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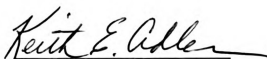
THE IMPACT OF PRODUCT USAGE WARNINGS IN BROADCAST  
TELEVISION ADVERTISING: AN EXPERIMENTAL STUDY

presented by

Sandra J. Smith

has been accepted towards fulfillment  
of the requirements for

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Major professor

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**THE IMPACT OF PRODUCT USAGE WARNINGS IN BROADCAST  
TELEVISION ADVERTISING: AN EXPERIMENTAL STUDY**

**By**

**Sandra Jean Smith**

**A DISSERTATION**

**Submitted to  
Michigan State University  
in partial fulfillment of the requirements  
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## ABSTRACT

### THE IMPACT OF PRODUCT USAGE WARNINGS IN BROADCAST TELEVISION ADVERTISING: AN EXPERIMENTAL STUDY

By

Sandra Jean Smith

Consumer product warning information is presently communicated predominantly through product labels, package inserts, and/or user guides. Little research has addressed the effectiveness of transmitting product warnings through such methods, even though they have proven inefficient for communicating other types of information. Advertising may represent a more effective transmission vehicle for product safety information. Not only do some consumers use advertising as a source of information, but advertising may better reach the passive and less-educated consumer as well.

Literature regarding consumer response to negative information suggests the superior impact of more severe messages. Product relevance, however, may mediate consumer reactions as defensive tendencies may occur in high-relevance consumers. Furthermore, because response to disclosures in broadcast television has been shown to differ based upon format, reactions based on warning transmission mode within a broadcast television commercial (audio-only, video-only, or audio-video) may differ.

A 2 x 2 x 3 factorial model was tested utilizing a post-test-only-with-control-group experimental design. A

total of 445 undergraduate students were randomly assigned to one of six treatment or two control groups following an initial median-split for product relevance. Subjects were exposed to a broadcast television commercial containing a product usage warning message embedded in a television program. Warning severity and transmission mode were manipulated.

Three-way analyses-of-variance were performed to test main and interaction effects on recall and product safety beliefs. The main effect of mode was significant across all recall levels, and the message severity main effect was significant in recall of a warning disclosure. Only product relevance was significant for product safety beliefs. Few significant two- and three-way interactions occurred. Post hoc analyses of the main effects revealed the superiority of the high-severity message and the audio and audio-video mode of transmission in producing warning recall.

Recall levels indicated the positive potential of including product warning messages in broadcast television advertising. High-relevance subjects did not react defensively to the severe message suggesting that warnings should be strongly-worded. Product warnings should also appear in at least audio form as video-only disclosures had little impact.

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## TABLE OF CONTENTS

I. PURPOSE AND SIGNIFICANCE OF STUDY.....	1
Consumer Protection Through Product Safety	
Information Provision.....	2
Consumer Safety.....	2
Consumer Information Provision.....	4
Regulation of Warning Information.....	7
Consumer and Industry Attitudes Toward	
Safety Information Provision.....	9
Potential Consumer Benefits of Advertising	
Warnings.....	10
Advertising as an Information Source.....	11
Reaching the "Irrational" Consumer.....	11
Aiding the Less-Educated Consumer.....	14
Demonstrating Safe Product Usage.....	15
Proposed Research.....	16
ENDNOTES.....	17
II. LITERATURE REVIEW.....	22
Related Research.....	22
Warning Information Provision in	
Product Labeling.....	23
Review of Related Labeling Research.....	24
Warning Labeling.....	25
Nutrition and Ingredient Labeling.....	28
Inefficiency of Providing Information	
on Labels.....	30
Warning Information Provision in	
Advertising.....	32
Past Research on Warnings in Advertising.....	35
Conclusions from Review of Related	
Research.....	41
Theoretical Literature.....	42
Consumer Information Processing.....	43
Processing of Broadcast Information.....	45
Product Relevance and	
Information-Processing.....	48
Response to Negative Information.....	50
Psychological Tension.....	51
Selective Reactions.....	53
Counterargument and Reactance.....	54

Analyzing Reactions to Negative Persuasive Messages.....	55
Fear Appeal Research.....	57
Curvilinear Relationship.....	58
Positive Relationship.....	63
Fear Appeal Research in Marketing.....	68
Summary of Fear Appeal Research.....	71
Two-Sided Appeal Research.....	75
Two-Sided Appeals in Marketing.....	78
Affirmative Disclosure in Advertising.....	81
Summary of Two-Sided Appeal Research.....	83
Conclusions from the Theoretical Literature.....	83
Research Questions.....	85
Hypotheses.....	86
ENDNOTES.....	90
III. METHOD.....	105
Design.....	105
Sample.....	105
Procedure.....	112
Variables and Measurement.....	115
Independent Variables.....	115
Inclusion of Warning.....	115
Warning Severity.....	116
Mode of Warning Transmission.....	117
Product Relevance.....	118
Dependent Variables.....	119
Warning Recall.....	119
Product Safety Beliefs.....	122
ENDNOTES.....	126
IV. RESULTS.....	132
Final Sample Characteristics.....	132
Scale and Manipulation Validation.....	135
Inclusion of Warning.....	137
Effects of Manipulated Independent Variables.....	141
Warning Recall.....	142
Product Safety Beliefs.....	157
Directional Effects.....	162
Summary of Findings.....	165
ENDNOTES.....	168

<b>V. DISCUSSION.....</b>	<b>170</b>
<b>Implications of Findings.....</b>	<b>170</b>
Warning Recall.....	170
Lack of Warning Impact on Beliefs.....	174
<b>Potential Costs of Requiring Product</b>	
Warning Information in Advertising.....	175
Consumer Psychological Costs.....	176
Information Overload.....	176
Selective "Inattention".....	178
Miscomprehension of Information.....	180
Creation of Fear.....	182
Advertiser Liability.....	183
<b>Research Directions.....</b>	<b>186</b>
Repetition Effects.....	186
Warnings for Various Products.....	187
Different Types of Warnings.....	188
Source of Warning Message.....	189
<b>Conclusions.....</b>	<b>190</b>
<b>ENDNOTES.....</b>	<b>191</b>
 <b>APPENDICES.....</b>	 <b>196</b>
APPENDIX A. Subject Consent Form.....	196
APPENDIX B. Product Relevance Pre-test.....	197
APPENDIX C. Post-Exposure Questionnaire.....	199
 <b>BIBLIOGRAPHY.....</b>	 <b>219</b>

## LIST OF TABLES

Table 1.	EXPERIMENTAL RESEARCH ON WARNINGS IN ADVERTISING.....	36
Table 2.	MAJOR EMPIRICAL FEAR APPEAL RESEARCH.....	74
Table 3.	EFFECTIVENESS OF MESSAGE SIDEDNESS.....	84
Table 4.	CONSUMER MARKET FOR BEER.....	109
Table 5.	SAMPLING SCHEME.....	111
Table 6.	TOTAL RESPONDENTS.....	133
Table 7.	RESPONDENTS WITH PRE-TEST.....	134
Table 8.	DEMOGRAPHIC CHARACTERISTICS OF SAMPLE.....	135
Table 9.	SCALE RELIABILITIES.....	136
Table 10.	WARNING SEVERITY MANIPULATION CHECK.....	138
Table 11.	DIFFERENCE-OF-MEANS FOR ADVERTISEMENT RECALL AND PRODUCT SAFETY BELIEFS.....	140
Table 12.	ANOVA SUMMARY TABLE FOR UNAIDED RECALL OF A WARNING DISCLOSURE.....	144
Table 13.	ANOVA SUMMARY TABLE FOR AIDED RECALL OF A WARNING DISCLOSURE.....	145
Table 14.	ANOVA SUMMARY TABLE FOR ACCURATE UNAIDED RECALL OF THE WARNING MESSAGE.....	146
Table 15.	ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF THE WARNING MESSAGE.....	147
Table 16.	ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF THE WARNING MESSAGE WITH WARNING MESSAGE INQUIRY.....	148
Table 17.	ANOVA SUMMARY TABLE FOR WARNING MESSAGE RECOGNITION.....	150



Table 18.	ANOVA SUMMARY TABLE FOR UNAIDED RECALL OF A WARNING DISCLOSURE GIVEN ADVERTISEMENT RECALL.....	151
Table 19.	ANOVA SUMMARY TABLE FOR AIDED RECALL OF A WARNING DISCLOSURE GIVEN ADVERTISEMENT RECALL.....	152
Table 20.	ANOVA SUMMARY TABLE FOR ACCURATE UNAIDED RECALL OF THE WARNING MESSAGE GIVEN ADVERTISEMENT RECALL.....	153
Table 21.	ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF THE WARNING MESSAGE GIVEN ADVERTISEMENT RECALL.....	154
Table 22.	ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF THE WARNING MESSAGE WITH WARNING MESSAGE INQUIRY GIVEN ADVERTISEMENT RECALL.....	155
Table 23.	ANOVA SUMMARY TABLE FOR WARNING MESSAGE RECOGNITION GIVEN ADVERTISEMENT RECALL.....	156
Table 24.	ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (SEMANTIC DIFFERENTIALS).....	158
Table 25.	ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (LIKERT-SCALE).....	159
Table 26.	ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (SEMANTIC DIFFERENTIALS) GIVEN ADVERTISEMENT RECALL.....	160
Table 27.	ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (LIKERT-SCALES) GIVEN ADVERTISEMENT RECALL.....	161
Table 28.	WARNING SEVERITY T-TESTS.....	163
Table 29.	SCHEFFE POST HOC COMPARISONS FOR MODE OF TRANSMISSION.....	164
Table 30.	PRODUCT RELEVANCE T-TESTS.....	166

## LIST OF FIGURES

Figure 1.	FEAR AROUSAL-EFFECTIVENESS RELATIONSHIP.....	72
Figure 2.	FEAR LEVEL-RELEVANCE-EFFECTIVENESS RELATIONSHIP.....	75
Figure 3.	EXPERIMENTAL DESIGN.....	106
Figure 4.	STUDENT PRODUCT INVOLVEMENT.....	110

## CHAPTER I. PURPOSE AND SIGNIFICANCE OF STUDY

The provision of product information to consumers has long been recognized as an aid to effective decision-making. Public policy has increasingly favored providing product information to consumers; the rationale for this viewpoint is that consumers should be afforded the optimal amount of product information upon which to base their purchase and consumption decisions. While regulations have reflected this concern for information disclosure, the United States government has also traditionally sought to protect consumer health and safety. Therefore, product information provided may ideally relate not only to beneficial attributes, but to those that are potentially hazardous as well. Warning consumers of possible dangers inherent in or associated with utilization of a particular product may benefit the public in allowing both effective decision-making, through product value considerations, and the prevention of possible physical harm.

