

A STUDY OF MEANING GAPS BETWEEN SIX SELECTED  
PRODUCTS AND CORRESPONDING  
ADVERTISEMENTS

By

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## PREFACE

This thesis is concerned with measuring assumed meaning gaps between six selected products and corresponding advertisements. Specific product brands included the soft drinks Canada Dry Ginger Ale, Coca-Cola, Dr Pepper, 7-Up, Pepsi-Cola, and No-Cal Cola. Subjects in the study were randomly selected from 1970 Stillwater, Oklahoma, census tracts. Ninety subjects rated either the six ads or the six products along three semantic differential meaning dimensions: Evaluation, Potency, and Oriented Activity.

Variances among the subjects' ratings were computed between the six brands, three meaning dimensions and two exposure groups to determine if and where significant meaning gaps existed. Finally, the technique used to analyze the subjects' meaning scores was a three-dimensional factorial analysis of variance design.

I would like to take this opportunity to express my sincere appreciation for the guidance given to me by my thesis advisor, Dr. Walter J. Ward.

In addition, I would like to acknowledge Miss Holly Hunting, Messrs. Frank Berry, Anthony Bradley, Thomas Bouldin and Herbert McCain, whose assistance in conducting subject interviews was greatly appreciated.

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## CHAPTER I

### INTRODUCTION

Advertising long has been ruled by a small group of self-interest individuals who "have something to sell."<sup>1</sup> While this small group of advertisers concern themselves with more self-interest than customer satisfaction, the public has become disenchanted and skeptical of the advertisers' hard-sell. The Wheeler-Lea Bill forbids advertisements that create a "misleading impression" and Better Business Bureaus act to curb unfair business practices. Still, many consumers do not feel they are being guarded against advertising's selfish onslaught.

Correspondingly, citizens have taken steps to form "vigilante" committees in their own defense. In April of 1970, FTC Commissioner Mary Gardner Jones said she counted 19 citizens' interest groups in the communications field. Ralph Nader criticized the FTC for failure to challenge the associative themes in advertising that seek to sell fantasy rather than product capability. TUBE (Terminate Unfair Broadcasting Excesses) petitioned the FTC to set standards that specifically regulate the

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<sup>1</sup>C. H. Sandage, Advertising: Theory and Practice (Chicago, 1939), p. 543.



associative themes used in advertising. ACT (Action for Children's TV), a parents' group, petitioned the FTC for a ban on commercials directed at children. SOUP (Students Opposing Unfair Practices) petitioned the FTC not only to require Campbell's Soup to stop its deceptive vegetable soup commercials and refrain from such action in the future, but also to require them to publicize the deception to negate its effect (the commercial used marbles in the bowl to float the vegetables to the top).<sup>2</sup> This is only a partial list of continually growing citizens' groups against the advertising industry.

The FTC now observes nearly every network broadcast commercial besides investigating individual consumer complaints. More governmental control probably is forthcoming. Senators Philip Hart (D-Michigan) and William Proxmire (D-Wisconsin) are sponsoring legislation for consumer protection and truth in advertising. Theodore Levitt of Harvard University's Graduate School of Business Administration says,

Legislation seems appropriate because the natural action of competition does not seem to work, or at least not very well. Competition ultimately may flush out and destroy falsehood and shoddiness, but 'ultimately' is too long for the deceived.<sup>3</sup>

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<sup>2</sup> American Association of Advertising Agencies, "The 4A's Newsletter" (February 16, 1971), pp. 1-2.

<sup>3</sup> Theodore Levitt, Advertising Age, "What Consumers Really Want: Ad Embellishment, Not Untruth" (March 15, 1971), p. 55.

William Rivers and Wilbur Schramm are concerned about an apparent lack of publisher and broadcaster control over misleading advertising.

Publishers and broadcasters who are scrupulously concerned with truth and accuracy in news columns . . . seem much less concerned with truth in advertising. Yet the same public is affected by advertising messages. And the public should be the mass media's first concern.<sup>4</sup>

This myriad of regulator structures is a positive outgrowth of the public concern and growing distrust of the advertising industry. In 1964, the American Association of Advertising Agencies conducted a comprehensive study on the consumers' judgments of advertising.<sup>5</sup> The study, shown in part below, indicates that consumers feel the ad industry is essential, but that the quality of the advertisements generally is poor.

Favorable attitude toward advertising .....	41%
Advertising is essential .....	78%
Advertising raises the standard of living ..	71%
Advertising results in better products .....	74%
Advertising lowers prices .....	40%*

(\* note: 15% cannot say; 45% disagree)

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<sup>4</sup>William Rivers and Wilbur Schramm, Responsibility in Mass Communications (New York, 1969), revised edition, pp. 111-112.

<sup>5</sup>American Association of Advertising Agencies, "The AAAA Study on Consumer Judgment of Advertising," 1964, quoted in Joe Johnston, "Toward More Ethically Sound Advertising" (unpublished Master's paper), Oklahoma State University (April 19, 1971), p. 4.

Advertising makes people buy things they should not buy .....	65%
Advertising insults the consumers' intelligence .....	48%
Advertising presents a true picture of the product .....	41%

Similar findings were reported in 1970 by the National Gilbert Youth Poll, which surveyed 3,000 persons aged 14 through 25, on questions concerning the benefits of advertising.<sup>6</sup>

Most of these statistics may not be startling, and it may even be encouraging to know that so many people find advertising so necessary, yet to the extent that the consumers' feelings fall short of 100 per cent appreciation and trust, the figures are worthy of advertising men's concern. If the advertiser does not recognize a public responsibility, the public may demand it.

Apparently advertising men no longer can ignore the general lack of ad credibility in the mind of the consumer. (Note that only 41% of the subjects tested in the 4A study felt that advertising presented a true picture of the product.) The American Association of Advertising Agencies consumer judgment study merely indicated what ad men had known for some time--that consumers, more than 50 per cent, were dissatisfied with advertising. The 4A study results should spur advertisers to further studies of advertising credibility.

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<sup>6</sup>Stillwater News-Press, Oklahoma (October 14, 1970), p. 26.

### Purpose of the Study

This study attempts to expand on the 4A study by providing a more precise and objective evaluation of consumer product (soft drinks) attitudes compared with the attitudes of the same product's selected advertisements. Related research seems to indicate a significant difference between the consumers' attitudes of the actual product and its advertisements.<sup>7</sup>

If a significant difference does exist, it would mean the consumer holds a different view of the product than for the advertisement and could indicate that advertising does not present a true or desired picture of the product. (Fifty-nine per cent of those surveyed in the 4A study felt advertising does not present a true picture of the product.) If a perceptual gap between advertisement and actual product exists and is not desired--the gap could, and perhaps should, be closed by representing the product differently in advertisements.

By making the ads more representative of the product in the eyes of consumers, the ads potentially could become more credible and effective.

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<sup>7</sup>Theodore Levitt, Journal of Marketing, "Communications and Industrial Selling," Vol. 31 (April 1967), pp. 15-21.

### Limitations of the Study

The major limitation of this study comprises the type of product being tested. Soft drinks are considered convenience products by such marketing experts as Martin Bell.<sup>8</sup> Bell defines a convenience product as one a consumer wishes to buy with minimum effort, as compared to shopping goods or products in which comparison of available offerings precedes selection, or specialty products for which the consumer is willing to go to considerable lengths to seek out and purchase. In short, there is little differentiation among various soft drinks. Further there is more or less a standard price for all brands.

This study deals only secondarily with comparative images of different soft drinks. The author primarily was concerned with the product-advertisement image gap.

A second limitation is that the author does not attempt to correlate dependent responses to the independent soft drinks and advertisements. Instead, he merely attempts to indicate what differences in meaning consumers have of the actual product and its individual advertisement.

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<sup>8</sup>Martin Bell, Marketing: Concepts & Strategy (Boston, 1966), p. 158.

This study sets a base for further investigations in multiple correlations of soft drinks and consumer types.

Another limitation involves content validity. Only advertisements appearing in national magazines are used. There are no television, radio, newspaper or miscellaneous types of advertising stimuli. In essence, this study measures consumer evaluation of soft drink advertisements appearing in national magazines.

## CHAPTER II

### REVIEW OF THE LITERATURE

Advertising literature reveals a lag in advertisers' uses of available research techniques. As previously mentioned, advertising has been ruled, for the most part, by those who have something to sell. Publishers, broadcasters and advertising agencies have been major influences in determining advertising's character. They are interested in selling advertisers large volumes of space or time for large sums of money. Since reliable and valid data on actual effectiveness of advertisements are difficult to obtain, other selling appeals are used. C. H. Sandage lists "faith in advertising, prestige, goodwill, 'keeping up with the Joneses,' art, and circulation" which have proved effective tools in selling space and advertising service.<sup>1</sup>

Publishers particularly have not been eager to spend additional money to help the advertiser determine the relative value of different advertisements and media. Likewise, a number of advertising agencies have not been

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<sup>1</sup>C. H. Sandage, Advertising: Theory and Practice (Chicago, 1939), pp. 561-562.

interested in promoting effective studies.<sup>2</sup>

A further cause of advertising testing lag is found in the attitude of businessmen themselves.

Sandage again points out that this is due in part to an excellent job of selling. Many advertisers have been sold on art--advertising to be appreciated for its own sake.<sup>3</sup>

Kenneth Goode and Carroll Rheinstrom describe this situation vividly:

Most businessmen don't bother about results. They have faith in advertising--as a benevolent force. . . . They are persuaded that a good advertisement, like . . . a good play, succeeds because it is done well. Splendidly done advertising should succeed splendidly. . . .<sup>4</sup>

Not all businessmen are of the type described by Goode and Rheinstrom. Nonetheless, many businessmen who wish to believe they have a scientific attitude toward advertising prefer instead to rely on experience and "sound judgment."

Still other businessmen claim there are certain qualities of advertising that cannot be tested. Included among these may be cumulative effects, the influence of continuity and goodwill. It can be

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<sup>2</sup>Ibid., p. 563.

<sup>3</sup>Ibid., pp. 563-564.

<sup>4</sup>Kenneth Goode and Carroll Rheinstrom, More Profits From Advertising (New York, 1931), pp. 11-12.



argued that the real value of a particular advertisement cannot be measured by traceable results. It may take a complete advertising campaign to get a message across, not merely a single advertisement. If testing in this situation were used, many advertisements would have to be discarded as ineffective--which may not be the case at all.

