative by A Priori Classification.

Comparative		Brand X		Noncomparative	
f	%	f	%	f	%
32	80	17	43	3	8

that, while most of the respondents agreed with the a priori classification, some did not. In particular, 12 of the 20 subjects who saw the Vesta Cola Brand X advertisement reported this as a comparative advertisement. Of these 12, five reported that the target brand was Coca-Cola. Another two said the target brand was Pepsi.

This discrepancy raises the question of construct validity in determining types of advertising. Wilkie and Farris (1975) understood the need for a perceptual emphasis when they mentioned the criterion of recognizability of a target brand or brands in a comparative advertisement. But none of the empirical literature has approached this problem and, in fact, all the studies have used an a priori classification developed by the researcher. This makes sense from an advertiser's point of view, since information about the relative efficacy of comparative advertising is useless if the advertiser cannot "make" a comparative ad. Nevertheless, the problem ought to be approached from a perceptual standpoint as well, simply in the interest of generating consumer-based information.

The issue here is similar to that regarding a marketer's versus consumer's basis for classifying goods.

Within the respondent-based method of classification, there were three approaches that could be taken for purposes of this research. The first was that a comparative advertisement could be defined as such only if the consumer correctly identified the brand, or brands being compared; the second required the consumer to name some brand, whether or not it was the correct target brand. Third, the consumer had merely to recognize that the sponsoring brand was being compared to a competitor's product, whether or not he could assign a brand name to this product.

It is this last, most general approach that was adopted for this research. In fact, of the twenty subjects who saw a Brand X or noncomparative advertisement, but reported it as making a comparison against a competitor's product, only seven explicitly named another brand as the target brand. Other responses were "all other brands," "similar brands," etc.

Those thirteen respondents who did not explicitly name a target brand could have been classified as having seen a Brand X advertisement or grouped into the noncomparative perceptual category. Any way of classifying them in a group would have been partially judgmental. Besides the problems of sample size, the theoretical rationale for assigning them to the comparative category was that they recognized that some type of product comparison was taking place. Whether or not they could explicitly name a target brand was

of less interest than the dynamics that may have caused them to report a comparison.

In this sense, a more appropriate term for the comparative advertisement category from the respondent's standpoint might be "pertinent advertising." This term was used in a study cited earlier to indicate ". . . the comparative discrimination a person makes between two objects in a situation where he is evaluating alternatives" (Bowen and Chaffee, 1974, p. 614). This implies that all comparative advertising is pertinent, but the converse does not necessarily hold.

To maintain consistency, the term comparative advertising was used. However, it should be kept in mind that 25% of these subjects did not explicitly name a target brand.

Product Involvement

Although there was previous support for using an automobile as a high involvement product and a soft drink as a low involvement product (Hupfer and Gardner, 1971; Traylor, 1978), this too was checked in Time 2. The results are given in Tables 2 and 3 which confirm using the two products to represent the two ends of the involvement spectrum. However, some subjects rated the cola at a high level of involvement while others rated the automobile at a low level of involvement.*

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*The actual measurement asked the subjects to rate the importance of the product to themselves. This measurement of involvement was used by Hupfer and Gardner (1971) and Traylor (1978). See the Phase II questionnaire in the Appendix.

TABLE 2.--Chi-Square Analysis of Involvement Score by Type of Product.

	Low Involvement			Neutral		High Involvement	
	1	2	3	4	5	6	7
Auto	4	2	0	1	6	20	27
Cola	10	13	7	11	11	3	5

$X^2 = 55.13$ d.f. = 6 $p < .01$

TABLE 3.--T-Test of Product Involvement Score by Product.

	$\overline{X}$	s^2	s	n
Automobile	5.85	2.84	1.69	60
Cola	3.48	3.41	1.85	60

t = 6.23 d.f. = 118 $p < .01$

(1 - tailed test)

NOTE: The difference between the two variances is not significant at $\alpha = .26$.

Reclassification

As a result of these discrepancies in the classifications of the type of advertisement seen and in product involvement, the analysis was conducted using both the a priori categories and the respondent categories. For the respondent categories, the advertisements were split into two levels: comparative and noncomparative. Involvement was dichotomized into high involvement and low involvement.*

The a priori classification uses the 3 x 2 x 2 factorial design within each time period as discussed earlier; the respondent classification uses a 2 x 2 x 2 design within each time period. For illustration, Appendix D contains the data matrix for the respondent classifications with the cell sample sizes filled in.

Stastical Procedures Using the Respondent Classification

An important question related to the unbalanced design obtained from the respondent reclassification concerns the nonorthogonality of the main effects with each other and of the interaction effects with the main effects. Unless corrected, this could distort the statistical tests.

There are two ways to handle the ANOVA if cell sizes are unequal and disproportional.

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*The median score for the involvement measure was 5.2 when the cola and automobile responses were combined. This statistic was the basis for dichotomizing the involvement variable.

One method is an unweighted means ANOVA which treats each cell mean as a single observation and uses the harmonic mean to compute the sums of squares for each effect (Keppel, 1973, pp. 347-362; Glass and Stanley, 1970, p. 440). The other method is the regression approach which is a least squares technique.*

Authors who propose the unweighted means ANOVA emphasize the importance of the orthogonality among the sources of variation. The unweighted means ANOVA "forces" orthogonality into the design by using the harmonic mean to compute the sums of squares. Thus, the sums of squares for each effect add to the total sum of squares.

Proponents of the regression approach emphasize the importance of performing an exact F-test. Exact F-tests are performed by the regression method since it partitions the individual effects while adjusting for all the other effects: the F-test is performed for the unique, incremental contribution of each effect, having already taken all the other effects into account. In the regression approach, however, the sums of squares will, in general, not sum to the total if cell sizes are unequal: since the effects are not orthogonal, some of the variation can be attributed to no single source.

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*Neter and Wasserman (1974). In addition, two popular computer packages of statistical routines, SPSS and SAS, both provide the regression technique, but not the unweighted means technique. Neither "side of the controversy" mentions the other, at least not in the above literature. From a phone conversation, James H. Goodnight, who wrote the General Linear Model (GLM) set of routines for the SAS package, was unaware of the unweighted means approach.

If all cell sizes are equal, the regression approach will yield exactly the same results as the standard ANOVA computations. In this study, both methods were used on several tables and yielded nearly identical results both in computing the sums of squares and when the final F was computed. This was because the cell sample sizes were only slightly disproportional and the disproportionality was not statistically significant. For this reason, the regression approach was used, since it was readily available on computer statistical packages.

Research Hypotheses

Given the issues and substantive hypotheses developed for the research, and the dependent measures discussed at the beginning of this section, eleven research hypotheses have been formulated. These correspond to the substantive hypotheses listed earlier, but are here operationalized using the dependent measures of the study.

Brand Name Recall

H_1 Brand name and advertisement recall will be highest among those who are exposed to the comparative advertisement.

H_2 For those who are exposed to the comparative advertisement, brand name and advertisement recall will be higher if they are users of the target brand than if they are nonusers.

H_3 Brand name and advertisement recall will be higher among those who are exposed to an advertisement for a high involvement product than among those exposed to a low involvement product.

Content Recall

H_4 Content recall will be highest among those exposed to the comparative advertisement.

H_5 Content recall will be higher among those who are exposed to an advertisement for a high involvement product than among those exposed to a low involvement product.

H_6 For those exposed to the comparative advertisement, content recall will be higher if they are users of the target brand than if they are nonusers.

Attitude Change

H_7 Attitude change away from their own most-used brands will be greatest among those exposed to the comparative advertisement.

H_8 For those exposed to the comparative advertisement, attitude change away from their own most-used brands will be greater among users of the target brand than among nonusers.

H_9 Attitude change away from their own most-used brands will be greater among those exposed to an advertisement for a low involvement product than among those exposed to an advertisement for a high involvement product.

Selective Recall

H_{10} For those exposed to a high involvement product advertisement, there will be no relationship between one's attitude toward his own most-used brand and content recall.

H_{11} For those exposed to a low involvement product advertisement, there will be a positive relationship between one's attitude toward his own most-used brand and content recall.

Response Rates

The response rate to the Time 1 self-administered questionnaire was 35%. Tables describing the response rates are given in Appendix B.

Of the 209 respondents who completed and returned the Time 1 questionnaire, eight indicated they would be unwilling to continue in the study, leaving 201 questionnaires.

Of these 201 respondents, 125 completed Time 2. Most of the other 76 respondents were never contacted for a Time 2 interview since they were not needed to complete the study. Thus, the "dropout rate" was quite low.

Of the 125 respondents who completed Time 2, 120 completed Time 3 which was the sample size required. Of the five who finished Time 2, but were excluded from the final sample, two could not be contacted for Time 3 by the end of the data collection; and the other three had switched brands of automobiles. Since the attitude measures were based on the respondent's same brand over all three phases of the study, brand switching rendered these results incomparable. These respondents were, therefore, deleted from the final sample.

CHAPTER IV

FINDINGS

Sample Characteristics

Tables showing the demographic characteristics for the sample are given in Appendix E. The sample was biased toward whites, professionals and managers, the well educated and young adults (20s and 30s) who lived by themselves or with one other person. A large number were also single. This demographic profile is not surprising given the apartment area near the university from which most of the sample was drawn.

In the random assignment of subjects to the three different types of advertisement, there was no significant bias by any demographic group. However, bias in the other independent variables occurred in two ways: (1) younger respondents were more likely to have been cola users and tended to be assigned to see one of the three cola advertisements; and (2) older respondents were more likely to have been Oldsmobile drivers, so were assigned to see one of the three automobile advertisements. There was no other statistically significant bias with the independent variables by the demographic variables measured in the study. In particular, age was not confounded with the type of advertisement that was seen.

Advertisement Recall and Name Recall By Advertisement Type

A Priori Classification

Table 4 shows the results of the unaided brand name recall for the total sample based on the a priori classification for the Time 2 immediate posttest.

While high statistical significance was not obtained, the results were in the direction predicted. In particular, nearly twice as many subjects who saw the comparative advertisement recalled the brand name correctly.

Table 5 shows the results for Time 3 delayed posttest.

TABLE 4.--Brand Name Recall by Advertisement Type in the Time 2 Immediate Posttest.

	Comparative Ad	Brand X Ad	Noncomparative Ad	Total
Correct Recall	18	10	10	38
Incorrect Recall	12	17	12	41
No Recall	10	13	18	41
Total	40	40	40	120

$X^2 = 6.98$ d.f. = 4 p = .14

These results are generally consistent with those of Time 2. Again the direction was as predicted, although high statistical significance was not obtained. The big change from Time 2 to Time 3 was that more subjects could recall the advertisement in Time 3. This was probably because the advertisement had been discussed and

TABLE 5.--Brand Name Recall by Advertisement Type in the Time 3 Delayed Posttest.

	Comparative Ad	Brand X Ad	Noncomparative Ad	Total
Correct Recall	16	11	7	34
Incorrect Recall	19	27	27	73
No Recall	5	2	6	13
Total	40	40	40	120

$X^2 = 7.34$ d.f. = 4 p = .12

questions asked about it during the Time 2 interview. That is, subjects who were asked the recall question in Time 2 were responding to one exposure of the advertisement; in Time 3, they had seen the advertisement twice and had discussed it with the interviewer during the second exposure. Therefore, it is not surprising that recall of the advertisement went up from one time period to the next.

The total sample was broken down by product type and by brand usage to see if any notable differences emerged. In general, the results were consistent with those for the total sample.

In addition, the dependent variable was rescored in two ways:

(1) As a dichotomous variable: ad recall vs. no recall, in which correct and incorrect versions of the brand name were combined. A mention of "a soft drink" or "some car" was also counted as ad recall.

(2) As a dichotomous variable: correct name recall vs. incorrect name recall in which a failure to recall the ad was counted as incorrect.

The tables thus generated are given in Appendix F and are also generally consistent with the results presented here; that is, the

results were usually in the direction predicted, but were not statistically significant.

Respondent Reclassification

The same analysis was done based on the respondent reclassification in which the subjects defined what advertisements made comparisons and whether the cola or automobile were reported as high or low involvement products. Results for the total sample in the Time 2 immediate posttest are given in Table 6.

TABLE 6.--Brand Name Recall by Advertisement Type Using the Respondent Classification in the Time 2 Immediate Posttest.

	Comparative Ad	Noncomparative Ad	Total
Correct Recall	21	17	38
Incorrect Recall	17	24	41
No Recall	14	27	41
Total	52	68	120

$X^2 = 3.67$ d.f. = 2 p = .16

The results are consistent with those when the a priori classifications were used. The direction is as predicted, but does not reach high statistical significance.

The Time 3 results from the delayed posttest are given in Table 7.

These results are in the direction predicted and reach a higher level of statistical significance.

Chi-square tables that used the Recall-No Recall method of scoring and the Correct-Incorrect method of scoring are given

TABLE 7.--Brand Name Recall by Advertisement Type Using the Respondent Classification.

	Comparative Ad	Noncomparative Ad	Total
Correct Recall	21	13	34
Incorrect Recall	26	47	73
No Recall	5	8	13
Total	52	68	120

$X^2 = 6.60$ d.f. = 2 p = .04

in Appendix F. These are consistent with Tables 6 and 7 shown here.

As with the a priori method of classifying the advertisements, additional subsample breakdowns were run to see if any patterns emerged based on brand usage and the level of product involvement. These subsample results generally reflect the results for the total sample. While the direction of results was as predicted, statistical significance was usually not reached.

DeLorian and Renault

A number of respondents confused the name DeOrlean with DeLorian.* Interviewers were instructed to count DeLorian as an incorrect response. Although, given the random assignment of respondents, the DeOrlean-DeLorian confusion should not have

*A man named DeLorian, it was learned, left General Motors recently and is organizing to manufacture a car bearing his name. Ironically, he is supposedly negotiating with Renault to supply the chassis for his car.

mattered, the data were reanalyzed counting DeLorian as a correct response. This had the effect of lowering the X^2 values by moving more subjects from the incorrect to the correct category.

In addition, counting Renault as a correct response had the same effect of lowering the X^2 values and raising the significance levels.

Discussion and Summary of Brand Name Recall Results

The results on correct brand name recall and recall of the advertisement are partially consistent with those of Prasad* who found no significant differences in correct brand name recall by type of advertisement. But unlike his research, this evidence is not entirely clearcut. In the 72 Chi-square analyses performed using the breakdowns by product type, by usage, and for the alternative methods of scoring name recall, the direction predicted in H_1 was found in all but a few circumstances--especially when using the respondent method of classifying the advertisements--although the accepted level of statistical significance was usually not there. For the most part, the significance levels hovered in the .12 to .16 range.