The ultimate purpose of a warning is to afford a potential victim a fair opportunity to avoid personal hazard from use of a given product.<sup>1</sup> Based upon surveys conducted by the Consumer Product Safety Commission (CPSC), three elements are typically involved in any product-related injury: (1) the environmental conditions in which the injury occurred, (2) the physical and psychological

conditions of the product user, and (3) the product itself.<sup>2</sup> Thus, three types of product warning information may be identified, including information about risks of danger under certain product uses, risks to individuals with particular susceptibilities, and risks about intrinsic product characteristics.<sup>3</sup> Consumer product warning information, therefore, includes disclosure of both potentially hazardous product ingredients and proper product usage guidelines.

#### Consumer Protection Through Product Safety Information Provision

##### **Consumer Safety**

Although the function of protecting citizen health and safety rests primarily with state governments, the United States federal government has historically sought the protection of society with regard to consumer products. Concern for the physical safety of the public was the basis for early federal legislation regarding product information, specifically, the passage of the Food and Drug Act of 1906, which created the Food and Drug Administration (FDA) to prohibit false labeling of foods and drugs.<sup>4</sup> While the original act was punitive in nature, requiring the policing of goods presently on the market to determine possible dangers, the passage of the Food Drug and Cosmetic Act in 1938 provided the FDA with preventive control, allowing

drugs and additives to be marketed only after FDA approval.<sup>5</sup> The basic mandate of the FDA is to protect the health of the nation, as one-third of consumer expenditures are spent on products regulated by this agency.<sup>6</sup>

Additional acts of Congress intended to protect consumer safety include: the Flammable Fabrics Act (1953), outlawing the manufacture or sale of highly flammable wearing apparel or fabric, the Food Additives (Delaney) Amendment to the Food Drug and Cosmetic Act (1958), exempting from FDA approval any food additive determined to cause cancer in man or animal, the Kefauver-Harris Amendment to the Food Drug and Cosmetic Act, requiring that all drugs be tested for safety, the National Traffic and Motor Vehicle Safety Act (1966), authorizing the establishment of compulsory safety standards for automobiles and tires, the Child Protection Act (1966), preventing the marketing of potentially harmful toys, the Cigarette Labeling Act (1966), requiring health warnings on cigarette packaging, and the Poison Prevention Packaging Act (1970), authorizing the establishment of standards for child-resistant packaging of hazardous substances.<sup>7</sup> The Consumer Product Safety Act, founding the CPSC, went into effect in 1972, and afforded the commission powers to prescribe safety standards for almost all non-food consumer products.<sup>8</sup>

### Consumer Information Provision

Governmental concern for consumer information provision has similarly been evidenced by Congressional action. The Federal Trade Commission Act of 1914 created the Federal Trade Commission (FTC) to enforce the prohibition of unfair competition in commerce,<sup>9</sup> yet in 1938, the Wheeler-Lea Amendment to the FTC Act included provisions regarding deceptive or unfair labeling and advertising, implying the aim of protecting consumers in addition to competitors within a market.<sup>10</sup> Section 5 of the FTC Act was altered from considering as unlawful only "unfair methods of competition in commerce" to including "unfair or deceptive acts or practices in commerce"<sup>11</sup> as well; these additional words gave the commission authority to directly protect the consumer without the previously necessary "disguise" of first protecting market competitors.<sup>12</sup> The amendment also brought false advertising within the meaning of the FTC Act. In judging the falsity of advertising, the FTC considers

. . .the extent to which the advertisement fails to reveal facts . . . material with respect to consequences which may result from the use of the commodity to which the advertisement relates under the conditions prescribed in said advertisement, or under such conditions as are customary or usual.<sup>13</sup>

A "material" fact has been defined as one that would affect determinations on the part of some consumers about whether or not to purchase a particular product.<sup>14</sup> Similarly, the Food Drug and Cosmetic Act states that the failure to

include material information on labels may be as misleading as the inclusion of false information.<sup>15</sup>

"Probably the most scrutinized advertisement is that which has reference to a product whose use might endanger the public health or safety."<sup>16</sup> Where product risks are likely to occur and would not be apparent to a consumer, nondisclosure is considered deceptive and, thus, unlawful.<sup>17</sup>

The increased powers granted to the FTC to regulate advertising exemplify a trend concerned with protection against misinformation in addition to that against unsafe products.<sup>18</sup> Major consumer legislation can be traced to the idea that the consumer should be provided with sufficient information to facilitate value comparisons among products.<sup>19</sup> The Fair Packaging and Labeling Act of 1966, for example, represented a major attempt to improve the level of information on packages and labels by directing the FDA and FTC to issue regulations requiring that the identity of product, net quantity, and producers be disclosed on all "consumer commodities."<sup>20</sup> In that act, Congress addressed the importance of informed consumers, reinforcing the concept of an "informed public" as opposed to the longstanding doctrine of "caveat emptor" or "buyer beware."

Informed consumers are essential to the fair and efficient functioning of a free market economy. Packages and their labels should enable consumers to obtain accurate information as to the quality of the contents and should facilitate value comparisons. Therefore, it is hereby declared to be the policy of the Congress to assist consumers in reaching these goals in the marketing of consumer goods.<sup>21</sup>

Other Congressional actions aimed at providing information to consumers include: the Consumer Credit Protection Act (1968), requiring full disclosure of terms and conditions of finance charges,<sup>22</sup> and the Magnuson-Moss/FTC Improvement Act (1975), empowering the FTC to make rules for consumer product warranties.<sup>23</sup> The FTC affirmative disclosure program also operates under the notion that the absence of meaningful information can lead to purchase decisions based on false assumptions.<sup>24</sup> Advertisers are required to disclose product deficiencies or limitations so that the consumer may be aware of both negative and positive attributes.<sup>25</sup> Thus, failing to disclose product warning information in an advertisement may constitute false advertising if, by the omission of pertinent product risks, a misleading perception of the level of product safety is communicated.

Broad governmental actions regarding consumer protection have focused on both consumer safety and the provision of information to allow effective product evaluations. Disclosure of product warning information accentuates both governmental aims in this area, as consumers may be protected from potential harm while simultaneously receiving product risk information to allow for more effective decision-making.



One theory of consumer protection, assigns public agencies the responsibility of identifying hazardous products and excluding them from the marketplace. The alternative relies on consumers themselves to identify hazardous products and avoid them. . . .[this] depends on individual consumers' ability to seek, afford, acquire, and meaningfully use product information.<sup>26</sup>

### Regulation of Warning Information

Governmental policy goals and accompanying legislation can be identified with respect to information provision and protecting consumer safety, yet regulations related to product warning information have been enacted largely on a piecemeal, case-by-case basis, as expected due to the many administrative agencies enforcing the aforementioned Congressional actions.<sup>27</sup> Using the authorization granted under such acts, agencies have required warning information to accompany numerous consumer products, the most prevalent of which are prescription and over-the-counter drugs under FDA authority.<sup>28</sup>

A major identifiable problem in the area of required product warning information is a dearth of communication effectiveness research. The implementation of policies pertaining to product warnings has largely ignored the potential effectiveness of the communication modes selected, as administrative agency actions in the area of warning information provision appear to be taken without extensive guidance of communication research. Rather than analyze the most effective potential communication sources

prior to enforcement, agencies seem largely content to issue policies and examine their impact ex post facto.<sup>29</sup>

The most blatant example of this lack of communication effectiveness research involves the Cigarette Labeling Act. Following health group complaints, Congressional hearings regarding cigarette labeling ensued and the act was adopted requiring a warning to appear on packaging.<sup>30</sup> A review of the Congressional hearings in both 1965 and 1969, however, when the issue again received consideration by the House and Senate, reveals that testimony was heard predominantly from members of the medical profession, providing statistics on smoking and the incidence of cancer, and by tobacco industry representatives, advocating their position against the warnings.<sup>31</sup> Marketing and communication specialists were noticeably absent from testimony.

Similarly, Congress passed the Saccharin Study and Label Act in 1977, requiring the prominent display of warnings on products containing the artificial sweetener and in establishments selling such products,<sup>32</sup> without first undertaking communication research. Under the Delaney Amendment, the FDA had no choice but to propose a ban on the sugar substitute after a link was found between the additive and bladder cancer in Canadian laboratory animals.<sup>33</sup> Yet, following unprecedented consumer protest, prompted primarily because no other adequate sugar substitute existed, Congress passed the bill requiring warning labeling.<sup>34</sup>

The rapid unfolding of events that culminated in the legislative intervention by Congress essentially precluded use of research to develop the most effective language and display format for the saccharin warning or to conduct baseline survey research on consumer attitudes, knowledge, and behavior.<sup>35</sup>

Consumer and Industry Attitudes Toward  
Safety Information Provision

While the government has clearly demonstrated a concern for providing product safety information to consumers, consumer and industry sources support this idea as well. Consumer attitude surveys indicate that the provision of product warning information is beneficial to the public as consumers reportedly favor receiving additional information. A 1978 study of 1,500 adults revealed that 72% would rather receive full information about carcinogens, such as cigarettes or saccharin, and make their own decisions than advocate a governmental ban on all potential cancer-causing agents.<sup>36</sup>

Similarly, in an FDA survey of 1,569 households, subjects were asked what action they would prefer the federal government take if there was "some" evidence of a health danger in a product.<sup>37</sup> Only 31% favored banning, while 24% desired more information, 12% advocated warning labels, and 27% preferred no immediate governmental action whatsoever.<sup>38</sup>

Unfortunately, "data on consumer attitudes toward hazard warning labels, other than that cited above, does not appear to exist in the published literature."<sup>39</sup> These

studies do imply, however, a public that wishes to be at least informed of potential dangers associated with products.

Industry appears to agree with this "informed consumer" notion as well. Responses to a 1974 survey of 3,418 business executives revealed that 62% believed marketers should make a sincere effort to point out failings and limitations of their products, as well as strengths.<sup>40</sup> A majority (87%) also felt that advertising should include adequate information for "logical" buying decisions, whether or not consumers choose to use it.<sup>41</sup>

Furthermore, in 1977, the Academic Advisory Committee of the American Association of Advertising Agencies composed a list of public policy issues related to consumer processing of information; warnings and safety were two of the 12 issues set forth.<sup>42</sup>

Thus, government, consumers, and industry apparently favor the idea of an informed consumer with respect to product risk data. Researching methods of providing such information, however, has been largely ignored or performed in a post hoc manner. Both academic and industry research is sparse in this area as well, as evidenced in the review presented forthwith.