#### A Measurement of Meaning

Though the field of testing advertising effectiveness is relatively new, Charles Osgood and his colleagues at the University of Illinois many years ago developed a measuring instrument, the semantic differential, which is objective, reliable, valid and sensitive enough to measure semantical meaning, i.e., the relation of signs (the advertisements and the actual soft drink products) to their significant ("meanings" or attitudes consumers attach to the signs).

The semantic differential purports to index certain aspects of meaning, particularly connotative aspects. In any form of communication, be it linguistic, aesthetic, or other channels--even persuasive advertisements--meaning is critically involved at both the initiation and termination of the communicative act. There is a transfer of "meaning" from one source to another. In this study, the author is interested in meanings of soft drink products versus the soft drink advertisements.

In essence this study attempts to answer the question: What meaning does the consumer hold for the soft drink advertisement as compared to, or differentiated from, the soft drink product itself?

Further, the semantic differential attempts to subject meaning to quantitative measurement. That is, it compares the responses of the different people's attitudes of the same advertisements and indicates the degree of similarity or difference in attitude.

Osgood, et al., indicate that prerequisites to quantitative measurement as an index to meaning (attitude) are:

- (1) a carefully devised sample of alternative verbal responses which can be standardized across subjects,
- (2) alternatives to be elicited from subjects rather than emitted so that encoding fluency is eliminated as a variable,
- (3) alternatives to be representative of major ways in which meanings (attitudes) vary.<sup>5</sup>

The above prerequisites are necessary so that selection among successive pairs of common verbal opposites should gradually isolate the "meaning" (attitude) of the stimulus sign, the soft drink product and the soft drink advertisement. Also, to increase sensitivity of the semantic differential, Osgood inserted a scale between each pair of bipolar terms, so that the subject can

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<sup>5</sup>Charles Osgood, George Suci, and Percy Tannenbaum, The Measurement of Meaning (Urbana, 1957), p. 19.

indicate both direction and intensity of each judgment. Therefore, the semantic differential essentially is a combination of controlled association and scaling procedures.

However, critics of the semantic differential state that it, as well as other types of attitude scales, does not allow the experimenter to predict actual behavior in real life situations. Osgood feels that this argument is overdrawn:

Most proponents of attitude measurement have agreed that attitude scores indicate only a disposition toward certain classes of behaviors . . . and that what overt response actually occurs in a real-life situation depends also upon the context provided by the situation.<sup>6</sup>

#### Uses of the Semantic Differential

Evidently there are still some businessmen who neither feel that attitude measurements are merely white-coat laboratory experiments nor are these tests inferior to experience or sound judgment. Douglas Fuchs<sup>7</sup> attempted to show that the semantic differential was sensitive enough to measure attitude changes. Fuchs' experiment tested the effects of magazine and sponsoring company's prestige on

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<sup>6</sup>Ibid., p. 198.

<sup>7</sup>Douglas Fuchs, Journal of Marketing Research, "Two Source Effects in Magazine Advertising" (August, 1964), pp. 59-62.

attitudes toward unknown advertised products. Fuchs was attempting to find out if the prestige change could be measured effectively by the semantic differential.

Fuch drew the conclusion that:

. . . the well-tested semantic differential has shown itself to be sensitive enough . . . and . . . it is reasonable to consider a broadened use of this sort of instrument in advertising research situations.

This author has taken Fuchs' advice and is attempting a "broadened use" of the semantic differential in trying to measure sensitive differences between consumer attitudes of products against their attitudes of the advertisements of these same products.

Theodore Levitt, in an experiment entitled "Communications and Industrial Selling," posed the question: "Is a good sales representative more effective than a good reputation?"<sup>9</sup> Levitt found that:

. . . when asked to rank the trustworthiness of the salesman on the one hand and then the trustworthiness of the company he represented, respondents consistently scored the salesman lower than his company.<sup>10</sup>

If Levitt's study can be extended to advertisements and products as "salesman and company" respectively, then the soft drink advertisement will not automatically elicit

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<sup>8</sup>Ibid., p. 62.

<sup>9</sup>Theodore Levitt, Journal of Marketing, "Communications and Industrial Selling," Vol. 31 (April, 1967), pp. 15-21.

<sup>10</sup>Ibid., p. 20.

the same meaning as the actual product. Levitt's findings seem to indicate that the advertisement and the product would be perceived as two different sources. This suggests an image or meaning gap between the ad and the product--in the mind of the consumer. If such a gap does exist between the ad and the actual product, some corrective steps may be desired to "homogenize" the meaning of the products and their respective advertisements. Such steps, in some cases, also could narrow an existing credibility gap--a subject in dire need of systematic study.

Fuchs and Osgood and associates successfully have applied the semantic differential to advertising situations, thereby providing a means to help eliminate the previous void in testing advertising effectiveness. This study attempts, through a method explained in the next chapter, to broaden the use of the semantic differential by measuring attitude differences created by a hypothesized meaning gap between actual product and its advertisements. If the semantic differential is sensitive enough to measure these hypothesized differences, it will permit the advertiser to see where the gap exists. Hopefully he will take steps to diminish or remove it, in cases where this is desirable.

## Hypothesis

The hypothesis for this study is derived from Levitt's work on "source effects."<sup>11</sup> In brief, this study attempts to determine consumers' attitudes toward advertisements as compared to the attitudes toward the actual products. The author attempted to extend Levitt's findings by indicating what differences in attitudes consumers hold between actual product and advertisement. Therefore, the following hypothesis is presented:

Consumers will indicate significantly more favorable attitudes for the actual soft drink product than for that product's soft drink magazine advertisement. In other words, the consumers will have a significantly more positive attitude toward the actual product than toward that product's advertisement. Thereby, the 4A study, which indicated that consumers felt ads did not truly represent the product, will be proven valid.

The difference between the consumer attitudes toward the product and its advertisement is termed a "meaning gap."

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<sup>11</sup> Ibid., pp. 15-21.

### CHAPTER III

#### METHODOLOGY

The author utilized a set of six soft drink advertisements for Canada Dry Ginger Ale, Coca-Cola, Dr Pepper, 7-Up, Pepsi-Cola, and No-Cal Cola, in addition to 16-ounce bottles of these soft drinks.\* The ads were taken from the most recent advertising campaigns undertaken by these six soft drink companies. All ads were the same size (8 inches by 11 inches), illustrated in full color, and presented to the subjects on 11.5-by-14-inch cards. Finally, all ads appeared in the September 1971 issues of various national magazines.\*\*

The independent variables were the brands Canada Dry Ginger Ale, Coca-Cola, Dr Pepper, 7-Up, Pepsi-Cola, and No-Cal Cola; three semantic differential meaning dimensions: Evaluation, Potency, and Oriented Activity; and type of exposure: products or advertisements. The dependent variable was meaning scores of the products and advertisements assigned by the respondents along nine 7-point semantic differential scales.

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\*Canada Dry Ginger Ale was not locally available in 16-ounce bottles, therefore 7-ounce bottles were used.

\*\*Appendix A contains illustrations of the various ads used in the study.

One further point of clarification was that the term "concept" was used in a very general sense to refer to any of the six soft drinks or six corresponding advertisements to which the subjects responded by checking on the adjective scales. The concepts rated by one exposure group included the ads for the soft drinks. The concepts that were rated by the subjects in the second exposure group were the actual soft drink products. The scales against which the subjects' attitudes of the concepts were being rated included the Evaluational scales good-bad, sociable-unsociable, reputable-disreputable; the Potency scales of heavy-light, strong-weak, masculine-feminine; and the Oriented Activity scales of active-passive, complex-simple and excitable-calm (Appendix B). All nine of these scales had been proven objective, reliable, valid and sensitive by Osgood and his colleagues after extensive testing.<sup>1</sup>

These scales were selected to be used in this experiment because this author subjectively felt they tended to be relevant to the soft drinks in the study by effectively indicating the subjects' differing attitudes between products and advertisements. Osgood has also pointed out that:

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<sup>1</sup>Charles Osgood, George Suci, and Percy Tannenbaum, The Measurement of Meaning (Urbana, 1957), pp. 50-64.



. . . the secret to the semantic differential method lay in selecting the sample of descriptive polar terms. Ideally, the sample should be as representative as possible of all the way in which the subjects' meaning judgements can vary, and yet be small enough in size to be efficient in the experiment.<sup>2</sup>

Finally, a pilot study of the experiment was administered in Pittsburgh, Pennsylvania, a much larger city with a seemingly different marketing environment. The pretest was not a random sample, but it indicated the semantic differential was sensitive enough to measure ad-product meaning gaps. Most important, however, the pilot study indicated the experimental design was valid and reliable.

#### Analysis of Data

The raw data obtained from the semantic differential was a collection of check-marks on the bipolar adjective scales. Each of the seven positions on these scales was assigned a digit. An example of this digital set-up is shown below in Figure 1.

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Pepsi-Cola	strong	_	:	_	:	_	:	_	:	_	:	_	:	_	:	_	:	_	weak
		7		6		5		4		3		2		1					

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Figure 1: Semantic Differential Bipolar Adjective Scale

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<sup>2</sup>Ibid., p. 20.

A subject's meaning score on a particular product or advertisement was the digit corresponding to the scale position he checked.<sup>3</sup> A subject in Group I was exposed to the six soft drink advertisements and rated them along the nine adjective scales, generating a  $6 \times 9 = 54$  score matrix; a subject in Group II was exposed to the 16-ounce bottles of the soft drinks and instructed to judge the six soft drink products along the same nine adjective scales, generating another  $6 \times 9 = 54$  score matrix.

However this study was concerned with the scores of the 40 subjects in Group I judging an advertisement along one of the three semantic differential dimensions contrasted with the scores of the 50 subjects in Group II judging the product represented in the ad shown to Group I, and then checking their meaning for the product along the same semantic differential dimension.

A second concern of this study was among the scores of the three semantic differential dimensions, Evaluation, Potency and Oriented Activity. Statistics were computed to determine the relationships between the three dimensions with the advertisements and products.

A third and final concern of this experiment was among the six soft drink brands. Statistics were again computed to indicate relationships, or lack, between brands.

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<sup>3</sup>Ibid., p. 86.

### Selection of the Sample

Ninety respondents were selected through a multi-phase stratified block cluster sample of Stillwater, Oklahoma residents.