Stated one way, there was insufficient evidence that, given an unknown brand in a mature product market, a comparative advertisement will result in a higher level of correct brand name recall.

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*Prasad (1975) and Levine (1975) also report no advantage in using comparative advertising; Jain and Hackleman (1978) found a significant difference in favor of comparative advertising.

Stated in a less statistically rigorous, but perhaps more practical way, the preponderance of this evidence points to greater name recall effectiveness of comparative advertising in the aggregate, although not under specific conditions of brand usage, the type of product advertised, or the level of involvement.

Regardless of which of these two interpretations is favored, the evidence, on the whole, certainly does not show comparative advertising to be less effective than Brand X or noncomparative advertising. A few tables were produced in which the direction was not as predicted, but the sample sizes were low, the results were not statistically significant, and such results may be produced by chance.

The effectiveness of comparative advertising on recall of the brand name may be an area for additional research using larger sample sizes.

Confusion of Target Brand with Sponsoring Brand

Respondents recalled the target brand name as the sponsoring brand twice, both times in Time 3. One recalled Oldsmobile and the other Coca-Cola, and both saw the comparative type of advertisement. This is to be expected since the target brand is mentioned only in the comparative advertisement, and the number who confuse the target brand with the sponsoring brand would likely be greater than or equal to the number who confuse the two in another kind of advertisement. However, the contention that comparative advertising

gives "free advertising" to competitors does not seem to be supported by this research.

Advertisement and Brand Name Recall By Usage of the Target Brand

Tables 8 and 9 are the Chi-square contingency tables for advertisement and sponsoring brand name recall broken down by usage or non-usage of the target brand named in the comparative advertisement. It can be seen that, for the total sample, usage or non-usage of the target brand made little difference in the impact of the advertisement on recall of the sponsoring brand name.

When the analysis was restricted to those subjects who saw the comparative advertisement, usage was not a significant factor in affecting brand name recall or recall of the advertisement in general. Whether the comparative advertisement was defined as such on the a priori or the respondent basis did not change the results.

Thus, H_2 which hypothesized that recall would be greater for users of the target brand than for non-users was not supported. Usage of the target brand had little effect on the ability to recall the sponsoring brand's name and the results were contrary to the direction predicted.

Brand Name and Advertisement Recall By Product Involvement

A Priori Classification

Tables 10 and 11 are the Chi-square contingency tables that break recall down by the product advertised. The results were

TABLE 8.--Brand Name Recall by Usage of Target Brand in the Time 2 Immediate Posttest.

	Brand Users	Brand Non-Users	Total
Correct	17	21	38
Incorrect	22	19	41
No Recall	21	20	41
Total	60	60	120

$X^2 = .66$ d.f. = 2 p = .72

TABLE 9.--Brand Name Recall by Usage of Target Brand in the Time 3 Delayed Posttest.

	Brand Users	Brand Non-Users	Total
Correct	19	15	34
Incorrect	34	39	73
No Recall	7	6	13
Total	60	60	120

$X^2 = .89$ d.f. = 2 p = .64

TABLE 10.--Brand Name Recall by Product in the Time 2 Immediate Posttest.

	Automobile	Cola
Correct Recall	19	19
Incorrect Recall	28	13
No Recall	13	28
$X^2 = 10.98$	d.f. = 2	$p < .01$

TABLE 11.--Brand Name Recall by Product in the Time 3 Delayed Posttest.

	Automobile	Cola
Correct Recall	16	18
Incorrect Recall	41	32
No Recall	3	10
$X^2 = 5.00$	d.f. = 2	$p = .08$

significant in both time periods. The results were also significant when recall was scored as recall vs. no recall of the advertisement.

The cola name, Vesta, was recalled about equally correctly as the name for the automobile, DeOrlean. But the automobile advertisement was recalled better than the cola advertisement. This would imply that while the automobile advertisement was more readily remembered, the name Vesta registered about as well as the name DeOrlean.

The product in the advertisement, however, was confounded with the graphics and copy. That is, the differences should not be attributed to the products, but to the advertisement in toto. No attempt was made to render the automobile advertisements comparable to the cola advertisements in any respect, except that both were in black and white. To attribute differences in recall to the product advertised would, therefore, be misleading.

Respondent Classification

When the involvement scores, rather than the product type were used, the results were not significant except in Time 3 as shown in Tables 12 and 13. The direction was as predicted by H_3: recall was higher for high involvement products than for low involvement products.

Thus, it would seem that no difference in the ability to recall a sponsoring brand name or advertisement can be attributed to differences in how involving the advertised product is for the reader in an immediate recall setting; however, involvement with

TABLE 12.--Brand Name Recall by Involvement Score in the Time 2 Immediate Posttest

	High Involvement	Low Involvement	Total
Correct	22	16	38
Incorrect	26	15	41
No Recall	24	17	41
Total	72	48	120

$\chi^2 = .31$ d.f. = 2 p = .86

TABLE 13.--Brand Name Recall by Involvement Score in the Time 3 Delayed Posttest

	High Involvement	Low Involvement	Total
Correct	22	12	34
Incorrect	46	27	73
No Recall	4	9	13
Total	72	48	120

$\chi^2 = 5.22$ d.f. = 2 p = .07

the advertised product may result in recall differences after a period of time has elapsed.

This conclusion should be tempered, however, with the possibility that the statistically significant difference in Table 13 occurred by chance. And, it should be recalled that the product type is strongly correlated with the level of product involvement; thus, the same confounding of involvement with the advertisement itself may be operating here.

On the whole, the Chi-square analyses of brand name and advertisement recall show a consistent lack of significance regardless of which criterion variable is used. This may be attributed partially to the low power of the statistical test as well as to the lack of anything significant "really out there." In the course of the brand name recall analysis, a total of 114 Chi-square tables were generated, so there is a 90% chance that eleven or twelve of them will show significance (at $\alpha = .10$) by chance alone. The lack of any consistent pattern in the results shows this may have happened. That is, the significant Chi-square tables occurred here and there at random.

Theoretical speculation about why names for high involvement products will be remembered better than for low involvement products after some time has elapsed is apparent: fo[illegible]tting is less because the product is closer to the individual's [illegible]e of self. Whether or not this phenomenon is demonstrated here is questionable, significant Chi-square results notwithstanding.

Summary of Brand Name Recall Findings

In general, the hypotheses regarding brand name recall by advertisement type, by usage or non-usage of the target brand, and by level of product involvement are not supported. However, the direction of results indicate that the sponsoring brand name will be recalled correctly more often if a comparative advertisement is seen; or if the product is rated as highly ego involving. Usage of the target brand does not affect the ability to recall the name of the sponsoring brand correctly and, in fact, the results were in the other direction.

Content Recall

A Priori Classification of Advertisement Types and Product Involvement

Overall, the comparative advertisement resulted in higher levels of average percent content recall than either the Brand X or noncomparative types of advertisement. This is shown in the significant main effect for advertisement type shown in Table 14.

Planned comparisons show that these differences are all significant ($p < .01$). In addition, these results are observed within each of the two time periods when the content recall measure was taken. This is seen in Tables 15 and 16. The cell means and standard deviations used to generate Tables 14 to 16 are given in Appendix G.

The significant main effect for the time period in Table 14 occurred because the content recall scores increased from the Time 2

TABLE 14.--ANOVA Table For Content Recall Using Time Period as a Factor.

Source	Sum of Square	d.f.	Mean Square	F	p
Time (T)	579.70	1	579.70	11.00	<.01
Ad Type (A)'	4736.03	2	2368.02	13.04	<.01
Product (P)'	92.50	1	92.50	.51	NS
Target Brand Usage (U)'	3.50	1	3.50	.02	NS
T x A	7.76	2	3.88	.07	NS
T x U	36.04	1	36.04	.68	NS
T x P	301.50	1	301.50	5.72	.02
A x U'	602.86	2	301.43	1.66	NS
A x P'	735.36	2	367.68	2.02	NS
U x P'	73.70	1	73.70	.41	NS
T x A x U	76.83	2	38.42	.73	NS
T x A x P	106.56	2	53.28	1.01	NS
T x U x P	42.50	1	42.50	.81	NS
A x U x P'	534.06	2	267.03	1.47	NS
T x A x U x P	19.76	2	9.88	.19	NS
R: A x U x P	19610.45	108	181.58		
TR: A x U x P	5695.85	108	52.74		
TOTAL	33254.96	239			

'Used R: A x U x P as the demoninator in F-test; all others used TR: A x U x P as the denominator.

TABLE 15.--ANOVA Table For Content Recall in the Time 2 Immediate Posttest.

Source	Sum of Squares	d.f.	Mean Square	F	p
Ad Type	2339.72	2	1169.86	10.21	<.01
Product	30.00	1	30.00	.26	NS
Brand Usage	8.53	1	8.53	.07	NS
Ad Type X Product	541.85	2	270.93	2.37	.10
Ad Type X Brand Usage	334.82	2	167.41	1.46	NS
Product X Brand Usage	2.13	1	2.13	.02	NS
Ad Type X Product X Brand Usage	322.02	2	161.01	1.41	NS
Residual	12371.40	108	114.50		
Total	15950.47	119	134.04		

TABLE 16.--ANOVA Table For Content Recall in the Time 3 Delayed Posttest.

Source	Sum of Squares	d.f.	Mean Square	F	p
Ad Type	2404.07	2	1202.03	10.04	<.01
Product	364.01	1	364.01	3.04	.08
Brand Usage	31.01	1	31.01	.26	NS
Ad Type X Product	300.07	2	150.03	1.25	NS
Ad Type X Brand Usage	344.87	2	172.43	1.44	NS
Product X Brand Usage	114.08	1	114.08	.95	NS
Ad Type X Product X Brand Usage	231.80	2	115.90	.97	NS
Residual	12934.52	108	119.76		
Total	16724.41	119	140.54		

immediate posttest to the Time 3 delayed posttest. These scores went up, on average, since the subjects were allowed to look at and read the advertisement after the first content recall questions were asked. This effect, in itself, is of no theoretical interest.

Interactions involving the product type.--There is a time period x product interaction shown graphically in Figure 1. It can be seen that the average content recall increased much more for the cola ad than for the automobile ad.

In the Time 2 immediate posttest, there is also a product x advertisement type interaction that approaches statistical significance shown graphically in Figure 2.

In the simple main effects test for the advertisement x product interaction in Time 2, neither the comparative nor the Brand X advertisement was more effective for one product than for the other.* However, the noncomparative advertisement was significantly less effective for the cola than it was for the automobile ($p < .01$) which is what caused the interaction. This does not change the conclusion that, on average, the comparative advertisement was the most effective as measured by content recall.

Discussion of product interactions.--Both the time period x product interaction from Table 14 and the advertisement type x

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*The denominator used in calculating the F statistic for these and the following simple main effects tests was the mean square residual for only those observations involved in the calculation of the simple main effect. This variance estimate was used instead of an overall, pooled variance term to overcome problems of unequal variances within the individual cells (see Keppel, op. cit., p. 219).