#### Potential Consumer Benefits of Advertising Warnings

Although historically ignored as a means of transmitting warning information, advertising may represent

a beneficial vehicle. Not only do some consumers use advertising as a source of information, but advertising may reach passive and less-educated consumers as well. Safe product usage may also be visually depicted in advertising.

### Advertising as an Information Source

Receiving and processing product information, forming strategies for weighting product or brand attributes, and making the choice of an alternative may occur outside of the store, or before direct contact with the product, as information is received from sources such as advertisements and word-of-mouth.<sup>43</sup>

Therefore, advertising may be a proper channel through which to convey product warning messages. Studies have indicated that consumers utilize advertising as an information source for some products. An FTC study revealed that 43% of consumers rely on advertisements as a primary information source for OTC drug information, as opposed to only 13% who depend on labeling,<sup>44</sup> while 32% of consumers use advertising for information regarding major durable goods.<sup>45</sup>

### Reaching the "Irrational" Consumer

In contrast to the information-processing approach, a new "school of thought" has recently arisen regarding the nature of consumer behavior, as it has been theorized that

the majority of purchase decisions can best be characterized as not requiring extensive prior consideration.<sup>46</sup>

Maintaining such a stance, one might assert that product information is not intentionally sought from advertisements and that advertising functions merely to display products and reinforce brand names. Furthermore, some contend that a functional difference between advertising and labeling is recognized by consumers, in that when a consumer

wants to use a product and wants to find out how, even a naive consumer does not think he is supposed to turn on the television to catch a commercial or drive in the country to find a billboard.<sup>47</sup>

Thus, advertising information may not be intentionally learned by disinterested consumers not actively seeking information. Learning from advertising, or retention of information might, therefore, best be characterized as incidental rather than intentional. Such passively-acquired information is retrieved by the consumer through an internal information search.<sup>48</sup>

While the economic view of man assumes all product decisions are made rationally, this "passive" perspective of audience processing regards consumers as possessing little commitment to products and engaging in little pre-purchase information-seeking behavior.<sup>49</sup> While the "active" rational man view maintains that advertising information is consciously sought out by consumers, the "passive" view contends that most advertising easily reaches the individual

who is not consciously seeking out or blocking out information. Under this perspective of consumer "rationality," or lack thereof, advertising might best transmit warning and safety information through mere repetition and may better reach the passive consumer than a label or package insert.

Empirically, we know very little about the limits of the complexity and quantity of information that can be absorbed passively, the retention of such information, or how the mode of presentation and the nature of the information itself might affect these limits.<sup>50</sup>

Longitudinal studies of affirmative message disclosures in advertising, however, found that beliefs about the advertised brand were eventually altered; the process was gradual over time, presumably reflective of repeated exposure to the message.<sup>51</sup> By including product safety and warning information in advertising, the pervasive and repetitive nature of this promotional tool may allow for the transmission of warnings to those consumers who would ordinarily receive no exposure. Thus, if consumers are actively seeking product information, messages in advertising regarding potential product risks may serve to facilitate their search, while advertising may also better reach the passive consumer than may labeling or package inserts.

### Aiding the Less-Educated Consumer

Not only may advertising serve as an effective information channel for "rational" and "irrational" (or "active" and "passive") consumers, but for less-educated and low-income consumers as well. As previously mentioned, product labeling is used predominantly by well-educated consumers, while those who may need such product information most, due to a limited income and correlative need to make cost-efficient purchase decisions, fail to reap benefits.

Furthermore, many consumers cannot use label information due to an inability to read.

Illiterates cannot read instructions on a bottle of prescription medicine. . . nor can they read of allergenic risks, warnings to diabetics, or the potential sedative effect of certain kinds of nonprescription pills.<sup>52</sup>

Reported figures from the U. S. Department of Education, Office of Vocational and Adult Education, and National Institute of Education differ regarding the number of illiterate Americans, yet all concur that total "functional" and "marginal" illiterates represent no fewer than 60 million or over one-third of all American adults.<sup>53</sup>

Many illiterates cannot read the admonition on a pack of cigarettes. Neither the Surgeon General's warning nor its reproduction on the package can alert them to the risks. . . . They can see the handsome cowboy or the slim Virginia lady lighting up a filter cigarette; they cannot heed the words that tell them that this product is (not "may be") dangerous to their health. Sixty million men and women are condemned to be the unalerted, high-risk candidates for cancer.<sup>54</sup>



Illiterates are unable to read product labels, yet they may be able to pick up warning information from televised advertising messages. A negative correlation has been uncovered between education and television viewing.<sup>55</sup> Lower income groups have also been found to watch more television relative to higher socioeconomic groups.<sup>56</sup> Therefore, warning messages broadcast via television commercials may best reach illiterate and less-educated consumers.

#### Demonstrating Safe Product Usage

Advertising might also represent a manner by which safe product usage may be visually demonstrated. While a product label might direct a consumer to utilize a product in a certain manner, a print or broadcast advertisement can depict safe usage. Advertisers may frequently overlook safety considerations for a dramatic effect and fail to recognize that some consumers have a limited capacity for judging risks and distinguishing between "puffery" and reality.<sup>57</sup> Legal proceedings have arisen due to consumer modeling of unsafe behavior depicted in advertising.<sup>58</sup>

Used in the right manner, however, advertising may have a positive influence on consumer behavior.<sup>59</sup> Consumers may associate a product with a particular visual image from advertising when coding or structuring information.<sup>60</sup> Visuals depicted, therefore, may influence safe product usage.

Proposed Research

At present, consumer product warning information is communicated to consumers predominantly through product labels, package inserts, and/or user guides. One must question the communicative efficacy of providing warning information through these channels. Whether or not information from product labels is sought, used, or even perceived by the consumer necessitates investigation. If product evaluation and purchase and use decisions are made without regard for or prior to exposure to labels or inserts, consumers may fail to perceive this information.

A completely "informed" decision cannot occur without perception and comprehension of risk information. Warning information might be better communicated through product advertising; the qualities of pervasiveness and repetitiveness associated with advertising, as well as the ability to communicate with a greater number of consumers, may deem this communication form a more effective source for relaying such information to consumers. Furthermore, failure to disclose potential product risks to consumers may constitute false advertising. Therefore, the inclusion of product warning information in advertising warrants investigation.

## ENDNOTES FOR CHAPTER I

<sup>1</sup>George A. Peters, "Toward Effective Warnings for Automobiles," Trial, November 1983, p. 115.

<sup>2</sup>Laurence P. Feldman, Consumer Protection: Problems and Prospects (St. Paul: West Publishing Company, 1980), p. 76.

<sup>3</sup>James B. Sales, "The Duty to Warn and Instruct for Safe Use in Strict Tort Liability," St. Mary's Law Journal, 13 (1982):531.

<sup>4</sup>Warren A. French and Leila O. Schroeder, "Package Information Legislation: Trends and Viewpoints," MSU Business Topics, Summer 1972, p. 39.

<sup>5</sup>Feldman, p. 8.

<sup>6</sup>Ibid., p. 38.

<sup>7</sup>For detailed discussion, see: Feldman; Earl W. Kintner, A Primer on the Law of Deceptive Practices (New York: The MacMillan Company, 1971), pp. 361-84.

<sup>8</sup>15 U.S.C.A. SS. 2051

<sup>9</sup>Glen O. Robinson, Ernest Gellhorn, and Harold H. Bruff, The Administrative Process (St. Paul: West Publishing Company, 1980), p. 435.

<sup>10</sup>15 U.S.C.A. SS. 45

<sup>11</sup>Ibid.

<sup>12</sup>Gaylord A. Jentz, "Federal Regulation of Advertising," American Business Law Journal, 6 (January 1968):409-27 in Benjamin J. Katz, ed., Advertising and Governmental Regulation (Cambridge, Massachusetts: Marketing Science Institute, 1979), p. 3.

<sup>13</sup>15 U.S.C.A. SS. 45.

<sup>14</sup>Federal Trade Commission, Advertising for Over-the-Counter Antacids, Final Staff Report and Recommendations, August 1983.

<sup>15</sup>21 U.S.C.A. SS. 343.

<sup>16</sup>Kintner, p. 106.

<sup>17</sup>Ibid., p. 107.

<sup>18</sup>French and Schroeder, p. 39.

<sup>19</sup>Dorothy Cohen, "Remedies for Consumer Protection: Prevention, Restitution, or Punishment," Journal of Marketing, 39 (October 1975):25.

<sup>20</sup>15 U.S.C.A. SS. 1453

<sup>21</sup>Ibid.

<sup>22</sup>15 U.S.C.A. SS. 1601

<sup>23</sup>Pub.L.No. 93-637, 88 Stat. 218

<sup>24</sup>Katz, pp. 8-10.

<sup>25</sup>Dorothy Cohen, "Remedies for Consumer Protection: Prevention, Restitution, or Punishment," Journal of Marketing, 39(October 1975):27.

<sup>26</sup>Russell L. Barsh, "Putting the Muscle on Products: The Informational Alternative," Journal of Contemporary Business, 7 (1978):1.

<sup>27</sup>Feldman, p. 75.

<sup>28</sup>See: Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds., Banbury Report 6: Product Labeling and Health Risks (New York: Cold Spring Harbor Laboratory, 1980); and John A. Miller, Labeling Research--The State of the Art (Cambridge, Massachusetts: Marketing Science Institute, 1978).

<sup>29</sup>See: Morris, Mazis, and Barofsky.

<sup>30</sup>A. Lee Fritschler, Smoking and Politics: Policymaking and the Federal Bureaucracy (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1983), p. 128.

<sup>31</sup>See: U. S., Congress, House, Committee on Interstate and Foreign Commerce, Cigarette Labeling and Advertising, Hearings before the Committee on Interstate and Foreign Commerce on H.R. 2248, 3014, 4007, 7051, 4244, 89th Congress, 1965; U. S., Congress, House, Committee on Interstate and Foreign Commerce, Cigarette Labeling and Advertising, Hearings before the Committee on Interstate and Foreign Commerce on H.R. 643, 1237, 3055, 6543, 91st Congress, 1969; and U. S. Congress, Senate, Committee on Commerce, Cigarette Labeling and Advertising, Hearings before the Consumer Subcommittee of the Committee on Commerce on H.R. 6543, 91st Congress, 1969.

<sup>32</sup>"The Sweet and Sour History of Saccharin, Cyclamates, and Aspartame," FDA Consumer, September 1981, HHS Pub. No. 81-2156.

<sup>33</sup>Feldman, p. 97.

<sup>34</sup>Ibid.

<sup>35</sup>Raymond E. Schucker, Raymond C. Stokes, Michael L. Stewart, and Douglas P. Henderson, "The Impact of the Saccharin Warning Label on Sales of Diet Soft Drinks in Supermarkets," Journal of Public Policy and Marketing, 2(1983):46-56.