The 1970 Stillwater City Planning Census Tracts were used. Since housing units per block were not listed in the 1970 edition of the Stillwater census tracts, the author randomly selected city blocks within the tracts. A second phase of selection was used to select the housing units. Finally, a respondent selection key was consulted to select the particular subject in the housing unit.

The subjects per tract were drawn proportionately to the total number of Stillwater residents listed per tract. Respondents were randomly assigned to two groups: Exposure Group I rated the advertisements; Exposure Group II rated the products. Each respondent indicated for each ad or product, the direction and intensity of meaning along the nine semantic differential bipolar adjective scales.

A three-dimensional factorial analysis of variance showed the independent and interactive effects of the six products and advertisements, the six brands and the three meaning dimensions.

Fred Kerlinger<sup>4</sup> has pointed out that in factorial analysis of variance, two or more independent variables may vary independently or interact with each other to produce variation in a dependent variable. This is to say that a subject's rating of an advertisement may be influenced by a semantic differential dimension and/or a particular brand of soft drink, as well as the advertisement itself. The following 2 x 6 x 3 crossbreak (Figure 2), illustrates how the levels of independent variables were juxtaposed for the factorial analysis of variance.

Brands	Exposure Groups					
	Group I (Ads)			Group II (Products)		
	Meaning Dimensions					
	Evalua- tion	Potency Oriented	Activity	Evalua- tion	Potency Oriented	Activity
Canada Dry Ginger Ale						
Coca-Cola						
Dr Pepper						
7-Up						
Pepsi-Cola						
No-Cal Cola						

Figure 2: Analysis Paradigm Juxtaposing Exposure Groups, Meaning Dimensions and Brands

<sup>4</sup>Fred Kerlinger, Foundations of Behavioral Research (New York, 1964), p. 213.

In essence, the author attempted to find out if there was any relation between the subjects' ratings of the six advertisements and six actual products and three different meaning dimensions. The above interaction crossbreak provided for tests between the respondents' dependent meaning scores in the thirty-six cells.

To clarify the overall analysis, seven statistical tests were run:

- (1) A test for the differences between the mean scores of Exposure Group I (Advertisement exposure) and Exposure Group II (Actual product exposure).
- (2) A test for differences among the mean scores of the six brands of soft drinks: Canada Dry, Ginger Ale, Coca-Cola, Dr Pepper, 7-Up, Pepsi-Cola and No-Cal Cola.
- (3) A test for differences among the mean scores for the three semantic differential meaning dimensions: Evaluation, Potency, and Oriented Activity.
- (4) A test for interaction between the mean scores of the two exposure groups and the six soft drink brands.
- (5) A test for interaction between the mean scores of the two exposure groups and the three semantic differential meaning dimensions.

- (6) A test for interaction among the mean scores of the two exposure groups, six soft drink brands, and three semantic differential meaning dimensions.

The results indicated variations of subjects' responses toward the six brands of soft drink advertisements and products along three semantic differential meaning dimensions. The F-ratios indicated whether the between and interactional variances of respondents' meaning scores were greater or less than could be expected by chance.

## CHAPTER IV

### FINDINGS

The variance analysis revealed several meaning differences among the six soft drink brands, the three semantic differential meaning dimensions, and the two types of exposure. Table I, indicates how these three levels of independent variables varied independently and interacted with each other to produce variation in respondents' meanings. In short, Table I shows the variations within and between independent variable levels.

The seven F-ratios indicate whether the variations between the independent variables exceeded chance expectations. In other words, a significant F-ratio indicated that a difference between the independent variables was caused by some factor other than chance, such as the three semantic differential meaning dimension scales, the six soft drink brands, the two exposures, or interactions among various combinations of these three independent variable levels.

The results from the seven tests in Table I are interpreted one at a time.

TABLE I  
TABLE OF F-RATIOS

Source	Degrees of Freedom	Sum of Squares	Mean Squares	F-Ratio
Between Semantic Differential Meaning Dimensions	2	326	163	74.77 ( $p < .001$ )
Between Brands	5	467	93.4	42.84 ( $p < .001$ )
Between Exposure Groups (Advertisements-Products)	1	5	5	2.294 (n.s.)
Meaning Dimensions x Brands	10	22	2.2	1.1 (n.s.)
Meaning Dimensions x Groups	2	14	7	3.21 ( $p < .05$ )
Brands x Groups	5	52	10.4	4.77 ( $p < .001$ )
Brands x Groups x Meaning Dimensions	10	225	22.5	10.3 ( $p < .001$ )
Within (Error) Variance	1584	3457	2.18	
	<u>1619</u>	<u>4430</u>		



### Differences Among Meaning Dimensions

As shown by the F-ratio of 74.77 in Table I, the differences among the mean scores of the three semantic differential meaning dimensions was significant at the .001 level. This implies that differences as large as those obtained between the mean scores of the Evaluational dimension, 5.087; the Potency dimension, 4.149; and the Oriented Activity dimension, 4.093, shown below in the right margin of Figure 3, would be expected to occur by chance less than 1 time in 1000. In other words, the respondents tended to assign different intensities of meaning to at least two different meaning dimensions.

Meaning Dimensions	Exposure Groups		Mean
	Group I (Ads)	Group II (Products)	
Evaluation	4.870	5.260	5.087
Potency	4.219	4.093	4.149
Oriented Activity	4.050	4.128	4.093
	4.186	4.494	4.443

Figure 3: Mean Scores of the Three Semantic Differential Meaning Dimensions by the Two Exposure Groups

Standard errors of the differences among the various pairs of means showed a significant difference, at the .05 level, between the Evaluation mean of 5.087, and the Potency mean of 4.149 and the Oriented Activity mean of 4.093. The respondents tended to differentiate the soft drink brands, across advertisements and products, more along the Evaluational dimension.

Osgood,<sup>1</sup> in his research, indicated similar findings on the relative importance of the various dimensions of semantic space. He found that the differentiation among concepts in terms of their Evaluation is about twice as fine as differentiation in terms of Potency and Activity.

Osgood et al.,<sup>2</sup> also found that the Evaluational factor accounted for the attitudinal variable in human thinking, based on a system of rewards and punishments, both achieved and anticipated. The fact that the subjects judged the soft drinks higher on the Evaluation dimension than on the Potency and/or Oriented Activity dimensions indicates that the subject definitely thought the soft drinks were more valuable than they were potent or active.

No difference was observed between the means of the Potency, 4.149, and Oriented Activity, 4.093, dimensions.

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<sup>1</sup>Charles Osgood, George Suci, and Percy Tannenbaum, The Measurement of Meaning (Urbana, 1957), p. 73.

<sup>2</sup>Ibid.

The Potency factor is concerned with power and the things associated with it. The Oriented Activity factor is concerned with excitement, agitation and the like, and is usually equal to or a little smaller in magnitude than the potency dimension.<sup>3</sup> Again, the findings of this study agree with those of Osgood.

Finally, additional research carried out by Osgood and colleagues<sup>4</sup> demonstrated that when people differentiate the meanings of concepts, variance along certain scales (e.g., evaluational scales) may be quite independent of variation along other scales (e.g., potency scales). In other words, some of the soft drinks judged "good" may also be judged "masculine," but other soft drinks judged equally "good" may also be judged "feminine." This indicates that the soft drink advertisements and products may vary multi-dimensionally in meaning. Multi-dimensionality will be discussed later when interactive effects are analyzed and interpreted.

#### Differences Among Soft Drinks

Referring again to Table I on page 22, the F-ratio between the six brands of soft drinks was 42.84, significant at the .001 level. This indicated differences as

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<sup>3</sup>Ibid., p. 74.

<sup>4</sup>Ibid., p. 72.

large as those observed between the mean scores of Canada Dry Ginger Ale, 4.395; Coca-Cola, 5.170; Dr Pepper, 4.396; 7-Up, 4.576; Pepsi-Cola, 4.748; and No-Cal Cola 3.374 (mean scores in the right margin of Figure 4), would be expected to occur less than 1 time in 1000 by chance. The respondents assigned different intensities of meaning to at least two different soft drink brands, as elicited by the semantic differential adjective scales.

Brands	Meaning Dimensions			Mean
	Evaluation	Potency	Activity	
Canada Dry Ginger Ale	5.229	4.029	3.925	4.395
Coca-Cola	5.867	4.992	4.651	5.170
Dr Pepper	4.867	4.281	4.040	4.396
7-Up	5.518	3.748	4.462	4.576
Pepsi-Cola	5.674	4.303	4.267	4.748
No-Cal Cola	3.367	3.540	3.214	3.374
	5.087	4.149	4.093	4.443

Figure 4: Mean Scores for the Six Soft Drink Brands Along the Three Semantic Differential Meaning Dimensions

Standard errors of the difference among the means showed significant differences as follows:

Coca-Cola	(5.170)	Pepsi-Cola	(4.748)	(p < .05)
		7-Up	(4.576)	(p < .05)
		Dr Pepper	(4.396)	(p < .05)
		Canada Dry	(4.395)	(p < .05)
		No-Cal Cola	(3.374)	(p < .05)
Pepsi-Cola	(4.748)	7-Up	(4.576)	(p < .05)
		Dr Pepper	(4.396)	(p < .05)
		Canada Dry	(4.395)	(p < .05)
		No-Cal Cola	(3.374)	(p < .05)
7-Up	(4.576)	Dr Pepper	(4.396)	(p < .05)
		Canada Dry	(4.395)	(p < .05)
		No-Cal Cola	(3.374)	(p < .05)
Dr Pepper	(4.396)	No-Cal Cola	(3.374)	(p < .05)
Canada Dry	(4.395)	No-Cal Cola	(3.374)	(p < .05)

The respondents rated the Cola drinks as generally higher on the adjective scales than the four remaining soft drink brands. However, many extraneous variables may have interacted with the advertisements and products used in this experiment. The most striking similarity among the mean scores of the top four brands is that the order of total sales volume among the top four soft drink brands is: (1) Coca-Cola; (2) Pepsi-Cola; (3) 7-Up and (4) Dr Pepper<sup>5</sup> --exactly the same rank-order found in this analysis of variance test. Therefore, it is very possible that

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<sup>5</sup>"The Out-of-Towner," Newsweek, Vol. 76, Pt. 1 (Sept. 28, 1970), p. 72.

respondents in this study were influenced by advertising and promotional stimuli other than those presented in this study when rating the soft drink brands.