FIGURE 1
TIME PERIOD x PRODUCT
INTERACTION

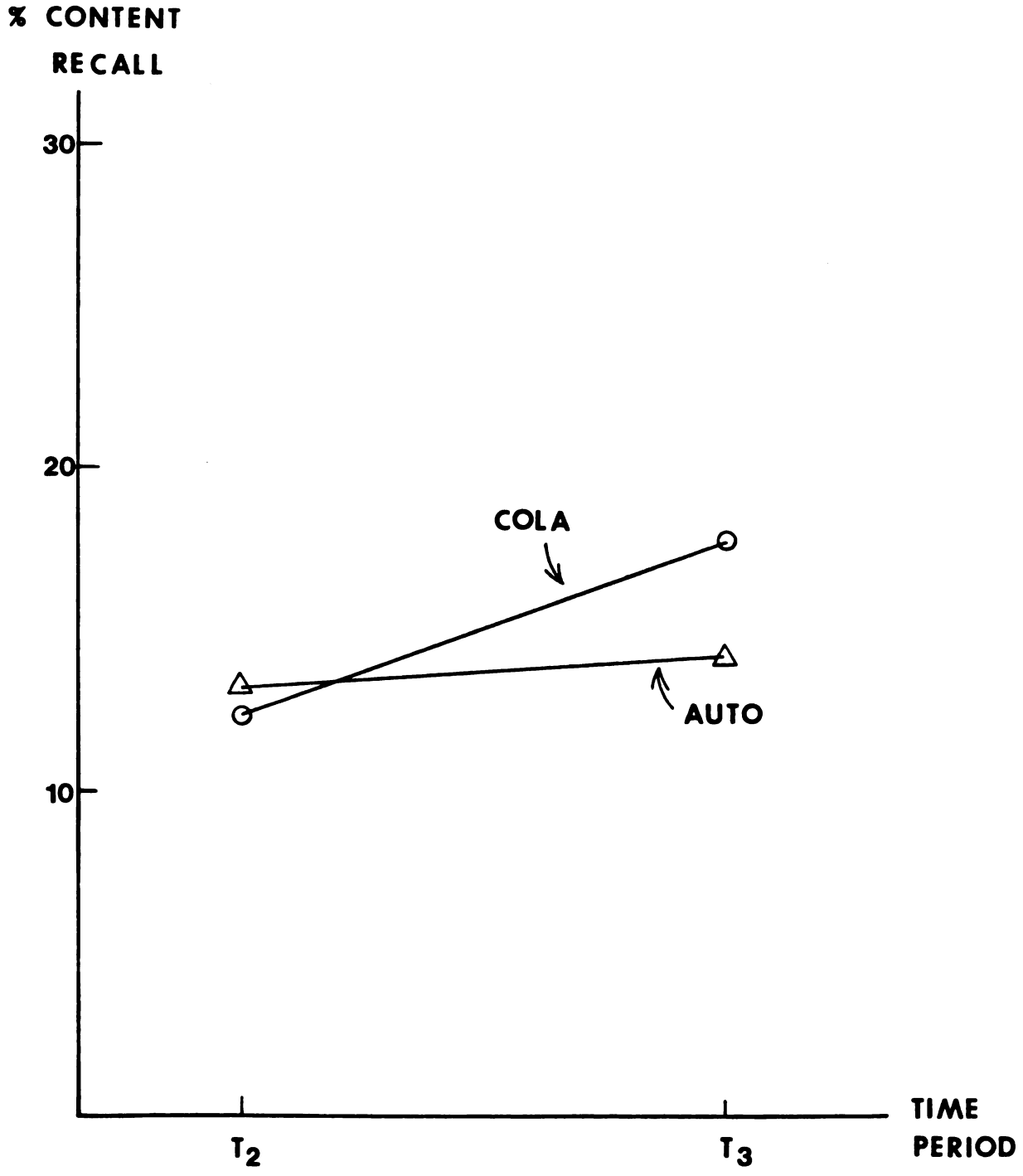
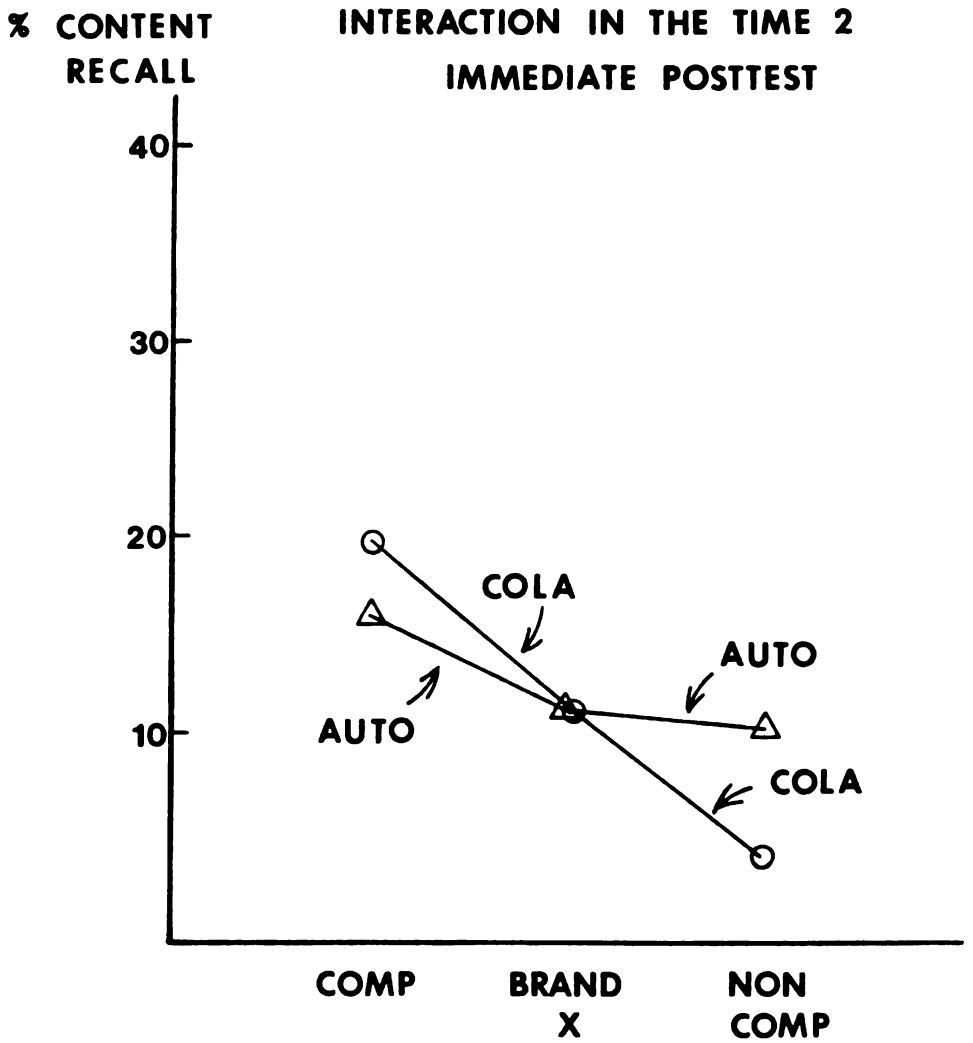


FIGURE 2

PRODUCT x ADVERTISEMENT INTERACTION IN THE TIME 2 IMMEDIATE POSTTEST



product interaction in Table 15 should be interpreted cautiously. As discussed earlier, the automboile advertisements and the cola advertisements are not comparable. That is, the product in confounded with headline, graphics, copy and layout of the advertisement as they were to the cola product class. Thus, a conclusion that product and advertisement interacted might be misleading. The significant main effect of product in Time 3 (seen in Table 16) can also be attributed to the advertisement overall rather than the particular products used.

At the same time, the copy and graphics for the automobile tried to simulate those that might be used for a new, high ticket, durable shopping good in general and an automobile in particular. Data on EPA ratings, product performance, engine size, a testimonial from a satisfied user and fairly extensive informative copy were used. For the cola, only a few, brief points were made in the copy: price, flavor, sweetness and newness.

In addition, the significant interactions involving products were probably not of the sort to interest most marketers. That is, the comparative advertisement was the most effective for <u>both</u> products. The interaction occurred because the differences in effectiveness were more dramatic for the cola than they were for the automobile.

Respondent Reclassification

When the respondents reported whether the advertisement had made a comparison and rated the level of ego involvement with the product class, the respondent-defined comparative advertisement resulted in significantly greater content recall, on average, than did the advertisements not reported as making comparisons. This is shown in Table 17 for the two time periods combined and in Tables 18 and 19 within each of the two time periods. This result, then, is consistent with that reported for the a priori classification: the comparative advertisement was more effective no matter who defined it as such, when effectiveness was measured by the percent of the advertisement's content the sample could recall.

Advertisement Type X Target Brand Usage Interaction--One difference between the respondent classification and the a priori classification is the significant advertisement type x usage interaction shown in all three of the ANOVA tables. These interactions are all disordinal as shown graphically in Figure 3, 4 and 5.

The comparative advertisement is more effective, on the average, among users of the target brand than among non-users. In addition, the "drop-off" in average content recall among users of the target brand is more extreme going from the comparative to the noncomparative ad than it is among the non-users. The strength of this observation is reinforced in the similarities of the graphs from the two time periods: the "superior" effectiveness of

TABLE 17.--ANOVA Table For Content Recall Using Time Period as a Factor: Respondent Classification.

Source	Sum of Squares	d.f.	Mean Square	F	p
Time (T)	579.70	1	579.70	10.86	<.01
Ad Type (A)	4761.01	1	4761.01	26.79	<.01
Involvement (I)	23.51	1	23.51	.13	NS
Target Brand Usage (U)	3.50	1	3.50	3.50	NS
T x A	33.40	1	33.40	.63	NS
T x U	36.04	1	36.04	.68	NS
T x I	7.51	1	7.51	.14	NS
A x U	1309.87	1	1309.87	7.37	.01
A x I	19.40	1	19.40	.11	NS
U x I	1.88	1	1.88	.01	NS
T x A x U	0.00	1	0.00	.00	NS
T x A x I	4.55	1	4.55	.09	NS
T x U x I	198.98	1	198.98	3.73	.06
A x U x I	368.25	1	368.25	2.07	NS
T x A x U x I	32.23	1	32.23	.60	NS
R: A x U x I	19901.03	112	177.69		
TR: A x U x I	5978.48	112	53.38		
Total	33254.96	239			

TABLE 18.--ANOVA Table For Content Recall in the Time 2 Immediate Posttest Based on the Respondent Classifications of Advertisement Type and Product Involvement.

Source	Sum of Squares	d.f.	Mean Square	F	p
Ad Type	2135.08	1	2135.08	18.32	<.01
Involvement	3.29	1	3.29	.03	NS
Brand Use	1.56	1	1.56	.01	NS
Ad Type X Involvement	56.90	1	56.90	.49	NS
Ad Type X Brand Use	659.71	1	659.71	5.66	.02
Involvement X Brand Use	93.06	1	93.06	.80	NS
Ad Type X Involvement X Brand Use	67.30	1	67.30	.58	NS
Residual	13049.80	112	116.52		
Total	15950.47	119			

TABLE 19.--ANOVA Table For Content Recall in the Time 3 Delayed Posttest Based on the Respondent Classifications of Advertisement Type and Product Involvement.

	Sum of Squares	d.f.	Mean Square	F	p
Ad Type	2756.07	1	2756.07	24.06	<.01
Involvement	.54	1	.54	<.01	NS
Brand Use	4.56	1	4.56	.04	NS
Ad Type X Involvement	29.32	1	29.32	.26	NS
Ad Type X Brand Use	873.00	1	873.00	7.62	.01
Involvement X Brand Use	76.23	1	76.23	.67	NS
Ad Type X Involvement X Brand Use	303.63	1	303.63	2.65	NS
Residual	12829.34	112	114.55		
Total	16724.41	119			

FIGURE 3

ADVERTISEMENT TYPE x TARGET BRAND USAGE INTERACTION FOR THE TWO TIME PERIODS COMBINED USING THE RESPONDENT CLASSIFICATION OF ADVERTISEMENT TYPE

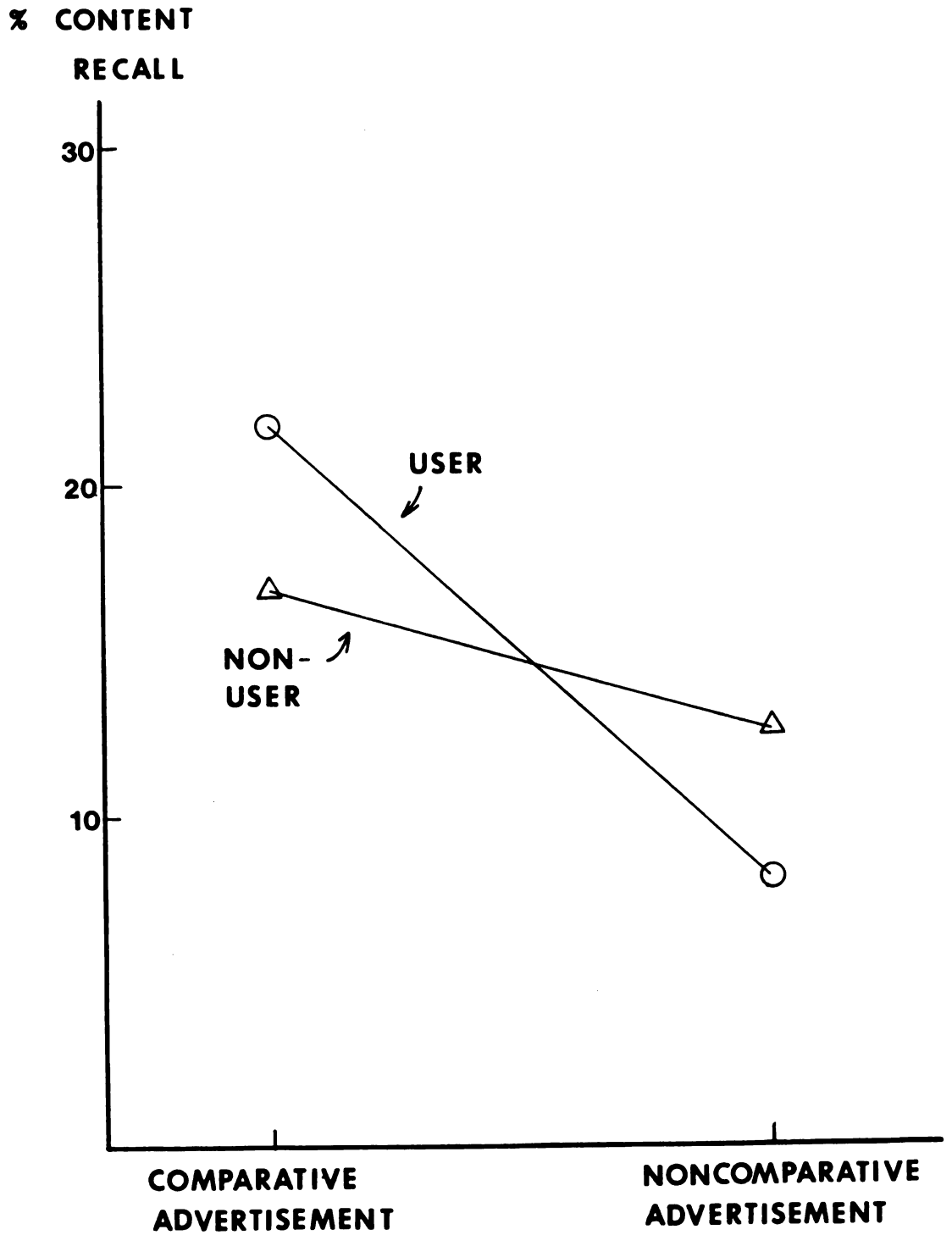


FIGURE 4
ADVERTISEMENT TYPE x TARGET BRAND
USAGE INTERACTION IN THE TIME 2
IMMEDIATE POSTTEST FOR THE RESPONDENT
CLASSIFICATION OF ADVERTISEMENT TYPE

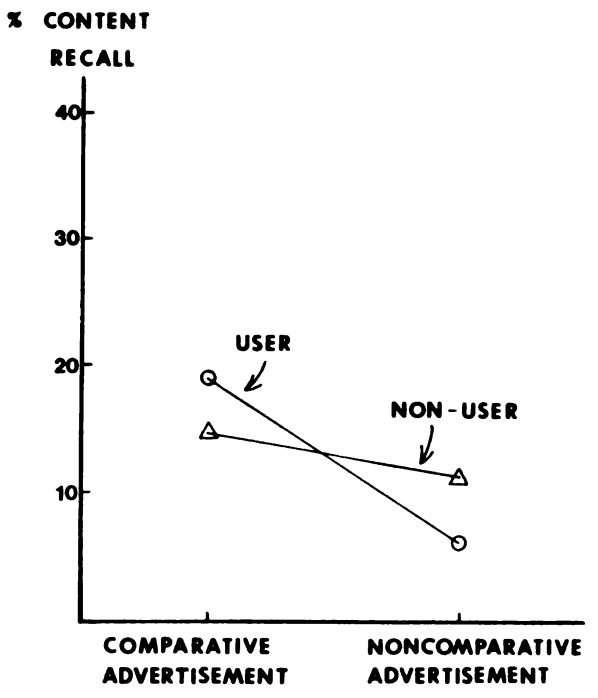
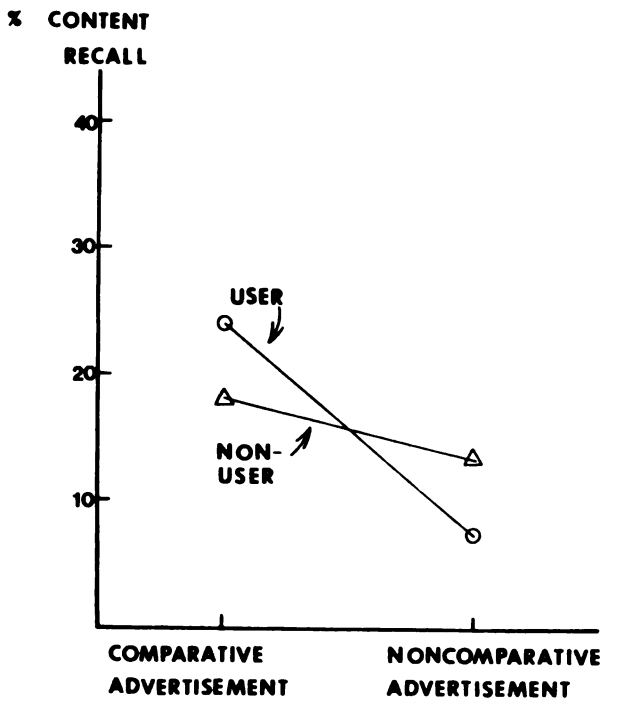


FIGURE 5
ADVERTISEMENT TYPE x TARGET BRAND
USAGE INTERACTION IN THE TIME 3
DELAYED POSTTEST FOR THE RESPONDENT
CLASSIFICATION OF ADVERTISEMENT TYPE



the comparative ad in communicating information to users of the target brand persisted over the two time periods.