<sup>36</sup>Stephen P. Schwartz, "Consumer Attitudes toward Product Labeling," in Morris, Mazis, and Barofsky, p. 91.

<sup>37</sup>Ibid., p. 79.

<sup>38</sup>Ibid.

<sup>39</sup>Ibid., p. 91.

<sup>40</sup>Stephen A. Greyser and Steven Diamond, Consumerism and Advertising: A U. S. Management Perspective (Cambridge, Massachusetts: Marketing Science Institute, 1976), p. 8.

<sup>41</sup>Ibid., p. 7.

<sup>42</sup>Jacob Jacoby, Wayne D. Hoyer, and David A. Sheluga, Miscomprehension of Televised Communications (New York: The Educational Foundation of the American Association of Advertising Agencies, 1980), p. 114.

<sup>43</sup>James R. Bettman, "Memory Factors in Consumer Choice: A Review," Journal of Marketing, 43 (Spring 1979):43.

<sup>44</sup>"Consumers and Medication," PB232-172 cited in Joel N. Brewer, "Labeling and Advertising Trends: If it is in the Labeling is it Off our Shoulders?" Food Drug Cosmetic Law Journal, 34 (December 1979):632.

<sup>45</sup>Melvin J. Hinich and Richard Staelin, Consumer Protection Legislation and the U. S. Food Industry (New York: Pergamon Press, 1980), p. 13.

<sup>46</sup>Henry Assael, Consumer Behavior and Marketing Action (Boston: Kent Publishing Company, 1981).

<sup>47</sup>Frank P. DiPrima, "Advertising of OTC Drugs: Proposed TRR on Warnings," Food Drug and Cosmetic Law Journal, 32 (March 1977):98.

<sup>48</sup>Howard Beales, Michael B. Mazis, Steven C. Salop, and Richard Staelin, "Consumer Search and Public Policy," Journal of Consumer Research, 8 (June 1981):12.

<sup>49</sup>Kim B. Rotzell, James E. Haefner, and Charles H. Sandage, Advertising in Contemporary Society--Perspectives Toward Understanding (Columbus, Ohio: Grid, Inc., 1978), p. 86.

<sup>50</sup>Beales, Mazis, Salop, and Staelin, pp. 11-22.

<sup>51</sup>Gary M. Armstrong, Metin N. Gurol, and Frederick A. Russ, "A Longitudinal Evaluation of the Listerine Corrective Advertising Campaign," Journal of Public Policy and Marketing, 2 (1983):16-28; and Thomas C. Kinnear, James R. Taylor, and Oded Gur-Arie, "Affirmative Disclosure: Long-Term Monitoring of Residual Effects," Journal of Public Policy and Marketing, 2 (1983):38-47.

<sup>52</sup>Jonathan Kozol, Illiterate America (Garden City, New York: Anchor Press/Doubleday, 1985), p. 24.

<sup>53</sup>Ibid., p. 10.

<sup>54</sup>Ibid., p. 25.

<sup>55</sup>M. Samuelson, R. F. Carter, and L. Ruggels, "Education, Available Time and Use of Mass Media," Journalism Quarterly, 40:491-6.

<sup>56</sup>George Comstock, Steven Chaffee, Natan Katzman, Maxwell McCombs, and Donald Roberts, eds., Television and Human Behavior (New York: Columbia University Press, 1978), p. 150.

<sup>57</sup>Rajan Chandran, Jeffrey Lowenhar, and Steven C. Salop, "A Framework for Evaluating Consumer Information Regulation," Journal of Marketing, 45 (Winter 1981):12.

<sup>58</sup>See: James A. Castleman, "Advertising, Product Safety, and a Private Right of Action Under the Federal Trade Commission Act," Hofstra Law Review, 2 (1974):669-91.

<sup>59</sup>Rajan Chandran, Jeffrey Lowenhar, and John Stanton, "Product Safety: The Role of Advertising," Journal of Advertising, 8 (Spring 1979):36.

<sup>60</sup>Bettman, "Memory Factors in Consumer Choice."

## CHAPTER II. LITERATURE REVIEW

### Related Research

The "informed choice" model, dictated and followed by the government, views man as rational in his decisions regarding consumer products. Therefore, governmental regulations regarding product warnings and other product information are designed to respond to the needs of a "rational," information-seeking consumer. The information-processing approach to consumer behavior also assumes that man acts rationally in his decision-making, weighing alternatives prior to choice behavior. This is similar to the approach of economists, who hold that purchase decisions are the result of largely rational and conscious economic calculations. The individual seeks to spend his income on those goods that will deliver to him the most satisfaction or utility.<sup>1</sup>

Rational, economic man is assumed to know not only all courses of action open to him, but also the outcome of each action as well.<sup>2</sup> Therefore, in order to make efficient choices, the consumer must be provided with both positive and negative information regarding products, including product warnings. Given usable, understandable information, individuals may weigh risks and advantages to arrive at purchase and use decisions.<sup>3</sup>



A review of the inefficiencies of product labeling as a method of warning information transmission and the lack of research on advertising as a viable transmission mode provides justification for study of this issue.

#### Warning Information Provision in Product Labeling

"Information environment" has been denoted as the entire array of marketer-controlled product-related data available to the consumer.<sup>4</sup> The design of such environments is of public concern and policy should be advanced attempting to provide consumers an optimal amount of information while using the optimal modes of organization and presentation.<sup>5</sup> Such environments must be assessed in light of consumer utilization. Most governmental legislation has focused on warning information provision through product packaging. As previously mentioned, consumer information is presently communicated predominantly through product labels and package inserts or user guides. These tactics should be analyzed to determine their efficiency and efficacy for consumers.

The Fair Packaging and Labeling Act defines a "label" as "any written, printed, or graphic matter affixed to or appearing upon a package containing any consumer commodity,"<sup>6</sup> yet package inserts and guides may be considered "quasi-label" modes of information presentation as well.<sup>7</sup> According to Congress, "Packages and their

labels should enable consumers to obtain accurate information. . . [and] should facilitate value comparisons."<sup>8</sup> As the consumer marketplace has increasingly moved toward self-service and pre-packaging, the consumer may be required to rely completely on the package label as the only available source of information for product contents, instructions, and potential hazards.<sup>9</sup>

Warning information in labeling presumably leads to "informed consent" as potential product users are aware of any product hazards and make informed decisions regarding product usage.<sup>10</sup> Yet the notion of "informed consent" presumes that information provision and perception or ultimate use are synonymous. The communicative impact of product labels must be assessed to determine the validity of this presumption.

#### Review of Related Labeling Research

Past research has examined the sufficiency, availability, and consumer use of various types of label information. Generalizations from such research include: label information is used differentially among various consumer segments, in that younger, better-educated, higher-income households are more likely to use labels; labels can improve consumer knowledge and choice in product evaluations; labeling importance varies across product categories; and labeling programs appear to reassure consumers about product quality.<sup>11</sup> Because research on

warning labels is scarce, studies of nutrition and ingredient listings will be considered as well, as these variables might also impact on consumer health and safety.

#### Warning Labeling

Warnings are required to be included on labels for a variety of products, ranging from protein supplements<sup>12</sup> to aerosol sprays.<sup>13</sup> Studies on product warnings, however, have been conducted primarily for private companies or in conjunction with litigation following an accident associated with a product.<sup>14</sup> As previously mentioned, research investigating the effectiveness of warning labels consists predominantly of field studies attempting to isolate the effects of the warning message following implementation.

The most obvious example of such research involves cigarette warnings; product consumption studies are profuse. An FTC study developed a statistical model of smoking behavior, analyzing the smoking histories of 12,000 adults, controlling for cigarette prices, consumer income, and several demographic characteristics. Smoking trends were found to have altered since 1964, when the FTC first proposed its labeling rule, as a 3.5% average annual decline in per capita consumption (from predicted sales) occurred over the analyzed period (1964-1975). Virtually all of the decline was attributable to "rising quit rates and falling start rates"; highly educated consumers demonstrated

higher quit rates. While the FTC study could not isolate the specific effects of the cigarette package warning from other publicity throughout the period, the report did argue that no evidence existed of an intensified decline in consumption during the period of numerous anti-smoking broadcast commercials (1968-1970) or moderated with the removal of broadcast cigarette advertising (after 1971).<sup>15</sup>

A demand function regression estimate for cigarette consumption from 1950 to 1970 also found health scare dummy variables to have a highly significant effect, and greater impact in deterring demand than did promotional cigarette advertising in stimulating demand.<sup>16</sup> Thus, it was predicted that removal of broadcast cigarette advertising would likely have little effect, and perhaps even a negative effect, on cigarette demand due to the subsequent lack of anti-smoking messages.<sup>17</sup> An analysis of consumption data uncovered that per capita cigarette consumption actually increased following the broadcast advertising ban.<sup>18</sup>

The impact of the 1977 saccharin warning has been examined through multiple regression analyses of syndicated grocery store sales data of diet and regular soft drinks, diet soft drink advertising expenditures, pertinent news events, retail pricing, and seasonality; the warning label was associated with a slight reduction in sales of diet soft drinks. A time series analysis (February, 1974 to July, 1980) uncovered that unit sales of diet soft drinks decreased in terms of annual average growth rate from 17.2%

in the 1975-1977 period to 1.8% in 1980, while regular soft drink sales rose 3% to 6% over the entire period.<sup>19</sup> Again, lower educated households increased consumption while the consumption level in college-educated households remained virtually unchanged.<sup>20</sup>

An extension of this study covered the period from 1974 to 1983 in an attempt to examine the potential for a "life cycle" of the saccharin warning label. No evidence of a decay in "effectiveness" occurred, however, based on the small but sustained reduction in diet soft drink sales associated with the warning implementation.<sup>21</sup>

A market tracking study of the largest selling brand of estrogen also revealed a slight decline in sales following the inclusion of warning inserts in packages required by the FDA in 1977.<sup>22</sup> Such consumption studies, however, fail to examine direct communication effects. Warning information impact upon aggregate purchase behavior does not address individual perception and comprehension of the information. Warnings are not necessarily intended to completely dissuade purchase behavior, but rather alter manner of product usage.