Contrastingly, No-Cal Cola, which received the lowest rating among the six brands with a mean of 3.374, was held in low esteem by the Stillwater subjects. This low ranking may be partially explained by the fact that No-Cal Cola was not locally distributed in the testing area at the time of the experiment and, thereby, not well known to the subjects.

#### Differences Between Exposure Groups

Table I on page 22, shows significant difference ( $F$  of 2.294) between the mean scores of the two groups of respondents. Group I, whose subjects rated the advertisements, had a mean score of 4.186; Group II, whose subjects rated the actual products, had a mean score of 4.494 (bottom margin of Figure 3, page 23). The products and advertisements did not significantly separate the respondents' judgments of the soft drinks. Therefore, at first glance, the hypothesis which suggested that the subjects would tend to rate the advertisements and products as two different sources was not supported. The insignificant  $F$ -ratio of 2.294 indicates that the subjects did not discriminate between the advertisements and actual products.

However, referring back to Douglas Fuchs' "Two Source Effects in Magazine Advertising" study,<sup>6</sup> results indicated that the initial prestige of both a magazine and sponsoring company are carried over into the evaluation of the product's advertisement.

A high-prestige magazine causes the reader to make a significantly higher evaluation of the promotional message for a product than a low-prestige magazine.<sup>7</sup>

An interesting side finding of the Fuchs' study was even a low-prestige magazine tended to produce a positive attitude change in respondent judgments. In addition, Fuchs' study proposes that the worst effect a magazine can have is to elicit no change in consumer attitudes on advertised products.<sup>8</sup>

Incorporating Fuchs' study and findings into this study, it seems that the national stature of the magazines from which the soft drink advertisements were extracted, gave additional prestige to the advertisements. The subjects did not significantly "disbelieve" the messages that the soft drink advertisements were attempting to convey. Fuchs' findings would seem to indicate the opposite--that the magazine prestige was passed on to the

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<sup>6</sup>Douglas A. Fuchs, "Two Source Effects in Magazine Advertising," Journal of Marketing Research (Aug., 1964), pp. 59-62.

<sup>7</sup>Ibid., p. 62.

<sup>8</sup>Ibid.

advertisements, i.e., the subjects judged the ads more believable and truly representative of the actual product because the ads appeared in magazines.

Another possible explanation of the insignificant difference between advertisements and actual products could have been that the products were convenience products with which the respondents were at least generically familiar and predisposed in attitude.

Theodore Levitt,<sup>9</sup> suggested that the implications of a so-called "dual-source" effect in the case of companies that are not well established or well known is an especially crucial consideration. This seems to be the case with No-Cal Cola, which was not well established or well known in the test area. The mean score for the actual No-Cal Cola product was 3.111, while the mean score for the No-Cal advertisement was a significantly higher 3.703, thereby indicating that the prestige of producing a magazine ad for No-Cal Cola raised the subject's judgments of the advertisement.

Levitt concluded his findings by stating:

Since company source effect will . . . be minimal, perception of the promotional message must be strongly affected by . . . vehicle source effect.<sup>10</sup>

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<sup>9</sup>Theodore Levitt, "Communications and Industrial Selling," Journal of Marketing, Vol. 31 (April, 1967), p. 17.

<sup>10</sup>Ibid., p. 21.



This seemed to be the case with the No-Cal Cola advertisement. Since No-Cal was not readily available to Stillwater consumers, the respondents judged the advertisement significantly higher than the actual product, at least in part because of magazine prestige.

Although there was not a significant difference between the mean scores of the advertisements shown to Exposure Group I and the actual products shown to Exposure Group II, interactions of the two groups with the other independent variable levels--the three semantic meaning dimensions and the six brands of soft drinks--did produce significant differences.

#### Interaction of Brands and Meaning Dimensions

Table I indicates that differences among the mean scores of the six soft drink brands interacting with the three semantic meaning dimensions was not significant, with an F-ratio of 1.01. In other words, mean attitudes toward the soft drink brands were not differentially affected by the three meaning dimension scales. All six brands generally were rated the same along a particular meaning dimension, as indicated in Figure 5, page 35. Figure 5 shows the interactive effects of variable levels. As shown in Figure 5, some interaction among the dimensions and brands did tend to occur. Along the Evaluative

Brands	Meaning Dimensions		
	Evaluation	Potency	Oriented Activity
Canada Dry	+ .190	- .072	- .120
Coca-Cola	+ .053	+ .116	- .169
Dr Pepper	- .173	+ .179	- .006
7-Up	+ .298	- .534	+ .216
Pepsi-Cola	+ .282	- .151	- .131
No-Cal Cola	+ .339	- .540	+ .190

(The easiest way to spot the most significant interactive effects in the crossbreak is to scan across the rows and columns and select the odd sign.)

Figure 5: Interactive Effects of Brands and Dimensions

dimension the most significant interactive tendency occurred with Dr Pepper (-.173). In brief, the combination of Dr Pepper interacting with the Evaluational dimension was a result of the subjects evaluating the brand lower in relation to the Potency and Oriented Activity dimensions than the remaining five soft drink brands.

Coca-Cola, +.116, and Dr Pepper, +.179, indicated more interaction tendency on the Potency dimension than the other soft drink brands and ads. This indicated that the 90 respondents rated Coca-Cola and Dr Pepper as more

dynamic, i.e., stronger, heavier, and more masculine than the Pepsi, 7-Up, Canada Dry, or No-Cal Cola brands.

Finally, on the Oriented Activity dimension, 7-Up,  $+ .216$ , and No-Cal Cola,  $+ .190$ , were rated as more complex, active, and excitable.

Inferences as to how and why these specifically mentioned interaction tendencies occurred will be discussed in greater detail later.

#### Interaction of Meaning Dimensions and Groups

Table I, page 22, shows significant interaction between the three semantic differential meaning dimensions and the two respondent exposure groups. The F-ratio of 3.21 was significant at the .05 level. This implies that differences among the mean scores in the six cells in Figure 6 would occur by chance less than 5 times in 100.

Standard errors of difference between the means indicated that on the Evaluative dimension, the actual soft drink products were rated significantly higher than the advertisements. It seems that respondents generally rated the products, mean of 5.260, as better, more sociable and more reputable than the advertisements, mean of 4.870.

However, along the Potency dimension, the ads, 4.219, were judged significantly more dynamic than the products, 4.093, resulting in another significant meaning gap between advertisement and product. The ads were judged as

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Meaning Dimensions	Exposure Groups		Mean
	Advertisements	Products	
Evaluation	4.870	5.260	5.087
Potency	4.219	4.093	4.149
Oriented Activity	4.050	4.128	4.093
	4.186	4.494	4.443

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Figure 6: Interaction Between Exposure Groups and Semantic Differential Meaning Dimensions

generally more masculine, heavier and stronger than the counterpart product.

Interactive effects between the Oriented Activity dimension and the two respondent groups is indicated more clearly by looking across the bottom row of Figure 7. The interaction between the advertisements,  $+0.214$ , and the products,  $-0.016$ , along the Oriented Activity dimension produced another significant meaning gap between ads and products. The observed interaction indicates that the subjects saw more Oriented Activity in the ads than in the actual products.

Figure 7 indicates that interaction was operating between the advertisements and actual products along all three of the semantic meaning dimensions. The products were rated significantly higher on the Evaluative

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Meaning Dimensions	Exposure Groups	
	Advertisements	Products
Evaluation	+.040	+.122
Potency	+.327	-.107
Oriented Activity	+.214	-.016

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Figure 7: Interactive Effects Between  
Meaning Dimensions and  
Exposure Groups

(attitudinal) dimension while the advertisements were rated higher on the two dynamic dimensions--Potency and Oriented Activity.

The activity illustrated in the various advertisements undoubtedly influenced the subjects' higher activity ratings of the ads than the stationary actual products. Likewise, the ad copy added to the subjects' higher Potency ratings of the ads.

However, the products fared much better than the advertisements on the Evaluational dimension. It has already been pointed out that research conducted by Osgood<sup>11</sup> indicated that judgments on the evaluational factor were based on expected or received rewards. Findings observed in the top two cells of Figure 7 suggest

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<sup>11</sup>Osgood, *ibid.*, p. 73.

that the subjects had more positive attitudes toward the actual products than toward the corresponding advertisements, implying that either the subjects were more familiar with the products than with the advertisements or the ads did not truly represent the actual products. In either case, a definite meaning gap between ads and products existed for the 90 subjects.

#### Interaction of Brands and Exposure Groups

The interaction of the six soft drink brands with the two exposure groups produced still another significant F-ratio, 4.777, significant at the .001 level. Again the subjects implied that the mean scores of certain of the six soft drink advertisements were significantly different than the corresponding soft drink products.

Standard errors of the difference between the means indicated which of the various brands of soft drinks were perceived by the different exposure groups as significantly different in meaning.

Contrastingly, the No-Cal Cola advertisement, mean of 3.703, was rated significantly better than the actual product, mean of 3.111. This significant difference can be explained by referring back to Theodore Levitt's "dual source" study,<sup>12</sup> where in the case of a relatively unknown

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<sup>12</sup>Levitt, "Communications," *ibid.*, p. 21.

company, vehicle (or magazine), prestige strongly affects the respondents' perception of the advertising message. This interaction seems to be in effect in the case of the No-Cal ad.

Brands	Exposure Groups		Mean
	Advertisements	Products	
Canada Dry Ginger Ale	4.386	4.402	4.395
Coca-Cola	4.822	5.449	5.170
Dr Pepper	4.228	4.531	4.396
7-Up	4.436	4.689	4.576
Pepsi-Cola	4.706	4.782	4.748
No-Cal Cola	3.703	3.111	3.374
	4.186	4.494	4.443

Figure 8: Interaction Between Exposure Groups and Soft Drink Brands

The fact that the subjects judged Coca-Cola, Dr Pepper, and No-Cal Cola advertisements and products significantly different indicates that a meaning gap exists between what the actual soft drink product is and what the respective advertisement implied.

Interaction Among Brands, Meaning  
Dimensions, and Exposure Groups

The F-ratio for this triple, second-order interaction among the six soft drink brands, the three semantic differential meaning dimensions and the two exposure groups of respondents was 10.3, significant at the .001 level. Differences as large as those obtained among the mean scores in the 36 cells in Figure 9 would occur by chance less than 1 time in 1000.