Among the users of the target brand, the comparative advertisement was, on the average, significantly more effective than the noncomparative advertisements based on content recall ($p < .01$). Among the non-users of the target brand, the comparative advertisement was not significantly more effective in the immediate posttest but it was in the delayed posttest and in the two time periods combined.

For the comparative advertisement, the difference in average content recall between users and non-users of the target brand is not statistically significant in the two time periods combined or in the immediate posttest, but is in the delayed posttest.

For the noncomparative advertisement, the non-users, on average, recalled significantly more of the content than did the users overall within the immediate posttest, but this difference is not significant in the delayed posttest.

It is interesting that the noncomparative advertisement was more effective among those subjects who did not use the target brand; no brand comparison was reported by <u>any</u> of the subjects, so no particular cognitive response explains why it was more effective for one group than the other. <u>All</u> the subjects--users and non-users of the target brand alike--should have reacted to the noncomparative advertisement in the same way; so the level of recall should have been roughly the same for both groups of subjects.

The findings are in direct contrast to what would be predicted under cognitive dissonance theory: rather than selectively screening out the discrepant information, users of the target brand actually let more of the information in when it attacked their brand.

One possibility why content recall of the comparative advertisement was higher among target brand users is that they read the message more closely to form counterarguments (Wright, 1975). But this does not explain why the recall scores would have been higher for the users in the delayed posttest. Intuitively, it would seem that the information these subjects "let in" to form their counterarguments would have been dismissed shortly after. That is, they would have noted the attack on the brand, read the copy more closely to argue with it more effectively, and once their arguments had been formed, would have dismissed the advertisement and all its message from their minds.

It seems this must be tempered by recalling that some of the users who reported a comparative advertisement did not explicitly name their own brand as the one being attacked. However, when these individuals were removed from the analysis, the differences were even greater: average content recall among users who reported a comparative advertisement but who did not name their own brand as the target, show that average content recall was 19.5% in Time 2 and 24.1% in Time 3.

To the extent that usage of a brand is related to a favorable attitude toward it, selective recall is definitely not demonstrated here. In fact, the opposite seems to have occurred, since users recalled the comparative advertisement better than non-users and better than users who say a comparative advertisement.

Three way interaction.--When the two time periods were combined, there was a significant three way interaction of time period x target brand usage x level of product involvment. This is shown in Figures 6 and 7 for each of the two time periods. Neither of these two way interactions of brand usage x involvement is significant within a time period. It can be seen that the three way interaction must have occurred because the brand usage x involvement interactions were "reversed" from Time 2 to Time 3. Several other ways of depicting the three way interaction were also examined, but yielded no readily interpretable results.

Since the two-way interactions within each time period are not significant, it appears the data fluctuated randomly from Time 2 to Time 3 resulting in the significant interaction among the three factors. The time x brand usage x involvement interaction does not invalidate the conclusion that comparative advertising is more effective among users than non-users of the target brand or that, overall, comparative advertising is more effective than Brand X or noncomparative advertising.

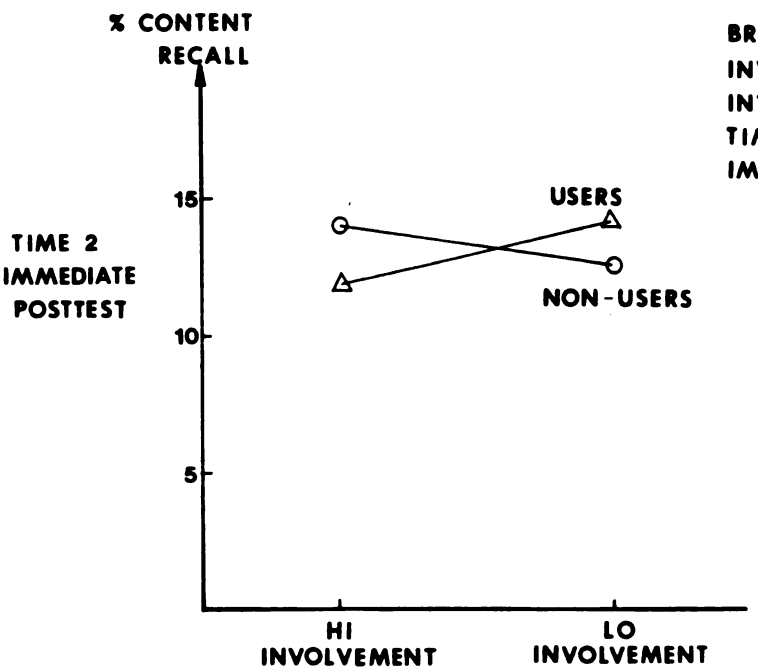


FIGURE 6
BRAND USAGE x
INVOLVEMENT
INTERACTION IN THE
TIME 2
IMMEDIATE POSTTEST

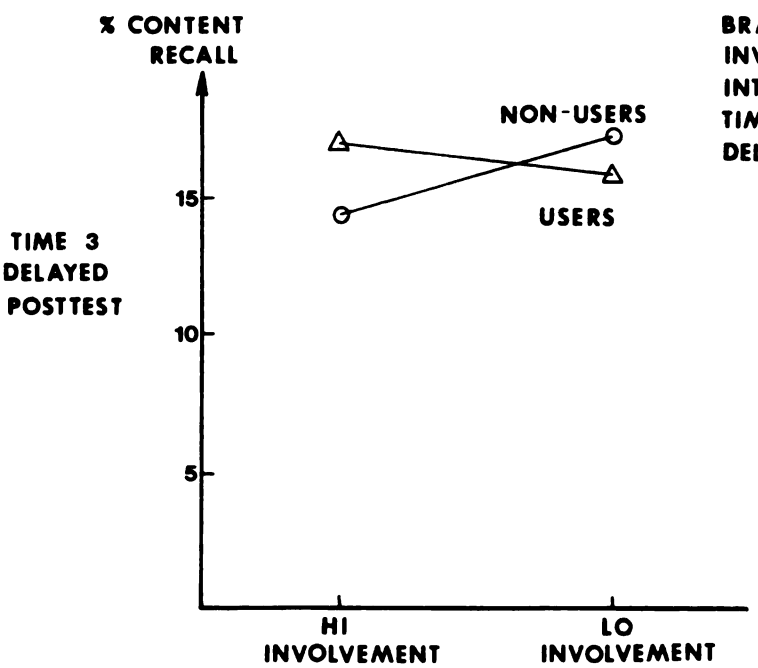


FIGURE 7
BRAND USAGE x
INVOLVEMENT
INTERACTION IN THE
TIME 3
DELAYED POSTTEST

Relationship of Content Recall Findings to Earlier Studies

The overall finding that the comparative advertisement is most effective when measured by content recall is consistent with the findings of Prasad (1975) who found that content recall was higher for his comparative advertisement than it was for his Brand X advertisement. In fact, the findings here have indicated that any advertisement that is recognized as making a comparison results in greater recall, on average, than one that is not recognized as making a comparison.

Prasad found that prior preference for a brand had no effect on claim recall, but the findings here indicate that brand usage certainly does. This seeming contradiction might be explained in two ways.

First brand preferences and brand usage, although related, are different constructs, so a significant effect of one would not mean an effect of the other. A second explanation, and one that is more appealing, is that brand usage is a very strong behavioral variable that is easily measured; brand preference--especially among individuals who are probably unfamiliar with the product category*--is a relatively weak attitudinal variable that may be difficult to measure.

This explanation is supported by the failure to find any relationship between one's attitude toward his own most used brand

*Prasad's subjects were college students and the product advertised was a home movie camera.

and content recall. Here, the problem of no familiarity with the product class is overcome (since all subjects were users of the product advertised); and the attitude measures that included a brand preference dimension still failed to account for differences in content recall.

The content recall findings reported here directly contradict those of Shimp and Dyer (1978) who found that a noncomparative print advertisement was more effective. This is interesting, since these authors compared a fictitious brand against well-known brands in the fast food market (Burger King and McDonalds) which is basically the same approach taken here. No explanation for the contradiction in findings is readily apparent, other than the usual one of product specificity; that is, there may have been characteristics of fast food restaurants that yielded their results. Perhaps the automobile and cola, occupying two opposite ends of an involvement continuum, are products conducive to advertising in a comparative manner. Fast food restaurants, which may occupy more of a middle position, may yield entirely different results. This is only speculation, but it points to the chance the results have been product specific and that there are research opportunities in comparative advertising that examine additional products and services.

Summary and Implications of Content Recall Findings

Regardless of whether a comparative advertisement was defined a priori by the researcher or by the subject who views it, it was more effective, on the average, in terms of content recall. This indicates it would be to an advertiser's advantage to use comparative advertising targeted against a leading brand if he wants to convey information about a new or unknown brand. This is particularly true if users of the well-known brand are a large part of his target audience--a plausible situation if the well known brand also enjoys a high market share--and these brand users recognize that the comparative advertisement is making the comparison. Based on the results here, this holds for both high and low involvement products and persists over time.

Attitude Change

Attitudes toward the respondent's own most used brand were measured in all three time periods. Each respondent used seven-point bipolar scales to rate the following: preference for his own brand; intention to buy his brand next time; and general liking for his own brand. In each time period, these three items were summed to yield an overall brand attitude measure. Coefficient alpha for the sum of these items was computed with the following results:

Time Period	Coefficient Alpha
Time 1	.85
Time 2	.82
Time 3	.81

Nunnally (1967, p. 220) indicates that a coefficient alpha of around .80 is quite good for basic research purposes, so the attitude measure fulfills the criterion of reliability. The correlation matrices are given in Appendix H.

For certain analyses, attitude change scores were computed by subtracting the summed attitude measure from one time period from the summed attitude measure from the later time period, that is from Time 1 to Time 2 and Time 2 to Time 3. A positive change score meant that the respondent was shifting his attitude away from his own brand and, presumably, toward the Vesta or DeOrlean brands. A negative score meant he reacted negatively toward the sponsoring brand and became firmer in his attitude toward his own brand.

Both analysis of variance (ANOVA) and analysis of covariance (ANCOVA) were used to test the effects of advertisement, involvement, and brand usage on the attitudes the respondent held toward the brand he used most often. In the ANOVA, the pretest attitude score was used as the covariate.

Regardless of which method was used, no statistically significant results were obtained. Tables 20 and 21 show the ANOVA results. Although there was a significant main effect for

TABLE 20.--ANOVA Table For Brand Attitudes Using Time Period as a Factor: A Priori Classification

Source	Sum of Squares	d.f.	Mean Square	F	p
Time (T)	8.52	2	4.26	.80	NS
Ad Type (A)[1]	40.22	2	20.11	.90	NS
Product (P)[1]	298.84	1	298.84	9.64	<.01
Target Brand Usage (U)[1]	214.68	1	214.68	13.43	<.01
T x A	9.57	4	2.39	.45	NS
T x U	8.67	2	4.34	.82	NS
T x P[1]	13.01	2	6.51	1.23	NS
A x U[1]	17.64	2	8.82	.40	NS
A x P[1]	10.07	2	5.04	.23	NS
U x P[1]	4.01	1	4.01	.18	NS
T x A x U	13.91	4	3.48	.66	NS
T x A x P	21.38	4	5.35	1.01	NS
T x U x P[1]	3.07	2	1.54	.29	NS
A x U x P[1]	3.54	2	1.77	.08	NS
T x A x U x P	11.08	4	2.77	.52	NS
R: A x U x P	2404.07	108	22.26	NO TEST	
TR: A x U x P	1144.13	216	5.30	NO TEST	
Total	4226.40	359			

[1]Used R: A x U x P as denominator in F-test; all others used TR: A x U x P as denominator.

product type and brand usage in the a priori classification, there was no significant interaction with time. Therefore, no attitude change occurred as a result of any of the independent variables. This analysis was confirmed using the respondent reclassification shown in Table 21.

The reasons why no change was found are only speculative. The test was sufficiently sensitive to pick up even small shifts in the measure used. Disallowing a gross inability in the measurement to pick up shifts in attitude, the conclusion is that attitudes simply did not change differentially by the advertisement seen. This may be partially explained by a firmness in the attitudes held; but a better explanation might be that a comparative form of advertising is not a simple, certain way to shift subjects' attitudes away from their own brands, regardless of what positive effects it may have on recall.

Prior Brand Attitude and Content Recall

Tables 22 and 23 give the Pearson correlation coefficients for content recall and prior brand attitude broken down by product and by level of involvement.

It can be seen that none of the relationships was significant beyond the .05 level. Therefore, in general, no relationship was found between the individual's prior attitude toward his own brand and content recall, regardless of the level of involvement. Thus, the level of involvement, based on this evidence is not a

TABLE 21.--ANOVA Table For Brand Attitudes Using Time Period as a Factor: Respondent Classification

Source	Sum of Squares	d.f.	Mean Square	F	p
Time (T)	8.52	2	4.26	.83	NS
Ad Type (A)[1]	1.27	1	1.27	.05	NS
Involvement (I)[1]	92.92	1	92.92	4.01	<.01
Target Brand Usage (U)[1]	214.68	1	214.68	9.26	<.01
T x A	10.73	2	5.37	1.05	NS
T x U	8.67	2	4.34	.84	NS
T x I_1	18.55	2	9.28	1.81	NS
A x U_1	22.98	1	22.98	.99	NS
A x I_1	3.58	1	3.58	.15	NS
U x I_1	29.38	1	29.38	1.27	NS
T x A x U	14.95	2	7.48	1.46	NS
T x A x I	4.20	2	2.10	.41	NS
T x U x I_1	0.00	2	0.00	.00	NS
A x U x I_1	32.72	1	32.72	1.41	NS
T x A x U x I	18.61	2	9.31	1.81	NS
R: A x U x I	2595.54	112	23.17		
TR: A x U x I	1150.30	224	5.14		
Total	4226.40	359			

[1]Used R: a x U x I as denominator in F-test; all others used TR: A x U x I as denominator.