FDA survey research regarding patient package inserts (PPIs), required by the FDA in oral contraceptive and estrogen packages, did examine some communication variables and reported that 95% of oral contraceptive users read the insert initially, to obtain general information, and 54% were able to recall the most serious warning regarding blood

clotting.<sup>23</sup> An experimental study of PPIs for hypertension drugs uncovered 67% readership of the insert and an average information comprehension level of 69%; the most commonly missed items on the comprehension test dealt with effects on pregnant and nursing women. Education was positively associated with self-reported compliance with the PPI instructions.<sup>24</sup>

### Nutrition and Ingredient Labeling

The FDA and FTC food labeling formats require that ingredients be listed in descending order of prominence, and that nutrition information and percentages of significant ingredients be specified in food product labels. These requirements are based on both the presumption that public health is contingent upon "good eating habits" and the consumer right to information.<sup>25</sup>

Survey data regarding ingredient and nutrition labeling information report consumer usage, yet experimental data fail to concur. A 1978 FDA consumer food labeling survey revealed that 41% of consumers used labels for ingredient information and 22% for nutrition information; furthermore, 54% read ingredient listings in order to avoid certain substances, indicating health hazard concerns.<sup>26</sup> Nearly 70% of consumers surveyed in the Philadelphia area reported seeking information from package labels; younger and more-educated consumers were more likely to do so.<sup>27</sup> Furthermore, 63% of respondents rated such information as

either very or extremely important.<sup>28</sup> In a similar survey, conducted in New York, 91% responded favorably when asked if nutrition labeling on products was needed.<sup>29</sup> Consumers have also reported a willingness to pay for nutrition information.<sup>30</sup>

Experimental research, however, uncovers little use of ingredient and nutrition information on labels. Nutrition labeling was found to have an insignificant impact on preferences for a canned vegetable, although perceptions of "wholesomeness" and "tenderness" were influenced significantly.<sup>31</sup> Labels stating nutrition values in vague terms had no effect whatsoever, while more detailed labels were used by some consumers.<sup>32</sup> Such labeling had no significant main effect, however, on consumer nutrition perceptions of bread, as color was apparently used as a surrogate for nutrition.<sup>33</sup> Overall, consumers have been found to devote only a negligible proportion of prepurchase search to actually acquiring nutrition information.<sup>34</sup> Highly-educated consumers who plan meals in advance and consider themselves knowledgeable about nutrition tend to demonstrate greater nutrition label use.<sup>35</sup>

In a closed-ended local consumer survey designed to determine reasons for not using nutrition labeling, 79% reported an absence of need based on abilities to select nutritious foods without label information. Others reported a lack of time (43%) and buying particular brand

names regardless of nutritional considerations (39%). Perceived inability to use the information was reported as well, due to a lack of knowledge about nutrition and confusion experienced from reading the labels.<sup>36</sup>

Miscomprehension as a function of education, was found to impact on label use.<sup>37</sup> Only 10% of consumers in the FDA survey reported understanding "U.S. RDA," a necessity for understanding nutrition information.<sup>38</sup> Words such as "riboflavin" and "polyunsaturated" were confusing to nearly all respondents and "the plight of the socially and educationally deprived is obviously far worse."<sup>39</sup> When asked to assess the nutrient values in an entire box of cereal (requiring the multiplication of nutrient value per serving by number of servings), only 51% of subjects could do so correctly.<sup>40</sup> Thus, apparently "the vast majority of consumers neither use nor comprehend nutrition information in arriving at food purchase decisions."<sup>41</sup>

#### Inefficiency of Providing Information on Labels

While little knowledge regarding the use of warning label information may be gleaned from past research, studies dealing with nutrition and ingredient information suggest that product labeling may be an ineffective mode of information provision, particularly for less-educated consumers. As noted earlier, consumers tend to desire product information, and many purport to use it, yet underutilization is apparent from experimental evidence.



Furthermore, according to the 1978 FDA survey, 27% of consumers found some confusion with product labels,<sup>42</sup> and those consumers in greatest need of product information (low education, low income) tend to benefit least from labeling.

The existence of a hierarchy-of-effects has been supported when analyzing consumer responses to disclosures. Awareness and comprehension usually precede any behavioral impact that product information disclosures might produce.<sup>43</sup> Warning information, therefore, may have no effect on product usage if such messages are not first perceived and comprehended by the consumer.

Thus, consumers may not act as rationally as the government presupposes with respect to information seeking. Product information may be gained largely through passive techniques. As a matter of public policy, the mere provision of information may be insufficient, as transmission is of greater concern. Placing information on packaging assumes that "the consumer wants, will acquire and, having acquired, will adequately understand and use the information in question."<sup>44</sup> If consumers are, indeed, more passive in information-seeking behavior, relying largely on internal search mechanisms, product labeling may be an inefficient means of information transfer. Other transmission modes require evaluation to determine how to more effectively transfer warning information.

## Warning Information Provision in Advertising

Advertising may represent an optimal vehicle for conveying product safety information and creating awareness of potential product hazards. The only consumer product to date, however, for which warning information is required under a consent decree to appear in advertising is cigarettes. The issuance of a requirement that a health warning appear on cigarette packages and later in advertising stemmed from a rule originally proposed by the FTC, following public health group surveys released in the 1950s indicating a cause-effect relationship between smoking and lung cancer. The 1964 Surgeon General report concluding that cigarette smoking was a health hazard of sufficient importance to warrant remedial action led to the FTC announcement of a proposed trade regulation rule requiring warning labeling on all cigarette packaging and in all advertising.<sup>45</sup> The FTC action was based on the notion that cigarette advertising was misleading under the Wheeler-Lea Amendment definition which states:

. . . extent to which the advertisement fails to reveal facts. . . material with respect to consequences which may result from the use of the commodity. . .<sup>46</sup>

Congressional oversight power affords Congress control over administrative agency actions; this power was exercised against the FTC cigarette rule due to profuse Tobacco Institute lobbying. Lengthy hearings regarding the substance and wisdom of the FTC action resulted in

legislation negating the FTC rule and removing FTC rulemaking power in the cigarette advertising field.<sup>47</sup> Following health group complaints and subsequent Congressional hearings, the Cigarette Labeling Act was adopted requiring a warning to appear on packaging.<sup>48</sup>

A review of the 1965 Congressional hearings regarding cigarette warnings reveals that only one marketing professional testified, claiming that advertising was not expected to be impartial, and that the purpose of advertising is not to relay negative product information.<sup>49</sup>

. . .I cannot help but view mandatory warnings in advertising as basically incongruous and at odds with the traditional and accepted role of advertising in our economy. This role is to remind consumers of the advertised product's virtues and benefits, whether tangible or intangible. In the case of cigarettes, of course, the benefits are intangible: taste and psychological satisfaction.<sup>50</sup>

Other included statements by marketing academics supported the notion that such a requirement would "create a precedent that could cause considerable confusion in consumers' minds as to the function of advertising and its meaning"<sup>51</sup> and that "favorable promotion of the advertised brand is the very purpose of the advertising expenditure."<sup>52</sup> Furthermore, speculation arose regarding potential consumer assurance that other products were risk-free due to the lack of advertised warnings.<sup>53</sup>

Congress obviously agreed that the use of advertising was not a proper channel through which to disseminate warning information, yet based apparently on the remarks of

these marketing professionals and members of the tobacco industry, rather than communication effectiveness analyses. Thus, advertising was dismissed as a mode of transmission without scientific evidence of its potential impact.

An FTC consent order was signed in 1972 in which cigarette manufacturers agreed to place the warning message in print advertising<sup>54</sup> (as mentioned, advertising had been banned by Congress from the radio and television media beginning January 2, 1971, precluding analysis of the impact of broadcast warning messages).<sup>55</sup> A system of four labels expressing more specific warning information is scheduled to be rotated on cigarette packaging beginning October 12, 1985,<sup>56</sup> emphasizing serious health risks, lung cancer, heart disease, emphysema, pregnancy complications, fetal injury, and the presence of carbon monoxide.<sup>57</sup> According to the Coalition on Smoking or Health, an anti-smoking group, while 25% of teenaged boys and 40% of teenaged girls reportedly smoked cigarettes in Sweden in 1977, the year a similar rotating label system began, these figures were reduced to 21% and 33%, respectively, by 1980.<sup>58</sup>

Thus, a lengthy process, controversial in nature, preceded the only advertising warning requirement ever established. An FTC trade regulation rule was proposed regarding warnings in over-the-counter (OTC) antacid advertising, due to the following FTC contentions:

(1) consumer knowledge of adverse effects was low, (2) many

consumers fail to read or continue to read labels, and (3) many rely primarily on advertising as an information source.<sup>59</sup> Termination of the rule, proposed in the mid-1970s, was recommended by the commission, however, on July 1, 1984,<sup>60</sup> based on the establishment that the "failure to disclose in advertising warning information contained on antacid labels is neither deceptive nor unfair."<sup>61</sup> Furthermore, the warning was determined to apply to only a minority of consumers.<sup>62</sup> OTC drug manufacturers do voluntarily include a "use only as directed" disclosure in advertising.<sup>63</sup>

#### Past Research on Warnings in Advertising

Few experimental studies were located that have dealt specifically with including warning information in advertisements, three of which stemmed from the FTC antacid warning proposal. Medium of transmission, other independent variables manipulated, and dependent measures differed across the studies (see Table 1).

In a study designed to test advertising information impact on increasing the reading of in-store and package label drug warnings, subjects were exposed to television commercials for OTC antacids, advocating in-store warning examination in an audio-visual format. Recommendations were either general or concrete, depending upon the level of specificity of the wording, and "package object" or "shopper demonstration," depending upon the visual elements

Table 1. EXPERIMENTAL RESEARCH ON WARNINGS IN ADVERTISING

		Product	Medium	Other Manipulated Variables	Dependent Measures
1975	ASI	Antacids	Television	-----	Recall
1976	Williams	Antacids	Magazine	Press Release Exposure	Product Safety Perceptions Credibility of Advertiser Purchase Intent
1979	Ford & Kuehl	OTC Drugs	Magazine	Message Specificity Drug Type Type Size	Product Safety Perceptions Generalizability of Warning
1982	Wright	Antacids	Television	Message Specificity Visual Depictions	In-store Label Reading In-store Sign Reading
1984	Morris, Brinberg, & Plimpton	Prescription Drugs	Print	Information Amount Source Placement	Knowledge Beliefs Attitudes

depicted. No significant main effects occurred regarding package inspection, while a significant difference did result between exposed subjects and a control group with respect to subsequent in-store sign reading.<sup>64</sup> Although direct warnings were not included in the tested advertisements, results did suggest that advertising may have had some impact on behavior regarding warnings, or that the message in the advertisement was noticed.