Brands	Exposure Groups						Mean
	Advertisements			Products			
	Evalu- ation	Poten- cy	Oriented Activity	Evalu- ation	Poten- cy	Oriented Activity	
Canada Dry Ginger Ale	5.116	4.275	3.766	5.320	3.833	4.053	4.395
Coca-Cola	5.300	4.833	4.333	6.320	5.120	4.907	5.170
Dr Pepper	4.400	4.208	4.075	5.240	4.340	4.013	4.396
7-Up	4.933	3.825	4.550	5.987	3.687	4.393	4.576
Pepsi-Cola	5.667	4.275	4.175	5.680	4.327	4.340	4.748
No-Cal Cola	3.808	3.900	3.400	3.103	3.253	3.067	3.374
Mean	4.870	4.219	4.050	5.260	4.093	4.128	4.443

Figure 9: Master Crossbreak: Mean Scores  
For the Three Independent  
Variable Level Combinations



However, to make the interactions easier to spot, unweighted interactions were figured and appear in Figure 10. Interpretations of Figure 10 will be taken one brand at a time with most significant interactions per brand analyzed.

Beginning with the column involving the Evaluative dimension of the advertisements, the first significant interaction observed is the  $-.472$  for the Dr Pepper ad.

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Brands	Exposure Groups					
	Advertisements			Products		
	Evalu- ation	Potency	Oriented Activity	Evalu- ation	Potency	Oriented Activity
Canada Dry Ginger Ale	+.056	+.183	-.270	+.274	-.275	+.001
Coca-Cola	-.116	+.305	-.139	+.227	-.035	-.192
Dr Pepper	-.472	+.274	+.197	+.055	-.035	-.192
7-Up	-.047	-.317	+.464	+.654	-.068	-.178
Pepsi-Cola	+.317	-.137	-.181	+.247	-.161	-.092
No-Cal Cola	-.539	+.491	+.047	-.742	+.436	-.056

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Figure 10: Master Crossbreak:  
Unweighted Inter-  
actions

The  $-.472$  indicated that the Dr Pepper ad was rated as relatively bad, unsociable and disreputable by the respondents. The only visible reason for the low ratings was

the amount of copy--giving a history of Dr Pepper.

The amount of copy in this ad far exceeded the amount of copy in any of the other soft drink ads.

A detailed study conducted by Elaine Bell<sup>13</sup> on retention of persuasive talk indicates that considerations of the type of retention required may sometimes be of major importance in planning a communication, i.e., an advertisement. Since soft drinks are considered convenience products, only general familiarity with the content should be necessary. A less detailed ad would be required. However, the Dr Pepper ad used in this study did not follow the guidelines set down by Bell, and the resulting detailed advertisement was rated relatively bad, unsociable and disreputable.

Another significant interaction was observed between the Evaluative dimension and the Pepsi-Cola advertisement. The respondents generally evaluated the Pepsi ad higher on the Evaluative dimension,  $+ .137$ , than on either the Potency,  $- .317$ , or Oriented Activity,  $- .181$ , factors. Although the Pepsi-Cola ad was not judged actively dynamic, the respondents evaluated the ad relatively good. The Evaluative dimension, which Osgood had stated measures

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<sup>13</sup> Elaine Bell, "An Exploratory Study of the Recall of 'Arguments' and 'Conclusions,'" an unpublished study appearing in Carl Hovland, Irving Janis and Harold Kelly, Communication and Persuasion (New Haven, 1953), pp. 248-249.

predisposed attitudes of a concept, suggests that the respondents had favorable predisposed or expected attitudes toward the Pepsi-Cola ad.

The final significant interaction along the Evaluative dimension for the advertisements was the  $-.539$  interaction observed between the No-Cal Cola ad and the Evaluational dimension. The fact that No-Cal Cola was not well known or well established in the test area may have caused the respondents to judge the advertisement low evaluationally. Since the Evaluational factor accounts for the attitudinal variable in human thinking, based on achieved or expected rewards, and since the respondents were not familiar with No-Cal Cola, the ad was rated bad, unsociable and disreputable.

The only advertisements that interacted with the Evaluational dimension to produce a favorable interactive effect were the Canada Dry Ginger Ale and the Pepsi-Cola ads. Both ads were rated relatively better, more sociable and more reputable when interacting with the Potency and Activity factors than the other four soft drinks when they interacted with the Potency and Activity factors. Both the Canada Dry and the Pepsi ads suggest tranquil-type messages, imply calmness and were rated accordingly--high evaluationally and low on activity.

The most significant interaction for the Coca-Cola advertisement appeared along the Potency dimension. An

interactive effect of  $+0.305$  was observed for the Coca-Cola ad when it interacted with the Potency dimension, compared to a  $-0.116$  and  $-0.139$  obtained when the same Coca-Cola ad interacted with the Evaluational and Oriented Activity factors, respectively. In other words, the Coca-Cola ad, which pictured eight different hamburgers encompassing a bottle of Coke, was rated as relatively heavy, strong and masculine, but not good or exciting.

Other significant interactions observed along the Potency dimension for advertisements were the  $-0.317$  for 7-Up and the  $-0.137$  for Pepsi-Cola. The 7-Up and Pepsi ads were the only two ads that interacted negatively with the Potency factor. The Pepsi ad, which pictured a girl holding a bottle of Pepsi, obviously was not rated masculine and the springtime setting may have caused the subjects to judge the ad "light." The 7-Up ad pictured a young couple flying a kite while picnicking and again the springtime setting may have influenced the subjects to rate the ad "light." The outdoor springtime setting may have influenced the subjects to rate both advertisements low on the Potency factor. Neither the Pepsi nor 7-Up ad indicated any toughness or strength factors associated with the Potency dimension.

The Activity dimension, which measures agitation and excitement, resulted in a  $-0.270$  interaction score for the Canada Dry Ginger Ale ad. The ad, which suggested love

and calmness, did not suggest agitation or excitement. On the whole, the Canada Dry ad was judged as relatively good,  $+0.056$  interaction score for the Evaluative factor, and Potent,  $+0.183$  interaction score on the Potency factor, but passive  $-0.270$  interactive score on the Activity dimension.

In contrast, the 7-Up ad, which pictured a young couple flying a kite, implied excitement and activity, resulting in a  $+0.464$  interactive effect score. The Activity factor of the 7-Up ad was significantly greater than the  $-0.047$  Evaluation interaction or the  $-0.317$  Potency interaction score.

Therefore, the 7-Up ad was judged relatively bad and weak, but active.

The Activity dimension interacted with the six soft drink brand advertisements and the Potency and Evaluational factors to produce three activity oriented ads, Dr. Pepper,  $+0.197$ ; 7-Up,  $+0.464$ ; and No-Cal Cola,  $+0.047$ ; and three passive oriented ads, Canada Dry Ginger Ale,  $-0.270$ ; Coca-Cola,  $-0.139$ ; and Pepsi-Cola,  $-0.181$ . Therefore, the Activity dimension did not separate advertisements with the six brands or the Evaluational and Potency dimensions.

Turning now to the interactive effects of the six brands with the three meaning dimensions for the actual products, the first significant interaction observed is

for Coca-Cola. Coke was judged good, with an Evaluative interaction effect of  $+0.227$ , rather low in Potency,  $-0.035$ , and low in Oriented Activity,  $-0.192$ .

Similar respondent evaluations were observed for Dr Pepper, 7-Up, and Pepsi-Cola, all of which were judged relatively good on the Evaluational scales, but low on the Potency and Activity dimensions. The respondents' evaluations of Coke, Dr Pepper, 7-Up and Pepsi, resulting in high Evaluative scores, indicated positive expected or already achieved rewards from the soft drinks. The dynamic factors of potency and strength were rated lower for the actual products than for the corresponding advertisements. The Activity dimension also was perceived as less relevant to the stationary actual products than to the sometimes Activity Oriented advertisements.

Canada Dry Ginger Ale may also be considered as eliciting the same general characteristic as Coca-Cola, Dr Pepper, 7-Up and Pepsi in light of the  $+0.001$  interactive effect obtained with the activity dimension. Canada Dry was judged as relatively good, Evaluative interaction score of  $+0.270$ , low in Potency,  $-0.275$ , and practically neutral in Oriented Activity,  $+0.001$  interactive effect score.

No-Cal Cola, the unknown and not yet firmly established brand, was rated as strong and potent, with a resulting interactive effect of  $+0.436$ , but rated low on

both the Evaluational scales,  $-.742$ , and similar to the other established brands, low on the Activity dimension,  $-.056$ .

No-Cal brand product was judged low by the respondents because the achieved and/or anticipated reward for using the diet soft drink was low.

No-Cal was the only brand that elicited low Evaluative meaning. Conversely, No-Cal was the only brand interacting with the Potency factor to produce a high Potency score.

Certainly relevant is the fact that No-Cal Cola was an unknown diet drink may have influenced the subjects to rate that soft drink as more potent than the non-diet brands.

The interaction of the six product brands on the Activity dimension resulted in the six brands being judged low in activity. The respondents did not perceive any significant amount of Activity in any of the six brands. The stationary products did not elicit any Activity from the subjects.

#### Rank-Order Findings in the Evaluational Dimension

An interesting side finding of this study was in the mean score rank order of the Evaluational dimension for the products. The mean score rank order for the products on the Evaluational dimension was obtained from Figure 9, page 38. Evaluations of the products resulted in the following mean score rank order:

(1) Coca-Cola,	mean: 6.320
(2) 7-Up,	mean: 5.987
(3) Pepsi-Cola,	mean: 5.680
(4) Canada Dry Ginger Ale,	mean: 5.320
(5) Dr Pepper,	mean: 5.240
(6) No-Cal Cola,	mean: 3.103

Taking the product mean scores for the Evaluational dimension into consideration, the author selected twelve Stillwater bartenders and received the rank order for the six soft drinks according to how often the particular brand was used as a "mixer" for alcoholic beverages.

The following rank order resulted:

(1) Coca-Cola	: 18
(2) 7-Up	: 25
(3) Pepsi-Cola	: 36
(4) Canada Dry Ginger Ale	: 41
(5) Dr Pepper	: 65
(6) No-Cal Cola	: 67

A Spearman-rho rank difference correlation was computed between the subjects' rank order and the bartenders' rank order, resulting in a perfect correlation between the rank order of the products by the subjects and the Stillwater bartenders. However, the perfect correlation by no means indicates an automatic cause and effect relation between the subjects' rank order of the brands with the



bartenders' rank order of the same brands.