TABLE 22.--Prior Brand Attitude and Content Recall Correlations by Product Advertised.

	Time 1 Brand Attitude		
Automobile Advertisement*			
Time 2 Content Recall	r = .22	p = .09	n = 60
Time 3 Content Recall	r = .15	p = .26	n = 60
Cola Advertisement**			
Time 2 Content Recall	r = .03	p = .42	n = 60
Time 3 Content Recall	r = .11	p = .21	n = 60

*2-tailed significance tests

**1-tailed significance tests

TABLE 23.--Prior Brand Attitude and Content Recall Correlations by Product Involvement.

	Time 1 Brand Attitude		
High Involvement*			
Time 2 Content Recall	r = .16	p = .18	n = 72
Time 3 Content Recall	r = .05	p = .67	n = 72
Low Involvement**			
Time 2 Content Recall	r = .07	p = .32	n = 48
Time 3 Content Recall	r = .02	p = .46	n = 48

*2-tailed significance tests

**1-tailed significance tests

suitable explanation for why selective learning has been observed in some studies but not in others (Levine and Murphy, 1943; Jones and Aneshansel, 1956; Jones and Kohler, 1958; Waly and Cook, 1966; Greenwald and Sakumura, 1967). The findings here are consistent with those reported in the more recent studies on selective learning.

Assuming the measures used were sufficiently sensitive, it is possible that the novelty of the brand advertised had some sort of ceiling effect. That is, the new brands of DeOrlean and Vesta worked so that all subjects recalled the advertisements better than they normally would so that as a group, recall was generally high regardless of the product involvement. In other words, brand novelty overcame product involvement differences. If this occurred, it would be revealing for subsequent advertising research to examine the relationship among product involvement, brand or advertisement novelty, and selective learning.

Future research might also incorporate a better measure of product involvement. A single measure of "importance to you" was used in this research; although this measure has some support (Hupfer and Gardner, 1971) and is easy to administer, superior measures that address additional dimensions of product involvement might be more valid. As far as known, a set of such measures has not been developed for research.

CHAPTER V

SUMMARY AND IMPLICATIONS

Summary of the Methodology

This research study was an experiment that examined the communications effectiveness of comparative advertising.

Advertisement type, brand usage, and product class were the independent variables. Brand name recall, content recall and attitude change were the major dependent variables.

Comparative advertising's effectiveness was contrasted to that of Brand X and noncomparative advertising based on the experimenter's definitions of comparative, Brand X and noncomparative advertising; in addition, respondents' definitions of comparative advertising (in which a product comparisons was reported by the subjects) was contrasted to noncomparative advertisng (in which no product comparisons were reported). This latter way of classifying advertisements allowed for more of a perceptual basis for examining comparative advertising and is the first time it was done.

The advertising was for two new brands entering mature product markets. This simulated a context that might be favorable to using comparative advertising, because of brand positioning and building a brand concept; using fictitious new brands also controlled for prior familiarity, usage, or loyalty with the sponsoring brand. That is, the sponsoring brand was new and

unfamiliar to all the subjects. All the subjects, however, were users of the product class advertised. Both users and non-users of the brand being attacked in the comparative advertisement were tested.

The two product classes, cola soft drinks and automobiles, besides representing mature product markets, also represent two levels of product class involvement. The automobile was, by the experimenter's definition, a relatively high involvement, durable shopping good. The cola was a relatively low involvement, nondurable convenience good.

To make the ads more realistic, they were not made comparable. The advertisement for the automobile advertisement was a relatively complex, "copy-heavy," informational advertisement; the one for the cola listed only a few attributes and relied more on graphics than copy.

Like the advertisement type, product involvement was also defined using a respondent-based measure.

Summary of Results

The results can be summarized with reference to the five substantive hypotheses developed from the literature.

A. Comparative advertising is a more effective form of advertising than Brand X or noncomparative advertising.

The findings indicate that comparative advertising is a more effective form of communication for a new or unknown brand entering a mature product market if the advertiser seeks to communicate information or a message to his audience. Recall of

the advertising content was significantly greater among those subjects who saw a comparative form of advertising than among those who saw a Brand X or noncomparative form.

To a lesser extent, the comparative advertisement was more effective in instilling the correct brand name of the sponsoring brand. The predicted direction was found but did not reach high statistical significance.

The comparative advertisement was no more effective than the other forms of advertising in moving subjects' attitudes away from their own brands. Usage of the target brand, product class, or level of product involvement did not change this finding. Thus, comparative advertising was not found to be more effective in attitude change. On the other hand, it was not less effective either: none of the advertisements made much difference and the attitude may be very stable.

B. The effectiveness of comparative advertising will be greater among users than non-users of the target brand.

Comparative advertising was more effective in communicating the message to users of the brand being attacked than it was in communicating the message to non-users.

Comparative advertising was also found to be more effective in terms of content recall than noncomparative advertising among users of the target brand.

Usage or non-usage of the target brand made no difference in terms of brand name recall or recall of the advertisement.

C. The effectiveness of advertising will be greater if a high involvement product is shown than if a low involvement product is.

The product class (automobile or cola soft drink) interacted with the type of advertisement seen in the immediate posttest: in terms of content recall, the comparative advertisement was significantly more effective than the Brand X or noncomparative advertisements for the cola; this effect was in the right direction for the automobile, but was not statistically significant.

When subjects rated the level of involvement with the product advertised, however, involvement was not related to the effectiveness of the advertisements either in terms of brand name or content recall.

D. There is no relationship between one's brand attitude and his recall of a high involvement product advertisement.

This hypothesis was supported by the data. No highly significant results were obtained in this test.

E. There is a positive relationship between one's brand attitude and his recall of a low involvement product advertisement.

The effect of prior attitude toward one's own brand was unrelated to his recall of the advertising. Thus, selective recall was not observed in this study and ego involvement was not found to explain why selective learning may be observed in some instances and not in others.

Managerial Implications

Based on this research, comparative advertising is a more effective form of advertising than Brand X or noncomparative advertising when the advertiser wants to convey information about a new brand and compares it to a brand already well recognized in the market. The direction of results also suggests that comparative advertising is more effective than Brand X or noncomparative advertising in communicating the new brand's name, although the significance level for this effect was marginal.

The effectiveness of comparative advertising in conveying information about a new brand is particularly striking among users of the brand being attacked in the advertisement if these individuals recognize that the comparison is taking place. If these brand users are a substantial part of the advertiser's target audience, which they would likely be if the brand being attacked has a high market share, then comparative advertising becomes an even more effective competitive tool. In addition, it may be possible for a small advertiser who has a poorly recognized brand and who is competing in a mature product market, to convey brand information very effectively against much larger, better recognized firms with larger advertising budgets. In this sense, comparative advertising may be an effective competitive tactic for small market share companies in general.

From a public policy standpoint, comparative advertising may be useful in penetrating markets dominated by one or a few

large firms that engage in heavy advertising to discourage competition. In this sense, the FTC's encouragement of comparative advertising as a way of providing more consumer information--a policy that seems to be supported by this research--has the additional social benefit of providing a means to overcome heavy advertising expenditures as a barrier to competition. In other words, a small advertiser may not be able to advertise as much, but can use the force of the larger firm's advertising to his own advantage.

These conclusions rest mainly on defining effectiveness in terms of content recall. Comparative advertising was not shown to be more effective in "dislodging" consumers from a favorable attitude toward their own brand based on a single ad. Consumers who saw their own most-used brand attacked in a comparative advertisement did not change their attitudes about their brand in any measurably different way than the consumers who saw no explicit attack on their brands.

Thus, comparative advertising is no automatic, sure-fire technique that will move a firm from low to high recognition and, presumably, low to high market share. Nevertheless, the research here shows it to be an effective alternative to Brand X or non-comparative advertising for an unknown brand entering a mature product market. Based on the three measures of communication effectiveness used in this research--brand name recall, content

recall, and change in attitude toward one's own brand--the comparative advertisement was, on average, as effective as, or more effective, than the Brand X or noncomparative advertisements.

Needs for Future Research

As in most experiments, the major limitation to this study is its generalization to the "real world." The sample was biased toward white, upper middle class consumers, and these subjects were exposed only twice to the advertisements: first in a contrived natural setting when they flipped through the booklet; and again, in an artificial setting when an interviewer asked them a series of questions about the advertisement. No effort was made to examine multiple exposures to the advertisements in a completely natural setting that would more likely duplicate actual conditions. As far as known, no research on comparative advertising has controlled for the number of exposures, so this would be an opportunity for future research.

Second, only a print form of advertising was used and future research might examine other media.

Third, a wider range of products could be used. In this research, a cola soft drink and an automobile were chosen as being fairly representative of two categories of products--a high involvement, consumer shopping good versus a low involvement convenience item. In addition, two completely different types of advertisement were developed, so product class was confounded with the advertising itself. Future research might focus on

products that would allow greater similarity of advertising across the product classes so that stronger conclusions can be drawn on the relationship between product involvement and comparative advertising's effects. A related problem was a poor measure of product involvement used to form the respondent classification. The measure--a scale of importance--was pretested effectively, has been used previously, and was easy to administer; but it likely gets at only a portion of what the construct really involves. That is, ego involvement in the product class is a complex, multi-dimensional phenomenon and the use of the simplistic measurement here might explain why significant differences based on involvement were not found. Future research might develop additional measures of ego involvement in the product class.

Fourth, the context of this reserach was that a new, unknown brand was being introduced into a mature product market. There are many variations of this that could be explored. For example, it would be interesting to examine the effectiveness of comparative advertising for a brand when the product class is at the market acceptance or turbulence stage of the product life cycle, a number of competing brands are entering the market, but a substantial part of the market has not yet formed firm brand concepts or developed their choice criteria. This segment of the market would be searching for brand information and comparative advertising may be an extremely effective competitive tool for giving it to them.

Fifth, alternative measures of advertising effectiveness could be used, such as unit sales. Or, other measures, such as intention to buy the sponsoring brand, liking for the brand, liking for the advertisement could be used, or credibility of the advertisement.

Conclusion

In contrast to some of the earlier work on comparative advertising, this research has shown that it can be an effective alternative to Brand X and noncomparative forms and, therefore, worthy of serious consideration by advertisers competing with well established firms in mature markets.

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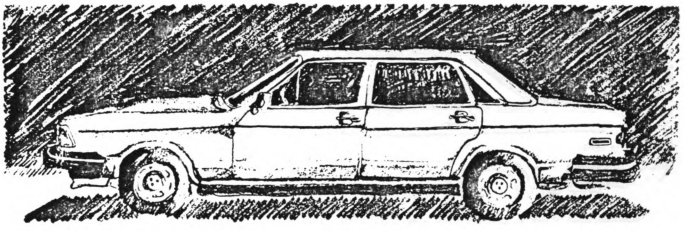
APPENDICES

APPENDIX A

TEST ADVERTISEMENTS

THE DeORLEAN

A FINER CAR THAN OLDSMOBILE?
DON'T TAKE OUR WORD FOR IT
ASK SOMEBODY WHO DRIVES ONE



"My DeOrlean is a smoother riding, better appointed, more elegant automobile than even our Oldsmobile," says Byron Hammel of Westchester, Connecticut. "And our gas mileage is better too with no compromise in performance."

You can believe it. The DeOrlean is a finer car than Oldsmobile, combining European styling and economy with American comfort and performance. And with an EPA rating of 24 mpg in the city, 29 on the highway, our 6 cylinder, 4.2 litre engine delivers incredibly high performance with amazing economy. You won't find a better car on either side of the Atlantic.

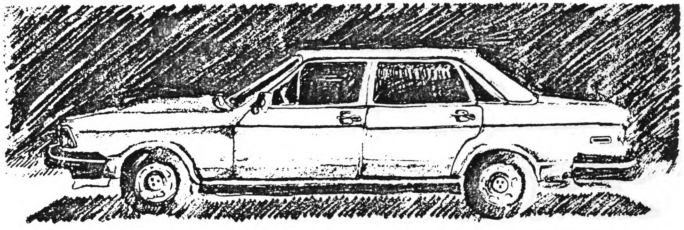
When the DeOrlean arrives, test drive it at your nearest Renault dealer.

We agree with Mr. Hammel that the DeOrlean will be the *GREAT NEW CAR OF 1979.*

division of RENAULT

THE DeORLEAN

FINER THAN THE LEADER IN ITS CLASS?
DON'T TAKE OUR WORD FOR IT
ASK SOMEBODY WHO DRIVES ONE



"My DeOrlean is a smoother riding, better appointed, more elegant automobile than even our American car," says Byron Hammel of Westchester, Connecticut. "And our gas mileage is better too with no compromise in performance."

You can believe it. The DeOrlean is a finer automobile than the best-selling car in its class, combining European styling and economy with American comfort and performance. And with an EPA rating of 24 mpg in the city, 29 on the highway, our 6 cylinder, 4.2 litre engine delivers incredibly high performance with amazing economy. You won't find a better car on either side of the Atlantic.

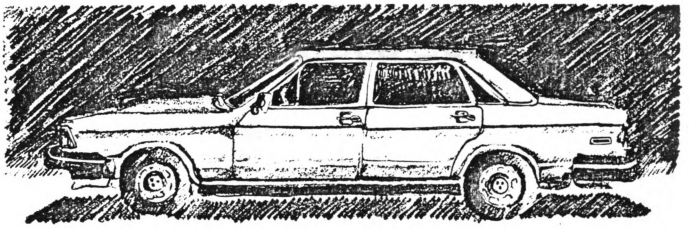
When the DeOrlean arrives, test drive it at your nearest Renault dealer.

We agree with Mr. Hammel that the DeOrlean will be the *GREAT NEW CAR OF 1979.*

division of RENAULT

THE DeORLEAN

A VERY FINE CAR INDEED!
DON'T TAKE OUR WORD FOR IT
ASK SOMEBODY WHO DRIVES ONE



"My DeOrlean is a smooth riding, finely appointed, elegant automobile," says Byron Hammel of Westchester, Connecticut. "And our gas mileage is great too with no compromise in performance."