A second study used a 3 x 3 latin square design manipulating drug type, warning message specificity, and type size in print advertisements for three OTC drugs (Di-Gel, Contac, and Excedrin). Message specificity was operationalized through including a general statement to read label directions, a general instruction to read warnings on the label, and a specific warning directed at individuals with health problems. A post-exposure questionnaire, testing subjects for information regarding the perceived safety of the drug and generalizability of the warning across the product category, found drug type differences to be significant for perceived safety, and warning type significant for generalizability of side effects.<sup>65</sup> Although the authors concluded that the results failed to support the notion that embedding such warnings will alter existing consumer perceptions of OTC drug products,<sup>66</sup> this conclusion may be premature. Not only were consumers exposed only once to the message, neither

pre-exposure product beliefs nor product interest were measured. Furthermore, no control groups were used to determine warning impacts against a no warning condition.

In an experimental study conducted to determine the impact of a warning message in an antacid advertisement on attitudes toward product safety and purchase intent, groups were exposed to print advertising with and without a warning message. Two additional groups received warning exposure treatment following exposure to press releases; one release revealed the FDA and Health Research Group opinion regarding the dangers of Alka-Seltzer, while the second carried the Miles Laboratories contention that such danger information was false.<sup>67</sup>

Each group was questioned about perceived product danger, advertiser credibility, and purchase intent in a pre- and post-exposure test. While no attitudinal differences toward perceived danger of the product or perceived advertiser credibility occurred without a warning message in the advertising, perceived danger rose significantly for those exposed to the advertisement with the warning; purchase intentions did not differ significantly for any brand. When forewarned of product danger, through the negative press release, advertising had no significant impact on perceived danger, as this perception had been significantly altered prior to advertising exposure.<sup>68</sup>



These findings do indicate the potential for advertising to communicate warning information. Following a one-week lapse, perceived product danger returned to near its pre-exposure level.<sup>69</sup> This return to initial perceived danger level may be unlikely in reality where print or broadcast advertising might continually transmit the warning. The lack of purchase intention change may have been attributable to the fact that the warning concerned harmful effects to "persons with serious stomach disorders;"<sup>70</sup> this message may have been irrelevant to most subjects.

In a study presented to the FTC, two direct warnings were inserted into 30-second antacid television commercials using both a video and an audio-video format, as well as a control advertisement with no warning. Of subjects exposed to the audio-video disclosure, 63% remembered one or both warning messages with aid, while 28% recalled one or both warnings unaided; this unaided figure was reportedly close to that for the selling message in the advertisement. Furthermore, communication of sales-oriented copy points and registration of correct brand name were almost identical among the tested commercials, implying that the advertiser's message was not overwhelmed by the warning.<sup>71</sup>

Although prescription drug advertising has historically been directed at physicians, prescription drug manufacturers have expressed interest in advertising directly to

consumers.<sup>72</sup> Thus, the final experimental study in this area examined student reactions to print advertisements for fictitious acne and back pain remedies. Source (leaflet or magazine), amount of risk and benefit information (based on number of sentences), and information placement (integrated or separated) were manipulated, and knowledge, risk/benefit beliefs, and attitudes were obtained following exposure. Overall, drug type acted as a primary determinant for information processing, since other manipulated variables were interpreted within the context of one drug type or the other. Risks for the acne medication were perceived as overemphasized, while risk information was valued for the pain reliever.<sup>73</sup> Results from this study must be interpreted cautiously, since prescription drug advertisements are not presently directed toward consumers causing high artificiality of the treatments.

Each aforementioned study involved only one exposure, taken out of the context of the surrounding media, and measured immediate responses, thereby limiting the validity of the results. Yet while methodological questions might be raised regarding these studies, they represent the only experimental research to date attempting to test warning communication in advertising. Findings do indicate the positive communicative potential for advertising warning messages.

### Conclusions from Previous Related Research

At present, little empirical justification exists for policy recommendations or actual decisions to mandate advertised warnings in any form by law or regulation; labeling decisions in this area have been based largely on assumptions that warnings will have an appropriate impact on consumer behavior.<sup>74</sup> Yet when the government establishes information standards or requires the disclosure of information to consumers, it must insure that the information is noticed, comprehended, and used by consumers.<sup>75</sup>

The government advocates a safe and "informed" consumer, yet present warning information provision methods, namely product labeling, are largely underutilized by consumers; other modes of information transmission require examination. Because of the sparse body of research regarding the communication effectiveness of warnings in advertising, and warning information in general, further research must be conducted before any type of policy in this area can be advocated. Potential benefits from the use of warnings in advertising advocate their inclusion, yet published empirical research which might lend support to this notion is virtually absent. The few studies that have been undertaken have shown potential positive impacts. Therefore, further experimental research is necessary to help determine communication impacts.

Research is needed to uncover both how to effectively design and evaluate informational programs.<sup>76</sup> Variables that require experimental manipulation include: the type of warning message, whether concerning inherent product characteristics, particular users, or usage situations, the medium used to convey the information, the size of the warning message relative to the size of the advertisement, with respect to both print and broadcast advertising, and the severity of the wording in the warning message.<sup>77</sup> Such variables should be concisely operationalized and rigorously tested so as to design warning messages that both prevent miscomprehension and facilitate information transfer.

### Theoretical Literature

Consumers may derive benefits from the inclusion of product warnings in advertising, yet any benefit presumes attention to and comprehension of advertised warnings. Although several models of response to advertising communication have been proposed, most begin with the element of awareness,<sup>78</sup> implying the importance of achieving attention to and comprehension of the message. To be at all effective, warning information in advertising must also be transmitted so as to create awareness of the product risks. Once the information is effectively transmitted, consumers may make informed decisions regarding product usage. Thus, specific cognitive reactions of consumers to warnings in advertising must be examined.

While past research on warning messages analyzed important variables, theoretical connections that might help predict consumer response patterns were largely ignored. A review of related literature regarding consumer information-processing, media and product involvement, and negative information in persuasive communication may help predict consumer responses to warnings in advertising.

### Consumer Information Processing

The information processing perspective of consumer behavior posits that consumers faced with the need to make a purchase, search for and are exposed to information about product and brand alternatives; perceive, comprehend, and encode the information; store the information in their memories; evaluate the product or brand alternatives; and finally make a decision.<sup>79</sup> Thus, man is assumed to be an active receiver of product information.

More specifically, information-processing theory assumes that cognitively active information receivers typically experience a series of stages when presented with a stimulus, such as a product label. Incoming information is represented in active or short-term memory (STM) and may stimulate activation of previously processed object-relevant thoughts, or retrieval, while rehearsal of information leads to storage in long-term memory (LTM).<sup>80</sup> A "levels-of-processing" approach has postulated that retention of

information is a function of the depth of processing present which in turn is determined by attention to the stimulus, compatibility between the stimulus and existing cognitive structures, and available processing time.<sup>81</sup>

Both an internal search and an external search may be undertaken by consumers with respect to decision-making.<sup>82</sup> An internal search involves retrieving information stored in memory from past product experience or encounter and from passive advertising message reception; conversely, an external search requires active seeking of new information about the product.<sup>83</sup> Information sources may be marketer-controlled, such as advertising, packaging, sales promotion, and personal selling, or nonmarketer-controlled, including word-of-mouth, impartial ratings, and personal consumption experiences.<sup>84</sup> As previously mentioned, the "passive" perspective of audience processing regards consumers as possessing little commitment to products and engaging in little pre-purchase information-seeking behavior.<sup>85</sup>

These two ideas regarding how consumers utilize advertising, either active information-processing or passive reception, are analogous to the traditional perspectives of communication receiver activity levels; print media have been considered to be processed "actively" and broadcast "passively," particularly in terms of advertising information. The "active audience" view of advertising effects stemmed from what was originally nonadvertising

media research that pointed out the limited persuasive powers of the print media due to selectivity practiced by audiences.<sup>86</sup>

#### Processing of Broadcast Information

Television advertising has been suggested to result in passive learning from audience members since they are typically in a relaxed, "low-drive" state.<sup>87</sup> Because broadcast television may best be termed a "low-processing" medium, attempting to transmit warning information via this medium might be questioned. The optimal method of televising such information for the passive consumer must be derived. Presentation of warnings in broadcast television advertising may be in audio, video, or audio-video form.

Psychological research regarding mode of information transmission and memory has consistently found auditory presentation of information to result in superior recall relative to visual presentation for nouns, nonsense syllables, and numbers.<sup>88</sup> Auditory information has also been more effective in recognition tests.<sup>89</sup> Combined visual-auditory presentation was also found to be superior to visual-only presentation, but slightly inferior to auditory only presentation in information recall.<sup>90</sup>

Yet, such studies utilized predominantly nonsensical information. Transmission mode apparently interacts with the difficulty of a meaningful message transmitted. When

subjects were presented with an easy- or difficult-to-understand message in a written, audiotaped, or videotaped mode, greater comprehension of a difficult message occurred in written form.<sup>91</sup> Comprehension did not differ significantly across modes, however, for an easy message.<sup>92</sup>

Combining modes was found to facilitate recall. Information cues occurring simultaneously in audio and video channels have been found to be more likely to be stored in long-term memory than cues presented in only one form for news stories.<sup>93</sup> Greater audio recall occurred and lower visual recall under conditions of audio-visual redundancy in newscasts, however, indicating greater audience focus on audio cues in processing broadcast information.<sup>94</sup>

Immediate recall measures following exposure to televised commercials, however, revealed that video events (picture, print) were recalled more often than were audio events (voice, sound) in a laboratory setting. More specifically, picture portions of the message generated highest recall, followed by print, voice, and sound in that order. Again, coordination of audio and video elements tended to amplify recall.<sup>95</sup>

Warnings in broadcast television advertising would compare more realistically with a disclaimer as opposed to a major element in the commercial. When disclaimers in children's commercials were studied, in fact, the audio-visual disclaimer format was similarly found to be



much more effective in correcting misleading impressions than was a video only message.<sup>96</sup>

A content analysis of children's television commercials, however, found that 22% contained an audio disclaimer, 11% a visual disclaimer, and only 8% both audio and visual.<sup>97</sup> A second analysis found that of the total number of children's commercials with disclaimers, 60.5% used an audio form, 30.2% video, and 9.3%, or even fewer, both audio and video,<sup>98</sup> apparently the most effective format.

Although mode-of-transmission for disclosures in other commercials has apparently not been examined in depth, in a study of video disclaimers, students were found to recall less than two percent of disclaimer information as compared to approximately 50 percent of non-disclaimer information.<sup>99</sup> When sensitized to the potential inclusion of disclaimer information, recall was increased, but still achieved a level of only 20%.<sup>100</sup> Thus, video disclaimers were ineffective in producing attention and comprehension of the information.