Product	Subjects Rank	Bartenders Rank	Diff.	Diff. <sup>2</sup>		
Coca-Cola	6.320	1.0	18	1.0	0	0
7-Up	5.987	2.0	25	2.0	0	0
Pepsi-Cola	5.680	3.0	36	3.0	0	0
Canada Dry Ginger Ale	5.320	4.0	41	4.0	0	0
Dr Pepper	5.240	5.0	65	5.0	0	0
No-Cal Cola	3.013	6.0	67	6.0	0	$\frac{0}{0}$

$$\rho = 1.00 - 0 = 1.00$$

100% common variance, perfect relation

Figure 11: Comparative Rank Positions of Six Soft Drinks Between Respondents' Evaluations and Bartenders' Usage

The subjects may have evaluated the products according to achieved and/or anticipated uses of the soft drinks as mixers for alcoholic beverages, or perhaps soft drinks are used as mixers according to how familiar people are with a particular brand. In either case, only further in-depth studies will be able to indicate relationships between soft drinks and alcoholic mixers with any statistical degree of certainty.

### Multi-dimensionality

Multi-dimensionality, which implies that variance along certain semantic differential meaning dimensions may be independent of variance along other meaning dimensions, was analyzed and interpreted with the interactive effects. The fact that certain brands, advertisements and products varied multi-dimensionally and the variance was significant enough to be detected by the semantic differential, indicated that meaning, and possibly credibility, existed between certain brands, products and advertisements along the three semantic differential dimensions. The actual products were judged better than the ads along the Evaluational dimension while the advertisements fared better along the Potency and Oriented Activity dimensions.

In other words, multi-dimensionality was operative in this experiment because in certain instances the respondents tended to rate ads and products high in value, but not strong or excitable. For example, the Pepsi-Cola ad was rated good but relatively passive in contrast to the 7-Up ad which was rated good but relatively active. In conclusion, significant meaning gaps were observed between meaning dimensions due to the multi-dimensionality of the experimental design.

## CHAPTER V

### SUMMARY AND CONCLUSIONS

The American Association of Advertising Agencies' study on consumer judgments of advertising indicated that consumers did not feel advertisements truly represented the actual products. The purpose of this study was to indicate where meaning, and possibly credibility gaps, exist between the ads and the actual products for the consumers.

The problem of measuring advertising effectiveness in terms of the meaning and/or credibility of the ad to the actual product was approached by exposing 40 randomly selected Stillwater, Oklahoma, residents to six soft drink brand advertisements and exposing another 50 randomly selected subjects to the actual soft drink products that appeared in the advertisements. The two groups of subjects judged all six brands along the same nine semantic differential scales, three scales representing each of the three major semantic differential meaning dimensions: Evaluation, Potency and Oriented Activity.

The subjects' scores for the six brands along the three semantic meaning dimensions for the advertisements and products then were statistically analyzed by means of

a three dimensional factorial analysis of variance to find if a significant meaning gap existed between the three independent variable levels.

The variance analysis pinpointed where the significant meaning gaps existed between ad and actual product.

Significant differences were observed for the subjects' evaluations between the three semantic differential meaning dimensions. The subjects indicated that the ads and products were good, but not potent or exciting.

In addition, a significant difference among the six soft drink brands was also perceived by the subjects. The Coca-Cola, Pepsi-Cola, 7-Up and Dr Pepper brands were evaluated highest by the subjects. These same soft drinks are the top four soft drink bottling companies in the USA according to total sales volume. This indicates that advertising stimuli other than the ads and products used in this experiment may have influenced the subjects' judgments. No-Cal Cola, a relatively unknown brand in the test area, was judged lowest by the respondents.

Interaction between the three independent variable levels also produced significant findings. The interaction of the subjects' meaning scores for the semantical dimensions with the two exposure groups of respondents indicated that the respondents perceived the ads as more Potent and Active than the products; however, the actual products were judged better along the Evaluational dimension than the ads.

Interaction between the brands and exposure groups showed that certain products were perceived as different in "meaning" than the corresponding advertisement. Coca-Cola and Dr Pepper were judged better than their ads. Conversely, the No-Cal Cola ad was rated better than the actual product. The reason the relatively unknown No-Cal magazine ad was rated better than the actual product was conferred magazine prestige.<sup>1</sup>

Interaction between the brands, exposure groups and meaning dimensions resulted in still other significant findings. Most importantly, the interaction of all three independent variable levels suggested that a meaning, and possibly a credibility gap, does indeed exist between the advertisements and the actual soft drink products when they interacted with the brands and meaning dimensions. The subjects indicated that the ads and the products differed multi-dimensionally, i.e., ads were more Potent and Active while the actual products were rated better on the Evaluational dimension because of higher expected and/or achieved rewards for the products. The achieved or anticipated consumer-subject rewards were lower for the ads. The difference between the advertisements and products along the Evaluational dimension suggests, among other things, that the subjects did not believe the

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<sup>1</sup>Theodore Levitt, "Communications and Industrial Selling," Journal of Marketing (April, 1967), p. 21.

advertising messages. Thus, a possible credibility gap existed between the respondents' cognitions of ad and product.

However, various extraneous variables may have entered into this experimental design. For example, the subjects' attitudes on the ads and products may have been influenced by miscellaneous stimuli other than the magazine ads and 16-ounce soft drink bottles used in this study, as indicated by the high correlation between the mean score rank order of the brands with the total sales volume of the same brands. Also, as Theodore Levitt suggested, magazine prestige may have influenced the subjects to evaluate the advertisements better than if some other advertising medium were used. Finally, the Spearman-rho correlation between the subjects' mean score rank order for the products corresponded perfectly with the bartenders' rank order for the soft drinks according to how frequently the soft drinks were used as mixers for alcoholic beverages. The perfect relation suggests that the subjects may use the soft drinks for mixers on the criterion of brand popularity.

The significant differences resulting from the three factor analysis of variance indicated where meaning and possible credibility gaps existed between the three independent variable levels. No direct cause-and-effect gap was observed between the respondents' rating of the ads versus their ratings of the actual products, but

interaction among the six brands and the three semantic meaning dimensions for the ads and products indicated significant gaps exist between advertisement presentation and actual product in the minds of the consumer.

The hypothesis which stated that consumers would indicate significantly more favorable attitudes for the actual product than for that product's magazine advertisement was upheld only for well known soft drink brands along the Evaluational dimension. The advertisements generally were perceived as relating more to the Potency and Oriented Activity dimensions. The copy and full color in the ads may have influenced the subjects to evaluate the ads as more potent than the actual products, and the activity illustrated in certain ads influenced the subjects to rate these ads as more active than the stationary 16-ounce bottle of the actual soft drink.

These findings suggest that multi-dimensionality was operating between the brands, products and ads, which produced significant gaps between the consumers' evaluations of the ads and products. The semantic differential was sensitive enough to measure the multi-dimensional differences between the brands, products and advertisements.

In summary, the findings of the American Association of Advertising Agencies study indicating that consumers do not feel advertisements truly represent the actual product was upheld in this study. Significant meaning gaps were observed between ads and products, depending upon

which semantic differential meaning dimension was being used to evaluate the ad or product, and in certain instances, the particular brand caused significant meaning gaps between its ad and product.



## CHAPTER VI

### RECOMMENDATIONS

Although this study was only exploratory in the area of measuring meaning gaps between advertisements and actual products, many such gaps were indicated. Still, a great number of questions are left unanswered. Since the findings indicated significant meaning gaps exist between ad and actual product, further studies can now explore the various levels of such gaps, specifically from the standpoint of credibility.

Advertising media other than the magazine need to be explored. Will the prestige of other media be passed on to the advertised product? Where, if any, will meaning and/or credibility gaps exist for television, radio or newspaper advertisements? These are the types of questions that only further studies in the area of measuring advertisement meaning can answer.

Various types of products, not only convenience products, such as the soft drinks, need to be studied to find if and where advertisement credibility gaps exist for shopping or specialty products.

Perhaps in-depth studies involving only one of the semantic differential meaning dimensions will reveal

additional ad-actual product differences that this study did not disclose.

Various demographic variables could be incorporated into the design in order to indicate specific consumer groups and tendencies. The list of recommended follow-up studies could be endless.

However, the need for further studies in advertising credibility is at hand. Advertisers have pushed their products without consideration of the consumer for too long. Consumers have now become distrustful of the advertising industry because of this lack of consideration, and now the industry is suffering severely from the consumers' lack of trust. The road back to trustworthiness is a difficult one. This study is only a first step to find out exactly where the distrust lies. Once the areas of distrust are located, it will be up to the individual advertisers to eliminate the credibility gaps by making their advertisements truly represent the products.

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APPENDIX A

SAMPLE ADVERTISEMENTS



Canada Dry Ginger Ale  
(McCall's, September, 1971)

**Dixie Belle burger**  
(Hamburger with a slice of tomato under mayonnaise—mayo browned with burger)

**Pizza burger**  
(Hamburger with slices of mozzarella and pizza sauce)

**Bacon burger**  
(Hamburger with bacon, tomato, pepper and Swiss cheese)

**Dill burger**  
(Hamburger with whipped cream cheese and fresh dill)

**Bavarian burger**  
(Hamburger with cole slaw, poppy seeds and salad dressing)

**Chai salad burger**  
(Hamburger with Jicama herb, cheese, turkey and green pepper)

**Cheddar burger**  
(Hamburger with a slice of Cheddar cheese)

**California burger**  
(Hamburger with lettuce, tomato and mayonnaise)

**It's the real thing.**

There are over a hundred variations of the American classic, the hamburger. And there's one real refreshing soft drink that goes better with all of them. The Real Thing, Coke.

**Coca-Cola**

Coca-Cola

(Look, September 7, 1971)



The case of Dr Pepper is a strange one. Invented by an ambitious young soda jerk in Waco, Texas, it was an overnight sensation. And people came from miles around to try its unusually delicious taste. Encouraged by his success in Waco, the young lad set out to sell his drink elsewhere. But little did he know how rocky the road would be. For as he traveled deep into the countryside, people greeted his great new soft drink not with open arms, but with all kinds of misunderstandings. "What's a nice lad like you doing with that patent medicine?" they'd say. And "Don't try to sell moonshine around here, son, the marshal will track you down." Disheartened, the weary young lad returned to the one place he was loved.