You can believe it. The DeOrlean is a fine automobile, combining European styling and economy with American comfort and performance. And with an EPA rating of 24 mpg in the city, 29 on the highway, our 6 cylinder, 4.2 litre engine delivers incredibly high performance with amazing economy. You won't find a better car on either side of the Atlantic.

When the DeOrlean arrives, test drive it at your nearest Renault dealer.

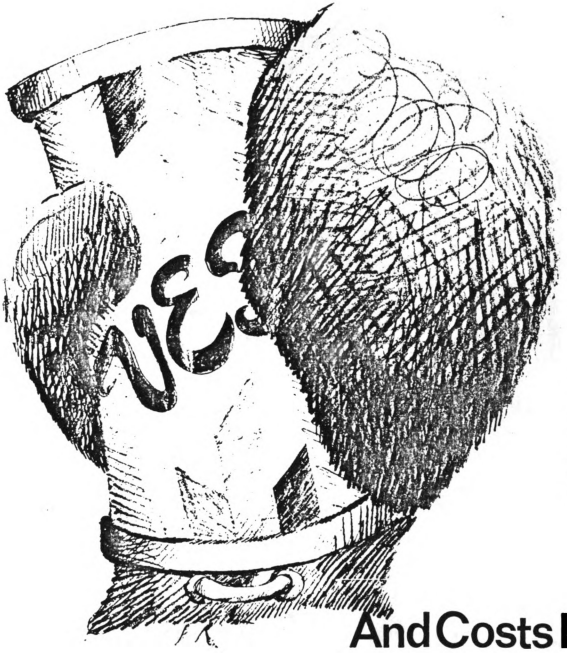
We agree with Mr. Hammel that the DeOrlean will be the *GREAT NEW CAR OF 1979.*

division of RENAULT

VESTA COLA

The Snappy New Soft Drink

That Beats Coca-Cola Cold



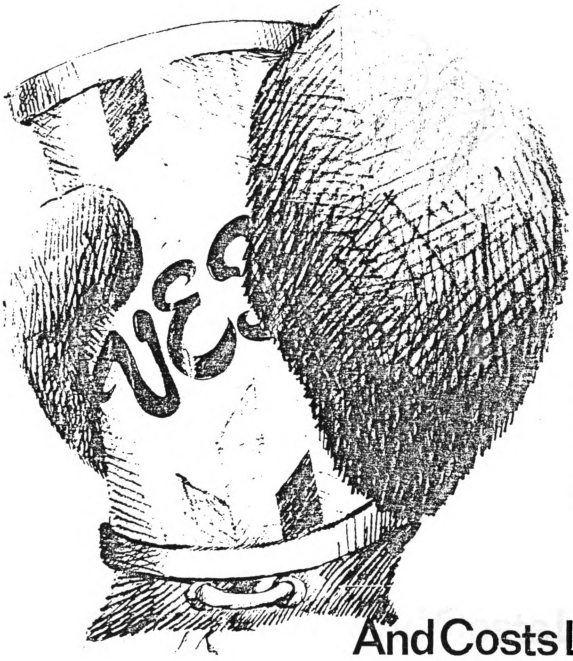
Vesta is the brand new cola drink with just a snappy hint of ginger.
It's not sticky sweet like Coke and is priced to give you more for your money.
Pick up a six pack or a liter at your grocers soon.

And Costs Less Too.

VESTA COLA

The Snappy New Soft Drink

That Beats The #1 Cola Cold.



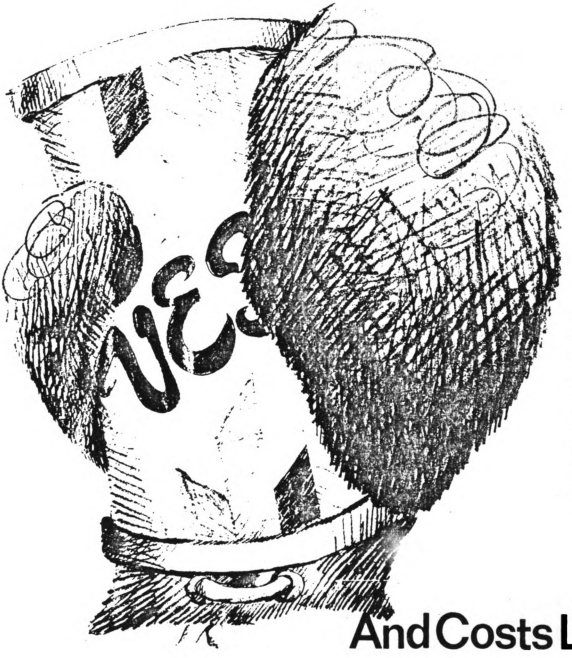
Vesta is the brand new cola drink with just a snappy hint of ginger.
It's not sticky sweet like the #1 cola and is priced to give you more for your money.
Pick up a six pack or a liter at your grocers soon.

And Costs Less Too.

VESTA COLA

The Snappy New Soft Drink

At The Very Low Price.



Vesta is the brand new cola drink with just a snappy hint of ginger.
It's not sticky sweet and is priced to give you more for your money.
Pick up a six pack or a liter at your grocers soon.

And Costs Less Too.

APPENDIX B

ITEMS FOR CODING CONTENT RECALL

DEORLEAN

COMPARATIVE

ITEMS OF INFORMATION

01. Smooth riding

02. Well appointed/styling/well-styled

03. Elegant

04. Byron Hammel testimonial/testimonial/picture of man

05. Westchester and/or Connecticut

06. Good gas mileage/economy

07. No compromise in performance/good performance/American performance

08. European car/import

09. American comfort/good comfort/comfortable

10. EPA ratings/mileage ratings

11. 24 mpg city

12. 29 mpg highway

13. 6 cylinder engine

14. 4.2 litre engine

15. No better car either side of Atlantic

16. When arrives/not yet arrived/new

17. Test drive it

18. Renault dealer/Renault car/Renault division

19. Great new car

20. 1979

21. European and American characteristics

22. Finer than Oldsmobile/compared to Oldsmobile

24. Other

*25. Incorrect Information

26. Picture of car

*27. None/no recall

*Not counted

DEORLEAN

BRAND X

ITEMS OF INFORMATION

01. Smooth riding

02. Well appointed/styling/well-styled

03. Elegant

04. Byron Hammel testimonial/testimonial/picture of man

05. Westchester and/or Connecticut

06. Good gas mileage/economy

07. No compromise in performance/good performance/American performance

08. European car/import

09. American comfort/good comfort/comfortable

10. EPA ratings/mileage ratings

11. 24 mpg city

12. 29 mpg highway

13. 6 cylinder engine

14. 4.2 litre engine

15. No better car either side of Atlantic

16. When arrives/not yet arrived/new

17. Test drive it

18. Renault dealer/Renault car/Renault division

19. Great new car

20. 1979

21. European and American characteristics

22. Finer than leader in its class

23. Other

*24. Incorrect Information

25. Picture

*26. None/no recall

*Not counted

DEORLEAN

NONCOMPARATIVE

ITEMS OF INFORMATION

01. Smooth riding

02. Well appointed/styling/well-styled

03. Elegant

04. Byron Hammel testimonial/testimonial/picture of man

05. Westchester and/or Connecticut

06. Good gas mileage/economy

07. No compromise in performance/good performance/American performance

08. European car/import

09. American comfort/good comfort/comfortable

10. EPA ratings/mileage ratings

11. 24 mpg city

12. 29 mpg highway

13. 6 cylinder engine

14. 4.2 litre engine

15. No better car either side of Atlantic

16. When arrives/not yet arrived/new

17. Test drive it

18. Renault dealer/Renault car/Renault division

19. Great new car

20. 1979

21. European and American characterisitics

22. A very fine car

23. Other

*24. Incorrect information

25. Picture of car

*26. None/no recall

*Not counted

VESTA COLA

COMPARATIVE

ITEMS OF INFORMATION

01. Snappy

02. New

03. Hint of ginger

04. Not sticky sweet/not as sweet

05. Priced well/low price/costs less

06. More for your money

07. Six pack

08. Litre

09. Pick some up at grocer's

10. Beats Coca-Cola cold/better than Coke

11. Other

*12. Incorrect Information

13. Mit/glove holding can

*14. Nothing/no recall

*Not counted

APPENDIX C

QUESTIONNAIRES

NOTE: THIS QUESTIONNAIRE SHOULD BE COMPLETED BY THE PERSON WHO DOES MOST OF THE SHOPPING FOR THE HOUSEHOLD. PLEASE IGNORE THE NUMBERS IN THE PARENTHESES.

CODE #_____(1-4)

PRODUCT A: GASOLINE (If you don't use this product, skip to Product B)

1. What brand of gasoline do you use most often?_____ (5)
2. Thinking about all the other brands you've tried, how would you rate your preferences?

   Prefer my Brand the Most ... Prefer my Brand the Least

   1 2 3 4 5 6 7 (6)

3. Will you buy this brand the next time?

   Will Definitely Buy ... Will Definitely Not Buy

   1 2 3 4 5 6 7 (7)

4. In general, how much do you like your brand of gasoline?

   Like it Very Much ... Dislike it Very Much

   1 2 3 4 5 6 7 (8)

PRODUCT B: COLOR TELEVISION (If you don't own or use this product, skip to Product C)

1. What brand of color television do you own or use most often?
   _____ (9)
2. Thinking about all the other brands you've seen, how would you rate your preference?

   Prefer my Brand the Most ... Prefer my Brand the Least

   1 2 3 4 5 6 7 (10)

3. Will you buy this brand again the next time?

   Will Definitely Buy ... Will Definitely Not Buy

   1 2 3 4 5 6 7 (11)

4. In general, how much do you like your brand of color TV?

   Like it Very Much ... Dislike it Very Much

   1 2 3 4 5 6 7 (12)

PRODUCT C: NON-DIET COLA SOFT DRINK (If you do not use this product, skip to Product D)

1. What brand of cola soft drink do you use most often?_____ (13)
2. Thinking about all the other brands you've tried, how would you rate your preferences?

   Prefer my Brand the Most ... Prefer my Brand the Least

   1 2 3 4 5 6 7 (14)

3. Will you buy your brand the next time?

   Will Definitely Buy ... Will Definitely Not Buy

   1 2 3 4 5 6 7 (15)

4. In general, how much do you like your brand of non-diet cola soft drink?

   Like it Very Much ... Dislike it Very Much

   1 2 3 4 5 6 7 (16)

PRODUCT D: AUTOMOBILE (If you don't own or use an automobile, skip to Product E).

1. What brand of automobile do you own or drive most often?

_____ (17)

2. Thinking about all the other brands you've seen or tried, how would you rate your preferences?

Prefer my Brand the Most						Prefer my Brand the Least	
1	2	3	4	5	6	7	(18)

3. Will you buy this same brand the next time you buy an automobile?

Will Definitely Buy						Will Definitely Not Buy	
1	2	3	4	5	6	7	(19)

4. In general, how much do you like your brand of automobile?

Like it Very Much						Dislike it Very Much	
1	2	3	4	5	6	7	(20)

PRODUCT E: DECAFFEINATED INSTANT COFFEE (If you don't use this product, skip to Product F).

1. What brand of decaffeinated instant coffee do you use most often?

_____ (21)

2. Thinking about all the other brands you've tried, how would you rate your preferences?

Prefer my Brand the Most						Prefer my Brand the Least	
1	2	3	4	5	6	7	(22)

3. Will you buy this brand the next time?

Will Definitely Buy						Will Definitely Not Buy	
1	2	3	4	5	6	7	(23)

4. In general, how much do you like your brand of decaffeinated coffee?

Like it Very Much						Dislike it Very Much	
1	2	3	4	5	6	7	(24)

PART F. Your answers and participation in this research project will be kept strictly confidential, but we need the following information in case we must contact you for the next phase of the research.

Name_____ Phone:_____

Please put this form in the stamped envelope and mail it at your earliest convenience. Thank you very much!

PHASE II ① (80)

QUESTIONNAIRE GO TO CARD #2

NAME_____ CODE #____(1-4)

ADDRESS_____ CELL #____(5,6)

PHONE #_____ INTERVIEWER #____(7)

APPT. TIME: DAY_____

DATE_____

TIME_____

[HAND BOOKLET TO RESPONDENT]

Please flip through this booklet as though you were browsing through a magazine you read regularly, such as (People, Time, or Newsweek). Try to go through all the pages in the next few minutes or so.

[IF THE RESPONDENT HAS NOT FINISHED AFTER 3 MINUTES, SAY "I'd like to let you look longer, but we have to keep everyone to about the same maximum time. Please try to finish in the next minute." AFTER A MINUTE, OR WHEN THE RESPONDENT FINISHES, REMOVE THE BOOKLET FROM HIS SIGHT AND CONTINUE. NO RESPONDENT SHOULD BE ALLOWED TO LOOK MORE THAN 4 MINUTES.]

A. As you probably noticed, there were a number of advertisements in the booklet. What products or services do you recall? Please try to identify each advertisement by the brand name that was sponsoring the ad. [DO NOT READ LIST!]

	MENTION						
	1st	2nd	3rd	4th	5th	OTHER	
DeOrlean	01	01	01	01	01	1	(19)
Vesta Cola	02	02	02	02	02	1	(20)
Diners Club	03	03	03	03	03	1	(21)
American Mutual	04	04	04	04	04	1	(22)
Vantage	05	05	05	05	05	1	(23)
Diamond Shamrock	06	06	06	06	06	1	(24)
CBS Radio	07	07	07	07	07	1	(25)
ELSB	08	08	08	08	08	1	(26)
Ramada Inn	09 (9,10)	09 (11,12)	09 (12,13)	09 (15,16)	09(17,18)	1	(27)
Coca-Cola	10	10	10	10	10	1	(28)
Jerome Alexander	11	11	11	11	11	1	(29)
Chanel for Men	12	12	12	12	12	1	(30)
Oldsmobile	13	13	13	13	13	1	(31)
Mobil Oil	14	14	14	14	14	1	(32)
Sony Trinitron	15	15	15	15	15	1	(33)
Sanka	16	16	16	16	16	1	(34)
_____	17	17	17	17	17	1	(35)
_____	18	18	18	18	18	1	(36)
_____	19	19	19	19	19	1	(37)
_____	20	20	20	20	20	1	(38)

[HAND CARD A TO RESPONDENT.]