National Association of Broadcasters (NAB) guidelines allow for "overt references" directing consumers to "read directions" and "use only as directed" to appear in audio or video form in televised OTC drug advertising,<sup>101</sup> and the FCC,

which regulates how televised disclaimers are displayed, requires that video disclosures:

. . . be given in letters of such sufficient size to be readily legible to an average viewer, should be shown against a background which does not reduce its legibility, and should remain on the screen long enough to be read in full by the average viewer.<sup>102</sup>

Audio transmission of warning information, either alone or in conjunction to video transmission, may be necessary to effectively achieve attention and message comprehension in the consumer. Television may be watched, but not actively "read" by a consumer in a passive state. Therefore, greater recall of warning information should occur following audio-video and audio-only transmissions relative to a video-only disclosure.

#### Product Relevance and Information-Processing

Perhaps equally as important as the media variable in determining both attention and the manner in which advertising information is processed is consumer involvement with the advertised product. Ego-involvement was originally explicated as the degree to which an object is motivationally relevant to the individual, or the psychological commitment associated with the object. Ego development consists of forming stable ties with physical and social surroundings, and individuals strive to maintain

the stability and balance of such ties, with involvement often derived from the values or norm system of an individual.<sup>103</sup>

Marketing definitions of product involvement, importance, or relevance, commonly derived from notions of ego-involvement, generally refer to the centrality of the object in an individual's ego structure or relation to central values.<sup>104</sup> Cognitive processes have been found to become activated when an individual is confronted with an advertisement which he perceives as relevant to an impending decision.<sup>105</sup> A key factor in determining the amount of attention a consumer pays to a communication is whether or not it has pertinence to the consumer.<sup>106</sup> Subjects were found to exhibit a tendency to expose themselves to relevant information while showing little interest in irrelevant information.<sup>107</sup>

Thus, cognitive processing at a deeper level is more likely to occur when an advertised product is of particular importance to the receiver.<sup>108</sup> Increased involvement has been found to facilitate information-processing.<sup>109</sup> Conversely, minimal prepurchase information is necessary for low-commitment products and, therefore, the pervasiveness of advertising may be sufficiently powerful to initiate a behavioral response.<sup>110</sup>

Product interest has been found to result in greater recall from print advertisements, although no significant differences occurred in television commercial recall based on

involvement.<sup>111</sup> Yet, the message which contains subject matter of interest to a recipient should stimulate higher involvement in the recipient regardless of the medium in which it is communicated.<sup>112</sup>

Thus, notions from the study of product involvement imply that warning information will be attended to if the product advertised is relevant to the consumer. Yet product warnings present a specific instance wherein the information presented does not concern positive product attributes. Literature regarding negative information suggests less impact may occur when the advertised product is relevant to the consumer.

#### Response to Negative Information

Although marketers have long been interested in the value to consumers of product information, little research has focused on the impact of negative product information in advertising. Negative information has been defined as the presentation of output that somehow denegrates the object of the message.<sup>113</sup> Such information may be transmitted through advertising in the form of fear appeals, two-sided appeals, corrective information and other forms of affirmative information disclosure, and comparative and counteradvertising appeals.<sup>114</sup> As mentioned, information warning consumers of possible hazards inherent in or associated with use of a product might also be considered

negative information. In order to assess the effectiveness of including product warnings in advertising, the potential consumer response to exposure to negative product information through mass media channels must be determined.

Two reactions toward the advertised product may logically occur: the warnings may arouse fear in the consumer, or the information may be considered by the consumer as a negative product attribute, contributing to a negative product perception. Both responses lead the consumer to focus upon a negative aspect of the product or a risk associated with its use; consequently, the consumer may experience psychological tension, particularly if the product is highly valued.

### Psychological Tension

According to theories of cognitive consistency, equilibrium among the cognitions of an individual is a necessary state. The basic consistency assumption maintains that an imbalanced set of cognitions is associated with tension and the subsequent arousal of forces to restore or attain balance.<sup>115</sup> Thus, individuals tend to accept only those notions that are consistent with their beliefs and attitudinal predispositions in order to maintain a state of psychological balance. Consistency theories assume that alignment among beliefs, attitudes, and behaviors is desired.<sup>116</sup>

Cognitive dissonance, perhaps the most refined of consistency theories, states that two cognitions ". . . x and y are dissonant if not-x follows from y," and cognitive dissonance is an antecedent condition that leads to activity to reduce the condition. Upon experiencing cognitive imbalance, or dissonance, an individual is assumed to either accept the imbalance, alter his beliefs, attitudes, or behavior, or avoid, disregard, or fail to retain the discrepant information.<sup>117</sup>

Thus, communication messages inconsistent with the attitudes or behavior of individuals may lead to ignoring or disregarding the information, while messages in accord with the cognitions of the individual will more likely be perceived. Negative product information inconsistent with a consumer's prior beliefs, attitudes, and behaviors may be selectively screened in this manner.

The greater the value of the cognitions, the greater is thought to be the dissonance resulting from inconsistency. "If two elements are dissonant with one another, the magnitude of the dissonance will be a function of the importance of the elements."<sup>118</sup> The strength of pressure to reduce dissonance, therefore, is a function of the magnitude of the dissonance. Thus, the "importance" of the elements, previously described as leading to deeper information processing, may result in greater selective reactions when information is negative.

### Selective Reactions

Selectivity in exposure and attention to, and perception and retention of information act as defense mechanisms to combat inconsistent stimuli. When exposure is voluntary, the individual will likely expose himself only to those messages in accord with his predispositions. These messages will also receive greater attention. Individuals seek out information that supports or reinforces previous beliefs and avoid challenging information.<sup>119</sup>

Under conditions of involuntary exposure to a persuasive communication that "forcibly" produces dissonance, one might erroneously interpret the material or attempt to abolish it. Involuntary exposure has been equated with broadcast advertising messages.<sup>120</sup>

Studies of involuntary exposure to propaganda have found that in order to avoid either defending one's self or admitting error, an individual may evade the issue psychologically by simply not understanding the message, through a conscious or unconscious evasion.<sup>121</sup> The message may similarly be made invalid by claiming exceptions or referring to it as "just a story."<sup>122</sup>

This type of evasion or defense mechanism is likely mediated by seriousness of threats to the ego-structure, as selection in forgetting discrepant messages has been found to be a result of attitudinal factors when opinions are enduring since stresses arise from the ego field.<sup>123</sup>

Product warnings have been predicted to be ignored due to such selective defenses: "Smokers will not 'hear' or 'see' the warning; they will 'hear' or 'see' only the pleasant smoking ideas which they want and expect to 'hear' and see." <sup>124</sup>

### Counterargument and Reactance

Another possible defense against discrepant information, or psychological anxiety arousal, involves discounting the impact of the inconsistent messages through counterargument or reactance in opposition to the message presented. An individual opposed to a particular issue is thought to rehearse his own arguments when presented with propaganda advocating the issue.<sup>125</sup> Counterarguments are activated when a discrepancy is noted between incoming information and the existing belief system.<sup>126</sup>

The cognitive response approach to studying attitudes maintains that an individual generates cognitive responses when exposed to a persuasive message that determine acceptance or rejection of the information. To the extent that communication evokes antagonistic cognitive responses, or counterarguing, the individual will disagree with the communication.<sup>127</sup> Consistent with the notion of involvement, the tendency for individuals to counterargue discrepant information should be a function of the central importance of the issue.



Reactance theory predicts not only counterargument, but actual behavior in the opposite direction of that advocated by the communication.<sup>128</sup> Threatening to restrict one's freedom to act as he chooses is posited to result in psychological reactance to reestablish the threatened free behavior.<sup>129</sup> Warnings have also been predicted to result in such "boomerang" reactions.<sup>130</sup>

A warning in advertisements could. . . cause many teenagers to identify smoking with rebellion. Such identification may assist in the development of a new group of smokers, attracted by smoking as an opportunity for defying authority.<sup>131</sup>

Again, such behavior would logically be a function of relevance of the product to the individual.<sup>132</sup>

#### Analyzing Reactions to Negative Persuasive Messages

Past marketing and advertising research has examined the impact of fear-evoking appeals; the context, however, is usually one in which the product advertised is presented to alleviate the fear. Research has also dealt with two-sided appeals, wherein both positive and "negative" product traits are included, although "negative" aspects are generally mere limitations of the product. Psychological and sociological research has similarly examined such appeals, usually as techniques associated with persuasion.

Dependent variables measured in this research were predominantly attitudinal or behavioral. As mentioned, perception and comprehension of the information, conversely, are the primary goals of communicating warning information

through advertising; subsequent affective responses and decisions regarding the product are left to the consumer. Although the past variables studied are not directly comparable to product warning information, and the primary variable measured is attitudinal, an analysis of this research should provide some indication of the potential consumer reaction to including such information in advertisements. A likely framework from which to analyze these reactions is issue or product relevance, since, as mentioned, this variable tends to mediate information-processing.

The two broad areas of research wherein exposure to a persuasive communication might be analogous to exposure to an advertisement containing a product warning, fear appeals and two-sided appeals, require examination with topic relevance as a potential mediator. Reactions to negative or contrary information should be a function of anxiety based upon relevance of the issue to the audience. Because exposure is involuntary in experimental settings, selectivity in perception and retention is expected from the dissonance model, as opposed to exposure selectivity. Counterargument is also expected based on the notions of cognitive response and reactance theory. Overall, such negative appeals are predicted to have a strong impact on those for whom the topic of the appeal is irrelevant and a weak, if any, impact on those for whom the topic is important.

### Fear Appeal Research

The emotion of fear has long been intuitively thought to provide a tool of motivation for persuasion, specifically in changing attitudes and behaviors. The marketing discipline, however, has tread warily in the area of fear appeals, perhaps because research regarding the benefits of arousing this emotion has produced equivocal results.

The persuasive message in a fear appeal usually focuses on anxiety arousal and then presents a recommendation for reduction of the emotion or avoidance of the situation in the future. Fear appeals used in persuasive communication messages typically associate undesirable practices with negative consequences or associate desirable practices with the avoidance of negative consequences; once the association has been made recommendations are presented to avoid the potential negative consequences.<sup>133</sup> Marketers using a fear approach generally attempt to induce anxiety and then promote the use of the advertised product as a tension-reduction method.

Two major theoretical frameworks have been developed from past research on fear appeals, including: "defensive-avoidance," which predicts a curvilinear relationship between level of fear appeal and effectiveness of the message, and "parallel response," predicting a positive relationship between these variables. (Although some research found no relationship between fear level and

communication effectiveness, this may have been due to an insufficient manipulation of fear arousal.<sup>134</sup>) While findings supporting each of these frameworks appear contradictory, they tend to align more closely when analyzed from the aforementioned relevance/tension-arousal perspective.