Waco. There he pledged, "We'll fight these misunderstandings until everyone in America has tried Dr Pepper. Because when they do try it, they're going to like it."

More than fifty years later, we at Dr Pepper are proud to say the young lad's words were not in vain. For today, more people are trying and liking Dr Pepper than ever before.

A lasting tribute to our young founder who suffered through hard times, so that millions could enjoy good times. Drinking Dr Pepper.

**Dr Pepper**  
America's most  
misunderstood soft drink.

Dr Pepper

(Teen, September, 1971)



7-UP

(Teen, September, 1971)



A quiet moment alone.  
A chance to sort out yesterday's memories...  
and put tomorrow in focus.  
A chance to stretch out with a good book...  
a warm sun... and an ice-cold Pepsi-Cola.  
Pepsi has a taste as big as your tomorrow.  
With energy to match.

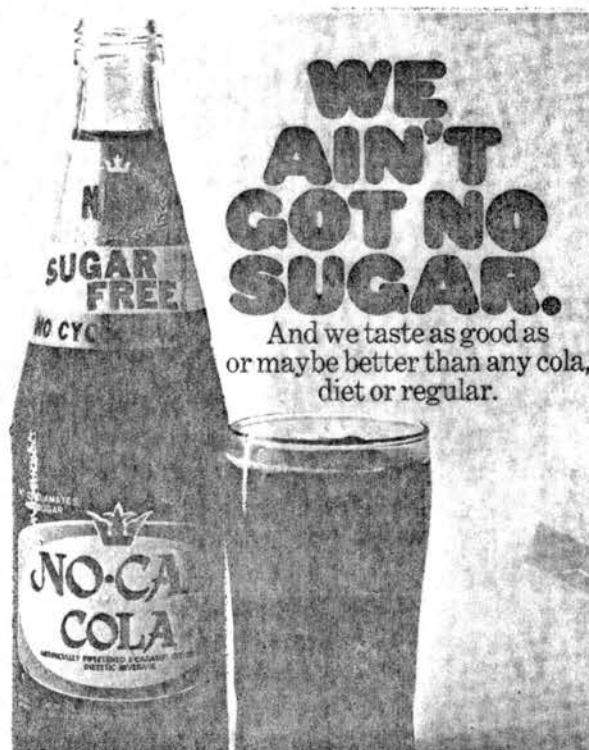


**You've got a lot to live. Pepsi's got a lot to give.**



Pepsi-Cola

(Teen, September, 1971)



That's right. Our new No-Cal Cola tastes as good as, or better than, any other cola—diet or regular. And if you're worried about calories—forget it. Our new sugar-free cola has less calories than black coffee. We even ran blindfold tests. And we came out first, or no

worse than a tie for first. Every time. Furthermore, we were comparing No-Cal against regular and so-called diet colas. Incidentally, try our other great No-Cal flavors: all sugar-free, all cyclamate-free, all in no-deposit, no return half-quat bottles. So be a loser and

love it with No-Cal. We also package our new No-Cal Cola in a nifty new six pack in 10-ounce individual serving bottles. NOTE TO DIABETICS: You can still enjoy No-Cal as you always have. Just look for that sugar-free label.

LEGAL

No-Cal Cola

(Weight Watchers, September, 1971)

APPENDIX B

SAMPLE SEMANTIC DIFFERENTIAL  
INSTRUCTION BOOKLETS

SAMPLE PRODUCT EVALUATION INSTRUCTION SHEET

The purpose of this study is to measure the meanings of certain soft drinks to various people by having them judge these soft drinks against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these soft drinks mean to you. On each page of this booklet you will find a different soft drink to be judged and beneath it a set of scales. You are to rate the soft drink on each of these scales in order.

Here is how you are to use these scales:

If you feel that the soft drink at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:

fair X : \_\_\_\_ : \_\_\_\_ : \_\_\_\_ : \_\_\_\_ : \_\_\_\_ : \_\_\_\_ unfair  
OR

fair \_\_\_\_ : \_\_\_\_ : \_\_\_\_ : \_\_\_\_ : \_\_\_\_ : \_\_\_\_ : X unfair

If you feel that the soft drink is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

strong \_\_\_: X: \_\_\_: OR: \_\_\_: \_\_\_: \_\_\_ weak

strong \_\_\_: \_\_\_: \_\_\_: \_\_\_: \_\_\_: X: \_\_\_ weak

If the soft drink seems only slightly related to one side as opposed to the other side (but not really neutral), then you should check as follows:

active \_\_\_: \_\_\_: X: OR: \_\_\_: \_\_\_: \_\_\_ passive

active \_\_\_: \_\_\_: \_\_\_: \_\_\_: X: \_\_\_: \_\_\_ passive

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the soft drink you are judging.

If you consider the soft drink to be neutral on the scale, both sides of the scale equally associated with the soft drink, or if the scale is completely irrelevant, unrelated to the soft drink, then you should place your check-mark in the middle space.

safe \_\_\_: \_\_\_: \_\_\_: X: \_\_\_: \_\_\_: \_\_\_ dangerous

IMPORTANT: (1) Place your check-marks in the middle of spaces, not on the boundaries:

\_\_\_: X: \_\_\_: \_\_\_: X: \_\_\_: \_\_\_  
 THIS                      NOT THIS

(2) Be sure you check every scale for every soft drink--do not omit any.

(3) Never put more than one check-mark on a single scale.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the

test. Make each item a separate and independent judgment.

Work at a fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the soft drinks, that we want. On the other hand, please do not be careless, because we want your true impressions.

#### SAMPLE ADVERTISEMENT EVALUATION INSTRUCTION SHEET

The purpose of this study is to measure the meanings of certain soft drink advertisements to various people by having them judge these advertisements against a series of descriptive scales. In taking this test, please make your judgments on the basis of what these soft drink advertisements mean to you. On each page of this booklet you will find a different advertisement to be judged and beneath it a set of scales. You are to rate the advertisement on each of these scales in order.

Here is how you are to use these scales:

If you feel that the advertisement at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:

fair	<u>X</u>	:	___	:	___	:	___	:	___	:	___	:	___	:	___	unfair
							OR									
fair	___	:	___	:	___	:	___	:	___	:	___	:	___	:	<u>X</u>	unfair

If you feel that the advertisement is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

strong \_\_\_: X: \_\_\_: \_\_\_: \_\_\_: \_\_\_: \_\_\_ weak  
 OR

Strong \_\_\_: \_\_\_: \_\_\_: \_\_\_: \_\_\_: X: \_\_\_ weak

If the advertisement seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

active \_\_\_: \_\_\_: X: \_\_\_: \_\_\_: \_\_\_: \_\_\_ passive  
 OR

active \_\_\_: \_\_\_: \_\_\_: \_\_\_: X: \_\_\_: \_\_\_ passive

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the advertisement you're judging.

If you consider the advertisements to be neutral on the scale, both sides of the scale equally associated with the advertisement, or if the scale is completely irrelevant, unrelated to the advertisement, then you should place your check-mark in the middle space:

save \_\_\_: \_\_\_: \_\_\_: X: \_\_\_: \_\_\_: \_\_\_ dangerous

IMPORTANT: (1) Place your check-marks in the middle of spaces, not on the boundaries:

\_\_\_: X: \_\_\_: \_\_\_: \_\_\_: X  
 THIS NOT THIS

(2) Be sure you check every scale for every advertisement--do not omit any.

(3) Never put more than one check-mark on a single scale.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the



APPENDIX C

INDIVIDUAL SUBJECT MEANING SCORES

Exposure Group I; Canada Dry Ads

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Subject	Evaluation	Potency	Oriented Activity
1	14	10	18
2	11	12	14
3	13	13	11
4	19	15	10
5	20	14	8
6	18	13	12
7	16	16	14
8	17	14	7
9	13	18	16
10	16	9	10
11	14	10	8
12	12	15	9
13	14	10	10
14	16	14	14
15	9	8	10
16	19	15	11
17	19	12	12
18	16	17	14
19	17	14	5
20	19	7	12
21	21	18	15
22	14	16	13
23	15	14	18
24	17	8	10
25	9	10	10
26	11	13	13
27	11	13	12
28	17	16	13
29	16	13	12
30	15	12	19
31	17	12	10
32	17	14	16
33	13	12	12
34	17	14	9



## Exposure Group I: Canada Dry Ads (Continued)

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35	18	12	10
36	16	15	12
37	15	12	10
38	17	11	6
39	18	11	6
40	9	10	13
	<hr/>	<hr/>	<hr/>
	614	513	452

Exposure Group I: Coca-Cola Ads

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Subject	Evaluation	Potency	Oriented Activity
1	17	12	13
2	12	14	14
3	19	16	18
4	14	13	13
5	16	14	10
6	13	16	6
7	12	12	15
8	16	12	12
9	5	15	12
10	17	14	12
11	21	14	16
12	17	15	14
13	13	11	12
14	18	19	14
15	18	18	10
16	14	11	7
17	20	18	13
18	20	15	14
19	12	10	11
20	21	17	16
21	15	18	14
22	13	15	12
23	17	18	13
24	14	12	13
25	7	10	12
26	20	20	16
27	13	14	15
28	20	19	18
29	17	16	13
30	19	12	9
31	18	18	11
32	17	10	11
33	14	16	16
34	20	14	9
35	14	11	8
36	18	15	14
37	14	15	17
38	17	16	18
39	17	13	13
40	20	17	14
	636	580	520

## Exposure Group I: Dr Pepper Ads

Subject	Evaluation	Potency	Oriented Activity
1	14	13	15
2	8	11	19
3	13	13	13
4	17	12	13
5	11	10	11
6	16	12	6
7	18	17	14
8	10	15	19
9	10	10	12
10	4	9	12
11	15	16	10
12	16	12	15
13	4	10	7
14	8	13	11
15	15	11	14
16	13	7	8
17	17	12	9
18	8	9	12
19	14	15	19
20	18	19	15
21	8	11	11
22	13	13	14
23	15	16	14
24	11	13	11
25	17	16	19
26	19	15	15
27	13	12	7
28	13	16	17
29	10	6	9
30	11	8	10
31	18	15	7
32	18	15	14
33	9	11	9
34	16	14	8
35	13	16	13
36	15	12	15
37	14	12	13
38	14	15	11
39	17	10	6
40	11	13	11
	<u>528</u>	<u>505</u>	<u>489</u>