This card lists 5 of the brands advertised in the booklet you just saw. For each brand, please tell me everything you can remember about what the advertisement said or showed. [PROBE FOR EACH AD]

1. AD I _____

_____

_____

_____ (40-44)

_____(45-57)

2. AD II _____

_____

_____

_____

_____ (50-54)

____(55-57)

3. AD III_____

_____

_____

_____

_____ (60-64)

____(65-67)

4. AD IV _____

_____

_____

_____

_____ (70-74)

____(75-77)

(2) (80)

GO TO CARD #3

____(1-4)

5. AD V _____

_____

_____

_____

_____ (5-9)

____(10-12)

[SHOW RESPONDENT THE SONY TRINITRON AD.]

6. This is one of the ads you just saw. Have you ever seen this product advertised before?

Yes 1
No 2 (13)

[IF YES]

6a Have you ever seen this particular advertisement before?

Yes 1
No 2 (16)

[HAND CARD B TO RESPONDENT]

7. Using the scale on this card, how would you rate the believability of this ad in general? Just read me the number that best applies.

_____ (18)

8. Do you own a color television set?

Yes 1 (20)

No 2 → [GO TO 9]

[IF YES, HAND CARD C]

8a Thinking about all the products you own or would like to own, how important is a color TV to you as a person? Just read the number that best applies.

_____ (22)

8b [HAND CARD D] Thinking about the brand of television you own and about all the other brands you've seen, how would you rate your preferences?

_____ (24)

8c [HAND CARD E] Will you buy the same brand you now own the next time you buy a color TV?

_____ (26)

8d [HAND CARD F] In general, how much do you like this advertisement for Sony Trinitron?

_____ (28)

8e How much do you like the Sony Trinitron itself? [PROBE]

_____ (30)

8f How much you like your own brand of color TV?

_____ (32)

9. [HAND CARD B] How would you rate the believability of the person or company that sponsors this ad?

_____ (40)

10. Finally, how would you rate the believability of the specific claims this advertisement makes?

_____ (42)

③ (80)

GO TO CARD #4

____ (1-4)

11. [SHOW SANKA AD] This is another ad you just saw. Have you ever seen this product advertised before?

Yes 1
No 2 (13)

[IF YES]

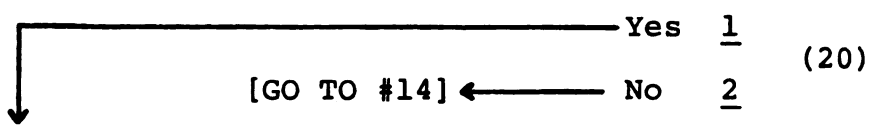
11a Have you ever seen this particular advertisement before?

Yes 1
No 2 (16)

12. [HAND CARD B] How would you rate the believability of this ad in general?

_____ (18)

13. Do you ever use decaffeinated instant coffee?



[IF YES, HAND CARD C]

13a Thinking about <u>all</u> the products you ever use or would like to use, how important is decaffeinated instant coffee <u>to you</u> as a person?

_____ (22)

13b [HAND CARD D] Thinking about the <u>brand</u> of decaffeinated instant coffee you use <u>most often</u>, and about all the other brands you've tried, how would you rate your preferences?

_____ (24)

13c [HAND CARD E] Will you buy the same brand you now use the next time you buy coffee?

_____ (26)

13d [HAND CARD F] In general, how much do you like this <u>advertisement</u> for Sanka?

_____ (28)

13e How much do you like Sanka itself? [PROBE]

_____ (30)

13f How much do you like your own brand of decaffeinated coffee?

_____ (32)

14. [HAND CARD B] How would you rate the believability of the person or company that sponsors this ad?

_____ (40)

15. Finally, how would you rate the believability of the specific claims this advertisement makes?

_____ (42)

④ (80)

GO TO CARD #5

____ (1-4)

16. [SHOW DeORLEAN AD] This is another ad you just saw. Have you ever seen this product advertised before?

Yes 1
No 2 (13)

[IF YES]

16a Have you ever seen this particular advertisement before?

Yes 1
No 2 (16)

17. [HAND CARD B] How would you rate the believability of this ad in general?

_____ (18)

18. Do you own a car?

Yes 1 (20)

[GO TO #19] ← No 2

[IF YES, HAND CARD C]

18a Thinking about all the products you own or would like to own, how important is an automobile to you as a person ?

_____ (22)

18b [HAND CARD D] Thinking about the brand of automobile you drive most often and about all the other brands you've seen or tried, how would you rate your preferences?

_____ (24)

18c [HAND CARD E] Will you buy the same brand the next time you buy a car?

_____ (26)

18d [HAND CARD F] In general, how much do you like this advertisement for the DeOrlean?

_____ (28)

18e How much do you like the DeOrlean itself? [PROBE]

_____ (30)

18f How much do you like your own brand of car?

_____ (32)

19. [HAND CARD B] How would you rate the believability of the person or company that sponsors this ad?

_____ (40)

20. Finally, how would you rate the believability of the specific claims this advertisement makes?

_____ (42)

⑤ (80)

GO TO CARD #6

____ (1-4)

21. [SHOW THE MOBIL AD] This is another ad you just saw. Have you ever seen this product advertised before?

Yes 1 (13)
No 2

[IF YES]

21a Have you ever seen this particular advertisement before?

Yes 1 (16)
No 2

22. [HAND CARD B] How would you rate the believability of this ad in general?

_____ (18)

23. Do you use gasoline?

Yes 1 → [IF YES, HAND CARD C]
No 2 → [GO TO #24]
(20)

23a Thinking about all the products you use or would like to use, how important is gasoline to you as a person?

_____ (22)

23a.1 Is there a brand of gasoline you use more often than others?

[CONTINUE] Yes 1
[GO TO #24] No 2
(23)

23b [HAND CARD D] Thinking about the brand of gas you use most often and about all the other brands you've seen or tried, how would you rate your preferences?

_____ (24)

23c [HAND CARD E] Will you buy the same brand the next time you buy gas?

_____ (26)

23d [HAND CARD F] In general, how much do you like this advertisement for Mobil?

_____ (28)

23e How much do you like Mobil gas itself? [PROBE]

_____ (30)

23f How much do you like your own brand of gas?

_____ (32)

24. [HAND CARD B] How would you rate the believability of the person or company that sponsors this ad?

_____ (40)

25. Finally, how would you rate the believability of the specific claims this advertisement makes?

_____ (42)

⑥ (80)

GO TO CARD #7

____ (1-4)

26. [SHOW THE VANTAGE AD] This is another ad you just saw and the last one we'll discuss. Have you ever seen this product advertised before?

Yes 1
No 2 (13)

[IF YES]

26a Have you ever seen this particular advertisement before?

Yes 1
No 2 (16)

27. [HAND CARD B] How would you rate the believability of this ad in general?

_____ (18)

28. Do you smoke cigarettes?

Yes 1 (20)

[GO TO #29] ← No 2

[IF YES, HAND CARD C]

28a Thinking about all the products you use or would like to use, how important are cigarettes to you as a person?

_____ (22)

28b [HAND CARD D] Thinking about the brand of cigarettes you smoke most often and about all the other brands you've tried, how would you rate your preferences?

_____ (24)

28c [HAND CARD E] Will you buy the same brand the next time you buy cigarettes?

_____ (26)

28d [HAND CARD F] If general, how much do you like this advertisement for Vantage?

_____ (28)

28e How much do you like Vantage cigarettes themselves? [PROBE]

_____ (30)

28f How much do you like your own brand of cigarettes?

_____ (32)

29. [HAND CARD B] How would you rate the believability of the person or company that sponsors this ad?

_____ (40)

30. Finally, how would you rate the believability of the specific claims this advertisement makes?

_____ (42)

(7) (80)

GO TO CARD #8

____ (1-4)

31. Of the five ads we just reviewed, is there one you especially liked? [IF YES] Which one?

_____ (5)

32. Is there one you especially disliked? [IF YES] Which one?

_____ (6)

33. Were there any ads that specifically attacked or compared competitor's products?

Yes 1 (7)

No 2

[IF YES]

33a Which ones?

Sponsoring Brand	Compared Brand
_____ (8)	_____ (9)
_____ (10)	_____ (11)
_____ (12)	_____ (13)

34. Were any of the ads discriminatory to minorities? [IF YES] Which ones?

_____ (14)

_____ (15)

35. Do you think any of the five ads should be banned from where children or adolescents might see them? [IF YES] Which ones?

_____ (16)

_____ (17)

36. Should any of the five ads be banned for any other reason? [IF YES] Which ones and why?

AD		Reason	
_____	(18)	_____	
		_____	(21)
_____	(19)	_____	
		_____	(22)
_____	(20)	_____	
		_____	(23)

THANK YOU VERY MUCH!!! As you know, there will be a very short phone interview later on which should last about five minutes. Is there a time of day when you would prefer to be called?

_____

Interviewer _____

Editor _____

Coder _____

(8) (80)
GO TO CARD #9
CODE #_____(1-4)
Y 1
G 2 (5)

Hello, my name is _____and I'm calling for the research study in which you've been participating. This is the last time we'll contact you and, at the end of the interview, I'll be happy to answer any questions you have about the study.

In the last interview, you flipped through a booklet with some advertisements in it. What products or services do you remember from those advertisements? Please try to recall each product or service by the brand name that was sponsoring the ad. [DO NOT READ LIST!]

	MENTION						
	1st	2nd	3rd	4th	5th	OTHER	
DeOrlean	01	01	01	01	01	1	(19)
Vesta Cola	02	02	02	02	02	1	(20)
Diners Club	03	03	03	03	03	1	(21)
American Mutual	04	04	04	04	04	1	(22)
Vantage	05	05	05	05	05	1	(23)
Diamond Shamrock	06	06	06	06	06	1	(24)
CBS Radio	07	07	07	07	07	1	(25)
ELSB	08	08	08	08	08	1	(26)
Ramada Inn	09 (9,10)	09 (11,12)	09 (12,13)	09 (15,16)	09(17,18)	1	(27)
Coca-Cola	10	10	10	10	10	1	(28)
Jerome Alexander	11	11	11	11	11	1	(29)
Chanel for Men	12	12	12	12	12	1	(30)
Oldsmobile	13	13	13	13	13	1	(31)
Mobil Oil	14	14	14	14	14	1	(32)
Sony Trinitron	15	15	15	15	15	1	(33)
Sanka	16	16	16	16	16	1	(34)
_____	17	17	17	17	17	1	(35)
_____	18	18	18	18	18	1	(36)
_____	19	19	19	19	19	1	(37)
_____	20	20	20	20	20	1	(38)

1. Several weeks ago, when you filled out the blue questionnaire, you listed some brands of products you use. One of these products was an automobile. What brand of automobile do you own or drive most often?

_____(39)

2. Was this the brand you owned or drove most often when you completed the blue questionnaire?

[GO TO #3] ← Yes 1

(40)

No 2

[IF NO]

2a Why did you switch brands? [PROBE]

_____

_____

_____(41-44)

3. Thinking about all the other brands you've seen or driven, how would you rate your preferences on a scale going from 1 to 7? One means you prefer [BRAND] the most and 7 means you prefer [BRAND] the least.

_____(45)

4. On the same 1 to 7 scale, will you buy your brand the next time? One means you will definitely buy [BRAND] and 7 means you will definitely not buy [BRAND].

_____(46)

5. In general, how much do you like [BRAND]? One means you like it very much and 7 means you dislike it very much.

_____(47)

6. One of the advertisements you saw in the booklet was for the DeOrlean automobile. Please tell me everything you remember that this ad said or showed. [PROBE] What else?

_____

_____

_____

_____

_____

_____

_____ (50-53)

_____ (54-55)

7. In general, how much did you like the advertisement for the DeOrlean? One means you liked it very much and 7 means you disliked it very much.

_____ (56)

8. On the same scale, how much do you like the DeOrlean? [PROBE]

_____ (57)

Finally, I need some information for statistical purposes only.

9. Could you tell me your age? _____ (58)

10. How many people, including yourself, currently live in your household? _____ (59)

11. Are you married or single?

Married 1
Single 2 (60)

12. What is your occupation? [ONE ANSWER ONLY]

Housewife 1
Student 2 (61)

Other_____

13. What is the last grade of school you completed?

< H.S. Grad 1
H.S. Grad 2
Technical School or Some College 3 (62)
College Grad 4
Some Grad School 5
Grad Degree 6

THANK YOU VERY MUCH!!

Do you have any idea what this study was about? [DETERMINE IF RESPONDENT REMAINED NAIVE.] Notes:_____

_____

_____

If you know anyone else who is helping us with the study, please do not discuss it with him until he has been contacted for this interview.

THANK YOU AGAIN!!

[BY OBSERVATION] Sex M 1 F 2 (63)

Race: B 1 W 2 O 3 DK 4 (64)

(9) (80)

APPENDIX D

DATA MATRICES

TABLE D-1.--Data Matrix for Advertising Credibility and Other Variables within a Time Period.

	Comparative Ad	Brand X Ad	Noncomparative Ad
Automobile Olds User	$R_1 - R_{10}$	$R_{11} - R_{20}$	$R_{21} - R_{30}$
Cola Coke User	$R_{31} - R_{40}$	$R_{41} - R_{50}$	$R_{51} - R_{60}$
Automobile Non-Olds User	$R_{61} - R_{70}$	$R_{71} - R_{80}$	$R_{81} - R_{90}$
Cola Non-Coke User	$R_{91} - R_{100}$	$R_{101} - R_{110}$	$R_{111} - R_{120}$

TABLE D-2.--Data Matrix for Perceptual Classifications within a Time Period.

	Comparative Ad	Noncomparative Ad
High Involvement Target Brand User	17	21
Low Involvement Target Brand User	11	11
High Involvement Target Brand Non-User	11	23
Low Involvement Target Brand Non-User	13	13

APPENDIX E

TABLES FOR RESPONSE RATES AND DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

TABLE E-1.--Response to Time 1.

	f	%
Questionnaires Returned	209	35
Questionnaires Not Returned	391	65
Total	600	100

TABLE E-2.--Time 1 Questionnaires Returned.

	f	%
"Usable" for Time 2	201	96
"Unusable" for Time 2	8	4
Total	209	100

TABLE E-3.--Completion of Interviews in Times 2 and 3.

	f	%
Completed Time 2 Interview	125	62*
Completed Time 3 Interview	123	61*

*Base: 201 "Usable" questionnaires from Phase I.

TABLE E-4.--Reasons for not Completing the Time 2 Interview.

	f	%
Refused	8	11
Moved out of town, phone disconnected	2	3
Could not contact by end of data collection or quota already filled	66	87
Total	76	101*

*Does not total 100% because of rounding.

TABLE E-5.--Final Sample Size.

	Size
Completed Time 3	123
Deleted from sample because of new car purchase	- 3
Final Sample Size	120

TABLE E-6.--Marital Status of Sample.

Marital Status	f	%
Married	51	42.5
Single	69	57.5
Total	120	100.0

TABLE E-7.--Occupation of Sample.

Occupation	f	%
Housewife	12	10.0
Student	12	10.0
Managerial/professional	42	35.0
Technical	13	10.8
Clerical	9	7.5
Elementary or high school teachers	10	8.3
Sales	12	10.0
"Blue collar"	2	1.7
Retired	7	5.8
Refused	1	.8
Total	120	100.0

TABLE E-8.--Number in Household for Sample.

Number	f	%
1	49	40.8
2	39	32.5
3	11	9.2
4	12	10.0
5	7	5.8
6	1	.8
Refused	1	.8
Total	120	100.0

NOTE: $\overline{X}$ = 2.1 persons per household.

TABLE E-9.--Ages of Sample Respondents.

Age Group	f	%
18 or 19	1	.8
20 - 29	60	50.0
30 - 39	32	26.7
40 - 49	12	10.0
50 - 59	9	7.5
60 - 69	5	4.2
Over 69	1	.8
Total	120	100.0

TABLE E-10.--Education of Sample Respondents.

Last Grade Completed	f	%
High School Graduate	8	6.7
Some College*	21	17.5
College Graduate	41	34.2
Some Graduate School	14	11.7
Graduate Degree	36	30.0
Total	120	100.0

*Also includes technical or vocational school beyond high school.

TABLE E-11.--Sex of Sample Respondents.

Sex	f	%
Male	56	46.7
Female	64	53.3
Total	120	100.0

TABLE E-12.--Race of Sample Respondents.

Race	f	%
Black	3	2.5
White	116	96.7
Other	1	.8
Total	120	100.0

APPENDIX F

ADDITIONAL CHI-SQUARE TABLES

OF BRAND NAME RECALL

TABLE F-1.--Advertisement Recall by Advertisement Type--Time 2.

	Comparative Ad	Brand X Ad	Noncomparative Ad	Total
Recall	30	27	22	79
No Recall	10	13	18	41
Total	40	40	40	120

$X^2 = 3.63$ d.f. = 2 p = .16

TABLE F-2.--Advertisement Recall by Advertisement Type--Time 3.

	Comparative Ad	Brand X Ad	Noncomparative Ad
Recall	35	38	34
No Recall	5	2	6

$X^2 = 2.24$ d.f. = 2 p = .33

TABLE F-3.--Brand Name Recall by Advertisement Type--Time 2.

	Comparative Ad	Brand X Ad	Noncomparative Ad	Total
Correct Name	18	10	10	38
Incorrect Name	22	30	30	82
Total	40	40	40	120

$X^2 = 4.93$ d.f. = 2 p = .09

TABLE F-4.--Brand Name Recall by Advertisement Type--Time 3.

	Comparative Ad	Brand X Ad	Noncomparative Ad
Correct	16	11	7
Incorrect	24	29	33

$X^2 = 5.01$ d.f. = 2 p = .08

TABLE F-5.--Advertisement Recall by Advertisement Type Based on Respondent Classification--Time 2.

	Comparative Ad	Noncomparative Ad
Recall	38	41
No Recall	14	27

$X^2 = 1.61$ d.f. = 1 p = .20

TABLE F-6.--Advertisement Recall by Advertisement Type Based on Respondent Classification--Time 3.

	Comparative Ad	Noncomparative Ad
Recall	47	60
No Recall	5	8

$X^2 = .01$ d.f. = 1 p = .94

TABLE F-7.--Brand Name Recall by Advertisement Type Based on Respondent Classification--Time 2.

	Comparative Ad	Noncomparative Ad
Correct	21	17
Incorrect	31	51
$X^2 = 2.55$	d.f. = 1	p = .11

TABLE F-8.--Brand Name Recall by Advertisement Type Based on Respondent Classification--Time 3.

	Comparative Ad	Noncomparative Ad
Correct	21	13
Incorrect	31	55
$X^2 = 5.56$	d.f. = 1	p = .02

TABLE F-9.--Brand Name Recall by Usage of Target Brand Among Subjects Who Saw a Comparative Advertisement--Time 2 (n = 40).

	Target Brand Users	Target Brand Non-Users
Correct	9	9
Incorrect	7	5
No Recall	4	6
$X^2 = .73$	d.f. = 2	p = .69

TABLE F-10.--Brand Name Recall by Usage of Target Brand Among Subjects Who Saw a Comparative Advertisement--Time 3 (n = 40).

	Target Brand Users	Target Brand Non-Users	Total
Correct	8	8	16
Incorrect	8	11	19
No Recall	4	1	5
Total	20	20	40

$X^2 = 2.27$ d.f. = 2 p = .32

TABLE F-11.--Brand Name Recall by Usage of Target Brand Among Subjects Who Reported Seeing a Comparative Advertisement--Time 2.

	Target Brand Users	Target Brand Non-Users
Correct	11	10
Incorrect	11	6
No Recall	6	8

$X^2 = 1.51$ d.f. = 2 p = .47

TABLE F-12.--Name Recall by Usage of Target Brand Among Subjects Who Reported Seeing a Comparative Advertisement--Time 3.

	Target Brand Users	Target Brand Non-Users
Correct	11	10
Incorrect	13	13
No Recall	4	1
$X^2 = 1.55$	d.f. = 2	p = .46

TABLE F-13.--Advertisement Recall by Product--Time 2.

	Automobile	Cola
Recall	47	32
No Recall	13	28
$X^2 = 7.26$	d.f. = 1	p = .01

TABLE F-14.--Advertisement Recall by Product--Time 3.

	Automobile	Cola
Recall	57	50
No Recall	3	10
$X^2 = 3.11$	d.f. = 1	p = .08

TABLE F-15.--Brand Name Recall by Product--Time 2.*

	Automobile	Cola
Correct	19	19
Incorrect	41	41
$X^2 = .04$	d.f. = 1	p = .84

*No recall was counted as incorrect name recall.

TABLE F-16.--Brand Name Recall by Product--Time 3.*

	Automobile	Cola
Correct	16	18
Incorrect	44	42
$X^2 = .04$	d.f. = 1	p = .84

*No recall was counted as incorrect name recall.

TABLE F-17. Advertisement Recall by Involvement Level--Time 2.

	High Involvement	Low Involvement
Recall	48	31
No Recall	24	17
$X^2 = .00$	d.f. = 1	p = .97

TABLE F-18.--Advertisement Recall by Involvement Level--Time 3.

	High Involvement	Low Involvement
Recall	68	38
No Recall	4	9
$X^2 = 3.91$	d.f. = 1	p = .05

TABLE F-19.--Brand Name Recall by Involvement Level--Time 2.*

	High Involvement	Low Involvement
Correct	22	16
Incorrect	60	32
$X^2 = .01$	d.f. = 1	p = .91

*No recall was counted as incorrect name recall.

TABLE F-20.--Brand Name Recall by Involvement Level--Time 3.*

	High Involvement	Low Involvement
Correct	22	12
Incorrect	50	35
$X^2 = .21$	d.f. = 1	p = .65

*No recall was counted as incorrect name recall.

APPENDIX G

CELL STATISTICS USED IN THE ANOVA TABLES FOR CONTENT RECALL AND ATTITUDE CHANGE

TABLE G-1.--Cell Means for Content Recall--Time 2 and Time 3.

	Time 2			Time 3		
	Comparative Ad	Brand X Ad	Noncomparative Ad	Comparative Ad	Brand X Ad	Noncomparative Ad
Automobile	16.40	11.20	11.20	19.20	12.00	10.00
Olds User	11.99	6.48	8.18	8.18	7.54	4.71
Cola	24.90	9.20	2.50	29.20	20.10	8.20
Coke User	16.67	10.78	5.68	19.07	13.14	11.71
Automobile	17.20	12.80	11.20	19.60	12.40	12.00
Non-Olds User	11.00	5.90	8.39	9.70	7.41	8.22
Cola	15.90	14.90	6.60	18.30	18.00	12.30
Non-Coke User	12.83	14.80	9.32	11.18	8.62	14.22

NOTE: The first number in each cell is the cell mean. The second number in the cell is the standard deviation. Sample size in each cell is 10.

TABLE G-2.--Cell Means for Content Recall Time 2 and Time 3 using the Respondent Classification.

	Time 2		Time 3	
	Comparative Ad	Noncomparative Ad	Comparative Ad	Noncomparative Ad
High Involvement Target Brand User	17.71 11.93 n=17	7.05 7.26 n=21	23.00 11.77 n=17	11.76 7.88 n=21
Low Involvement Target Brand User	22.18 15.15 n=11	5.55 8.19 n=11	25.82 17.34 n=11	5.91 8.11 n=11
High Involvement Target Brand Non-User	16.46 11.02 n=11	12.44 9.90 n=23	18.64 7.93 n=11	12.00 8.70 n=23
Low Involvement Target Brand Non-User	14.15 12.54 n=13	10.39 11.17 n=13	18.15 9.72 n=13	16.08 13.78 n=13

NOTE: The first number in each cell is the cell mean. The second number in the cell is the cell standard deviation. Sample size in each cell is indicated.

TABLE G-3.--Cell Means for Summed Brand Attitude Scores.

	Time 1			Time 2			Time 3		
	Comparative Ad	Brand X Ad	Noncomparative Ad	Comparative Ad	Brand X Ad	Noncomparative Ad	Comparative Ad	Brand X Ad	Noncomparative Ad
Automobile									
Olds User	6.30	7.90	6.30	6.40	8.40	6.40	5.20	6.10	6.80
	3.34	4.53	2.95	5.15	3.84	2.91	1.87	2.42	2.90
Cola									
Coke User	4.00	5.40	4.00	4.10	5.30	5.10	3.90	4.90	8.00
	1.49	3.41	1.25	1.97	3.43	2.28	1.10	1.37	3.06
Automobile									
Non-Olds User	6.90	8.40	7.80	8.60	8.90	7.70	7.30	8.20	4.80
	3.51	4.62	3.52	4.25	5.38	2.83	3.20	4.47	1.87
Cola									
Non-Coke User	7.10	5.30	6.30	5.80	6.40	6.30	6.80	6.90	6.40
	4.43	2.31	3.30	3.01	3.37	3.34	3.36	4.51	1.96

NOTE: First number in each cell is the cell mean; second number is the standard deviation; n = 10 for each cell.

TABLE G-4.--Cell Means for Summed Brand Attitude Scores: Respondent Classification.

	Time 1		Time 2		Time 3	
	Comparative Ad	Non-comparative Ad	Comparative Ad	Non-comparative Ad	Comparative Ad	Non-comparative Ad
High Involvement Brand User	6.94 4.14 n=17	5.24 2.30 n=21	5.88 4.12 n=17	6.86 3.86 n=21	5.35 1.97 n=17	5.38 2.33 n=21
Low Involvement Brand User	4.73 3.26 n=11	5.36 2.94 n=11	4.73 2.15 n=11	5.55 3.05 n=11	4.45 1.44 n=11	5.82 2.64 n=11
High Involvement Brand Non-User	8.09 3.62 n=11	7.57 3.85 n=23	9.18 4.02 n=11	7.52 4.37 n=23	7.73 2.65 n=11	7.57 3.81 n=23
Low Involvement Brand Non-User	6.69 4.19 n=13	5.23 2.39 n=13	6.62 3.12 n=13	5.92 2.81 n=13	7.62 4.31 n=13	6.00 2.24 n=13

NOTE: First number in each cell is the cell mean; second number is the standard deviation.

TABLE G-5.--Cell Means Using Difference Scores for Change in Attitude Toward One's Brand.

	Time 1 - Time 2			Time 2 - Time 3		
	Comparative Ad	Brand X Ad	Noncomparative Ad	Comparative Ad	Brand X Ad	Noncomparative Ad
Automobile	.10	.50	.10	-1.20	-2.30	.40
Olds User	5.11	5.82	1.60	4.18	4.32	1.26
Cola	.10	-.10	1.10	-.20	-.40	-.30
Coke User	1.66	4.51	2.64	1.62	2.88	1.77
Automobile	1.70	.50	-.10	-1.30	-.70	.30
Non-Olds User	2.21	2.64	2.56	1.89	3.89	2.31
Cola	-1.30	1.10	0.00	1.00	.50	.10
Non-Coke User	4.67	4.12	4.08	2.31	6.33	2.77

NOTE: The first number in each cell is the cell mean. The second number is the cell standard deviation. A positive score indicates a change away from one's own brand; a negative score indicates a change toward one's own brand. Sample size in each cell is 10.

TABLE G-6.--Cell Means Using Difference Scores for Change in Attitude Toward One's Brand--
Respondents Classification.

	Time 1 - Time 2		Time 2 - Time 3	
	Comparative Ad	Noncomparative Ad	Comparative Ad	Noncomparative Ad
High Involvement Brand User	-1.06 4.80 n=17	1.62 3.20 n=21	- .53 3.26 n=17	-1.48 3.56 n=21
Low Involvement Brand User	0.00 3.13 n=11	.18 3.19 n=11	- .27 1.56 n=11	.27 1.95 n=11
High Involvement Brand Non-User	1.09 2.39 n=11	- .04 3.02 n=23	-1.45 3.05 n=11	.04 2.34 n=23
Low Involvement Brand Non-User	- .08 5.23 n=13	.69 3.51 n=13	1.00 5.77 n=13	.08 2.47 n=13

NOTE: The first number in each cell is the cell mean. The second number is the standard deviation. A positive score indicates a change away from one's own brand; a negative score indicates a change toward one's own brand.

APPENDIX H

CORRELATION MATRICES FOR BRAND ATTITUDE ITEMS

TABLE H-1.--Correlation Matrix for Items Measuring Attitude Toward One's Own Brand--Time 1 Pretest.

	Preference	Intention to Buy	Liking
Preference	1.00	.68	.76
Intention to Buy	.68	1.00	.53
Liking	.76	.53	1.00

NOTE: Coefficient Alpha = .85.

TABLE H-2.--Correlation Matrix for Items Measuring Attitude Toward One's Own Brand--Time 2 Immediate Posttest.

	Preference	Intention to Buy	Liking
Preference	1.00	.60	.68
Intention to Buy	.60	1.00	.53
Liking	.68	.53	1.00

NOTE: Coefficient Alpha = .82.

TABLE H-3.--Correlation Matrix for Items Measuring Attitude Toward One's Own Brand--Time 3 Delayed Posttest.

	Preference	Intention to Buy	Liking
Preference	1.00	.52	.81
Intention to Buy	.52	1.00	.44
Liking	.81	.44	1.00

NOTE: Coefficient Alpha = .81.