## Exposure Group I: 7-Up Ads

Subject	Evaluation	Potency	Oriented Activity
1	14	16	16
2	19	10	16
3	16	17	16
4	17	13	16
5	15	6	13
6	18	13	11
7	13	10	14
8	16	16	16
9	21	12	18
10	12	16	11
11	16	12	21
12	16	10	11
13	20	15	15
14	18	13	17
15	11	12	12
16	16	14	15
17	17	15	16
18	14	18	19
19	21	9	13
20	12	10	11
21	10	6	9
22	7	9	6
23	10	9	13
24	6	10	11
25	13	12	15
26	9	5	9
27	8	10	11
28	18	17	18
29	20	9	15
30	19	10	13
31	15	13	14
32	15	11	9
33	14	11	12
34	17	12	21
35	13	6	6
36	18	12	17
37	12	3	4
38	12	9	17
39	15	12	13
40	20	16	16
	<u>592</u>	<u>459</u>	<u>546</u>

Exposure Group I: Pepsi-Cola Ads

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Subject	Evaluation	Potency	Oriented Activity
1	17	10	8
2	13	7	11
3	19	14	18
4	16	12	13
5	17	11	8
6	21	18	18
7	14	12	15
8	17	13	16
9	13	10	10
10	19	8	5
11	13	14	12
12	14	11	13
13	16	11	18
14	18	16	19
15	19	19	18
16	18	13	13
17	19	17	18
18	15	6	3
19	16	11	6
20	19	14	16
21	13	9	3
22	20	15	16
23	16	13	16
24	13	12	7
25	20	18	19
26	15	15	19
27	19	17	14
28	14	12	15
29	18	10	11
30	17	15	3
31	19	14	11
32	15	17	16
33	31	12	21
34	21	13	7
35	21	8	3
36	18	12	15
37	14	13	12
38	17	14	9
39	15	6	4
40	20	18	19
	<hr/> 680	<hr/> 513	<hr/> 501

Exposure Group I: No-Cal Cola Ads

Subject	Evaluation	Potency	Oriented Activity
1	12	10	11
2	14	10	12
3	10	7	8
4	13	13	12
5	18	17	9
6	14	11	11
7	11	16	14
8	12	14	7
9	12	12	18
10	10	9	4
11	19	14	15
12	11	10	5
13	11	12	12
14	14	8	15
15	11	19	9
16	4	16	12
17	10	12	5
18	13	10	6
19	3	19	16
20	12	16	10
21	7	9	9
22	15	6	11
23	17	12	16
24	11	14	8
25	5	10	9
26	15	8	11
27	4	8	16
28	9	12	11
29	14	12	3
30	6	15	3
31	7	4	9
32	12	12	14
33	12	12	7
34	20	12	4
35	12	16	7
36	9	9	11
37	8	12	13
38	14	16	11
39	13	14	13
40	11	13	10
	<u>457</u>	<u>468</u>	<u>408</u>

## Exposure Group II: Canada Dry Products

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Subject	Evaluation	Potency	Oriented Activity
1	16	12	10
2	17	14	16
3	13	12	12
4	17	14	9
5	18	9	18
6	14	10	8
7	12	15	9
8	14	10	10
9	16	14	14
10	19	6	17
11	14	10	18
12	11	12	14
13	13	13	11
14	19	15	10
15	17	14	8
16	18	13	12
17	16	16	14
18	17	14	7
19	13	17	16
20	16	9	10
21	21	4	17
22	18	7	15
23	9	8	10
24	19	15	11
25	19	12	12
26	16	18	14
27	17	14	5
28	18	12	10
29	9	10	13
30	19	11	6
31	17	11	6
32	15	12	10
33	16	15	12
34	21	8	13
35	16	5	14
36	17	7	15
37	14	14	13
38	15	13	15
39	17	8	10
40	9	10	10
41	11	10	13
42	17	10	12
43	16	15	13
44	15	13	12
45	20	12	13
46	18	10	17
47	11	13	9

Exposure Group II: Canada Dry Products (Continued)

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48	19	7	12
49	21	13	15
50	18	9	18
	<hr/>	<hr/>	<hr/>
	798	575	608



## Exposure Group II: Coca-Cola Products

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Subject	Evalutation	Potency	Oriented Activity
1	19	14	15
2	18	16	16
3	18	13	15
4	19	18	15
5	20	14	13
6	19	16	16
7	20	19	14
8	21	18	15
9	17	15	15
10	18	13	16
11	21	14	14
12	21	17	16
13	18	14	17
14	20	18	14
15	17	15	15
16	20	16	13
17	21	20	18
18	18	18	14
19	21	15	13
20	20	11	13
21	18	17	15
22	19	12	14
23	18	16	15
24	17	14	14
25	18	15	13
26	17	15	15
27	21	17	16
28	18	17	15
29	21	19	18
30	18	16	14
31	18	17	16
32	21	14	15
33	16	15	13
34	19	17	14
35	21	11	13
36	21	18	16
37	21	19	16
38	15	13	14
39	14	12	15
40	18	14	14
41	19	14	14
42	20	15	15
43	21	14	14
44	18	13	12
45	19	15	14
46	18	14	15
47	18	14	17

Exposure Group II: Coca-Cola Products (Continued)

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48	20	14	13
49	19	16	16
50	21	17	14
	<hr/>	<hr/>	<hr/>
	948	768	736

Exposure Group II: Dr Pepper Products

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Subject	Evaluation	Potency	Oriented Activity
1	17	11	12
2	17	16	12
3	15	15	10
4	17	15	11
5	16	13	6
6	16	13	11
7	18	11	12
8	15	12	13
9	12	10	15
10	20	15	7
11	15	10	13
12	13	9	8
13	16	16	16
14	15	13	9
15	17	17	14
16	15	12	7
17	15	10	10
18	17	13	9
19	16	11	17
20	18	12	14
21	19	15	7
22	18	11	15
23	14	15	19
24	10	16	11
25	15	7	12
26	14	14	10
27	19	12	15
28	18	15	13
29	17	9	14
30	19	16	14
31	15	13	15
32	16	16	19
33	17	13	14
34	15	11	14
35	15	15	11
36	19	19	17
37	18	15	11
38	15	9	9
39	8	11	9
40	18	14	11
41	11	12	10
42	17	15	11
43	14	9	9
44	18	16	13
45	14	12	12
46	14	12	10
47	15	15	12

## Exposure Group II: Dr Pepper Products (Continued)

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48	13	13	14
49	16	14	14
50	15	12	12
	<hr/>	<hr/>	<hr/>
	786	651	602

## Exposure Group II: 7-Up Products

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Subject	Evaluation	Potency	Oriented Activity
1	17	11	12
2	19	10	16
3	16	17	13
4	19	13	11
5	15	6	16
6	18	12	14
7	21	13	11
8	18	10	12
9	16	16	16
10	21	12	11
11	12	16	18
12	16	10	21
13	16	16	15
14	20	15	10
15	21	13	21
16	18	12	13
17	16	14	12
18	21	15	19
19	17	11	16
20	16	11	10
21	19	13	17
22	15	10	17
23	15	9	4
24	19	19	17
25	21	10	11
26	18	5	6
27	20	12	15
28	18	8	7
29	21	10	6
30	21	9	16
31	19	9	16
32	13	9	12
33	16	9	12
34	21	6	14
35	15	10	11
36	17	6	13
37	20	10	15
38	12	11	14
39	17	9	9
40	21	18	14
41	21	12	11
42	18	10	16
43	19	9	15
44	18	6	11
45	21	12	14
46	17	3	13
47	17	10	11

## Exposure Group II: 7-Up Products (Continued)

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48	15	9	9
49	20	12	13
50	21	16	14
	<hr/>	<hr/>	<hr/>
	898	553	659

Exposure Group II: Pepsi-Cola Products

Subject	Evaluation	Potency	Oriented Activity
1	19	16	15
2	17	10	10
3	13	7	7
4	20	15	15
5	16	13	13
6	16	12	12
7	17	15	15
8	21	14	15
9	14	8	9
10	17	15	14
11	17	15	15
12	13	12	12
13	19	15	13
14	13	12	13
15	14	11	9
16	16	13	15
17	18	15	16
18	19	16	16
19	19	16	16
20	18	15	13
21	15	9	8
22	16	10	10
23	19	14	15
24	15	13	11
25	20	18	15
26	17	14	16
27	16	12	15
28	19	12	10
29	13	10	8
30	18	16	16
31	17	12	13
32	20	14	14
33	15	11	9
34	19	12	12
35	19	12	15
36	15	13	12
37	17	10	10
38	14	14	14
39	15	13	12
40	18	11	13
41	21	18	17
42	14	11	16
43	18	11	14
44	17	13	21
45	19	16	13
46	15	9	13
47	21	17	15

## Exposure Group II: Pepsi-Cola Products (Continued)

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48	17	10	10
49	21	14	15
50	17	14	12
	<hr/>	<hr/>	<hr/>
	852	469	651



## Exposure Group II: No-Cal Cola Products

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Subject	Evaluation	Potency	Oriented Activity
1	3	3	4
2	3	3	3
3	12	10	9
4	12	10	11
5	10	13	14
6	7	3	3
7	12	11	11
8	14	7	9
9	11	12	11
10	12	13	12
11	12	9	8
12	4	3	3
13	10	10	12
14	7	7	9
15	11	14	11
16	11	14	14
17	5	5	6
18	3	6	7
19	11	12	10
20	10	13	6
21	10	12	7
22	14	13	13
23	7	9	5
24	9	10	5
25	12	12	12
26	9	11	15
27	12	12	11
28	3	3	4
29	11	12	16
30	11	12	11
31	4	4	9
32	12	14	10
33	5	8	8
34	12	14	10
35	9	13	11
36	7	8	9
37	11	10	10
38	10	12	13
39	6	6	6
40	7	4	4
41	4	8	7
42	10	12	11
43	7	11	13
44	11	13	11
45	4	3	6
46	17	16	13
47	14	14	10

## Exposure Group II: No-Cal Cola Products (Continued)

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48	9	12	8
49	9	13	12
50	6	9	7
	<hr/>	<hr/>	<hr/>
	452	488	460

VITA

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Candidate for the Degree of

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Thesis: A STUDY OF MEANING GAPS BETWEEN SIX SELECTED  
PRODUCTS AND CORRESPONDING ADVERTISEMENTS

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