#### Curvilinear Relationship

The arousal of fear in a persuasive communication context was first examined with the assumption that emotional tension would induce motivation to accept reassuring recommendations presented by a communicator. Those reactions observed during patient psychoanalysis--inattention, aggression, or defensive avoidance--were hypothesized to "occur among normal persons" following exposure to a threatening communication.<sup>135</sup>

Three "intensities" of fear in a communication regarding dental hygiene were presented to high school students via lectures with accompanying slides, with no significant differences found among the three experimental groups and a control group regarding amount of information acquired. Attitude change, however, or conformity to the recommendations presented, was greatest for those exposed to the communication with the least amount of fear-arousing material and the strong fear appeal group failed to differ significantly from the control group; thus the overall

trend suggested that "as the amount of fear-arousing material is increased, the conformity tends to decrease."<sup>136</sup> Furthermore, when presented with "counterpropaganda," information in conflict with that presented in the lectures, the minimal appeal group demonstrated the greatest resistance to acceptance. Therefore, the following proposition was advanced:

When a mass communication is designed to influence an audience to adopt specific ways or means of averting a threat, the use of a strong fear appeal, as against a milder one, increases the likelihood that the audience will be left in a state of emotional tension which is not fully relieved by rehearsing the reassuring recommendations contained in the communication.<sup>137</sup>

Results could only be considered as representing "defensive avoidance" since they failed to be described by either of the other two perspectives (inattention or aggression). Yet, the notion of residual tension leading to future avoidance of the information does align with the tension-reduction element of the dissonance framework.

Subsequent research supported the relationship between level of fear and communication effectiveness. Comparing personality differences utilizing the same data set, high-anxiety students exposed to the strong fear appeal showed significantly less change or conformity than did low-anxiety students and were also markedly more resistant to counterpropaganda. Under the minimal threat condition, however, high-anxiety subjects showed a greater amount of attitude change. Under minimal fear conditions, the fear

arousal in high-anxiety subjects apparently produced a greater facilitating effect in accepting the communication, while under strong fear arousal, the anxiety produced a greater message interfering effect leading to the avoidance motivation.<sup>138</sup> Thus, personality variables had an impact on reaction to fear-arousing material, lending support to the idea that topic relevance to individuals may also intervene.

Similarly, "avoiders" were distinguished from "copers" based upon responses to a sentence completion test as either predominantly related to self-needs and emotions (copers) or unrelated to the self (avoiders). Avoiders were predicted to better accept a minimal fear communication since it would be closer to neutral information, while the strong appeal was hypothesized to receive greater acceptance from copers.<sup>139</sup>

The net effect, or difference between subjects demonstrating positive conformity to dental hygiene suggestions and those showing negative conformity, of both the strong and minimal appeal was insignificant between the groups. Both lectures were ineffective with copers, a finding in accord with the ineffectiveness of fear communication with low-anxiety personalities, and avoiders did consistently react more favorably to the minimal fear appeal, supporting the notion that defensive reactions may occur.<sup>140</sup>

Yet although earlier research had suggested the inability to recall recommendations as associated with

strong fear appeals, and, in fact, the explanation for the failure of such appeals as persuasion tools, this hypothesis was not substantiated by differential recall of content among groups in this study. Such equivalent recall suggests both attention and retention of the messages; thus, disbelief of the statements or counterarguing may have occurred to result in the lack of conformity.

The defensive-avoidance explanation of fear appeal reactions was also examined by analyzing responses during exposure to communication, to determine if resistances were mobilized at the time of fear arousal. Adult volunteer subjects were exposed to a taped communication message from medical authorities regarding heavy cigarette smoking and cancer in both high and low threat conditions, with an even distribution of heavy and light smokers and nonsmokers across the two fear conditions.<sup>141</sup>

The two conditions resulted in significantly different amounts of rejection statements made (strong fear group > weak fear group) and paraphrasing statements about harmful effects of smoking (strong fear group < weak fear group). Rejections indicated clear-cut objections to the communication, while the lack of paraphrasing suggested an inhibitory tendency toward the communication, implying that the more strongly fear is aroused by communication, the more motivated the individual will be to avoid responses and

thoughts that would lead him to focus on or recall the arguments presented.<sup>142</sup>

When a relatively high level of fear is induced by the warnings presented in a persuasive communication, the recipients will become motivated to develop psychological resistances to the communicator's arguments, conclusions, and recommendations.<sup>143</sup>

An inverted U-shaped curve was subsequently postulated as best describing the relationship between level of emotional arousal and cognitive response.<sup>144</sup> Empirical evidence, however, had failed to reveal a decrement in attention, comprehension, or learning at high levels of fear arousal; only acceptance of communicated recommendations fit the inverted U-shaped curve. This may suggest that selectively perceiving or counterarguing the information, as opposed to inattention or selective retention, are the mechanisms practiced by those experiencing tension. The message may be recalled, yet not believed or supported so as to affect acceptance of communicated recommendations.

In these early studies that revealed a curvilinear relationship between fear and effectiveness, the topic under investigation was dental hygiene, undoubtedly a matter of some relevance to all. Teeth and gums were thought to represent an important component in the average person's body image; thus, "one could reasonably expect the audience to be fairly responsive to variations in content."<sup>145</sup> While information acquired was not significantly different among



groups, interest was higher for the strong appeal group, suggesting the importance of the issue to the subjects.

Therefore, the defensive reaction may have occurred due to the relevance of the issue to the subjects involved. Anxiety would be expected to be higher in individuals for whom the topic is relevant. Smokers were found to be more resistant to recommendations than were nonsmokers in the study on cigarette smoking, as significantly fewer acceptance statements occurred on the part of smokers during exposure.<sup>146</sup> Again, this finding suggests the possible impact of relevance as a mediating factor in response to the communication.

#### Positive Relationship

While such evidence of a curvilinear relationship between communication effectiveness and strength of fear appeal has been provided, the preponderance of experimental research regarding these variables has uncovered a positive relationship suggesting that fear acts as a facilitator rather than an inhibitor in persuasive communication. When analyzed from a relevance perspective, however, the relationship tends to become curvilinear.

High-fear communications were found to produce more favorable attitudes toward obtaining tetanus shots than did low fear communications, but actual behavior did not differ and occurred only when specific instructions were provided.<sup>147</sup> The issue of tetanus shots, however, does not

represent an on-going relevant activity to individuals, but rather a future behavior that may become necessary. Because the message did not threaten a present behavior, defensive responses would be unlikely. The potential for infection in the future may have had little immediate relevance.

Strong fear appeals by highly credible sources (making references to physical injury or death of spouses and children) were also found to produce greater attitude change toward fallout shelters,<sup>148</sup> yet, again, the subject of fallout shelters may have had little importance or present significance for the subjects to induce repression or counterarguing.

Magnitude of future potential loss threatened in a communication, likelihood of loss, and imminency of loss, as anxiety-arousing factors, were manipulated regarding roundworm infestation using Taiwanese grade school students as subjects. Magnitude, likelihood, and efficacy of the solution, or drug use as a cure, were positively related to attitude change, with strong fear appeals more effective overall in willingness to take the drug than mild appeals.<sup>149</sup> Again, however, the issue involved a future potential incident and coping behavior, as opposed to an on-going activity.

Early fear appeal literature was criticized as the message was thought to be above the "threshold" of interest for most subjects in all conditions. Thus, in the

earliest study of a type of involvement variable, interest and relevance were manipulated with predictions that strong anxiety-provoking material may result in greater interest and, thus, opinion change, relative to a minimal appeal, and magnitude of the avoidance reaction may increase with the relevance of the message to the audience member.<sup>150</sup> Thus, minimal fear appeals should produce little opinion change, due to their uninteresting nature, and strong appeals, while interesting, should produce opinion change in relation to the relevance of the topic.

Student subjects were exposed to a tape recorded lecture on automobile safety belts in varying fear levels, with relevance measured through ownership of an automobile and frequency of driving. The strong appeal was considered more interesting than the minimal fear-arousing condition and resulted overall in significantly greater opinion change than did the minimal fear appeal. Results supported the expectations regarding relevance, however, as the low relevance subjects in the strong fear condition exhibited significantly greater opinion change than did the high relevance subjects. The less relevant the material, the greater the opinion change under strong fear conditions. Again, no evidence was provided, however, for differences in learning across groups.<sup>151</sup>

Messages regarding fallout shelters with both threat level and referent (listener, family, or nation) manipulated, uncovered that impersonal appeals were less

effective overall, and a strong fear appeal directed at one's family was more effective than a mild appeal.<sup>152</sup>

These findings imply that threats have a greater impact when directed at those personally close to an individual, a notion previously based only on observation. Furthermore, differences between listeners and their families was not great relative to differences between personal referents and impersonal referents, suggesting the personal involvement of the "target" as a key variable; this variable may equate with relevance of a product. Although the strong fear appeal was more effective overall, a finding discrepant from the defensive-avoidance theory, the topic was fallout shelters, perhaps an issue too far removed from reality for the subjects to consider imminently threatening.

A high fear appeal has been proposed to be effective when only weakly tied to daily habits.<sup>153</sup> When the purpose of a communication was preventing a future activity as opposed to changing, stopping, or punishing a currently on-going activity, defensive reactions were predicted to be absent.<sup>154</sup>

A high-fear-arousing communication regarding smoking supported these ideas as it proved significantly more persuasive than was a low-fear-arousing communication in altering opinion about future smoking behavior in non-smoking adolescents.<sup>155</sup> This research again suggested that relevance may mediate anxiety arousal. Because smoking was

not an on-going activity of adolescents, the message did not threaten a relevant issue to the subjects. Therefore, the stronger appeal proved more successful.

The heart rate for smokers has also been found to significantly increase relative to that of nonsmokers following exposure to a program regarding the dangers of cigarette smoking indicative of greater physical arousal in this group.<sup>156</sup> Again, this finding suggests the effect of relevance as a mediating variable.

Perceived susceptibility to health and safety hazards and strength of the smoking habit as impacting upon responses to different levels of fear appeal regarding cigarette smoking have also been examined. High susceptibles reported significantly more arousal than did low susceptibles, but the difference between smokers and nonsmokers did not approach significance. Light smokers showed consistently more emotion than did nonsmokers in each condition, however, while heavy smokers showed consistently less emotion than did nonsmokers.<sup>157</sup> Thus, being a smoker both sensitized and created resistance to arousal; sensitization occurred for light smokers and resistance for heavy smokers. These sensitizing effects parallel previous findings which implied that people to whom a threat is relevant (heavy smokers) experience more personal involvement and report more fear.

When high or low perceived vulnerability to the threat of gum disease in female students was actually induced,

through an instruction manipulation regarding male versus female resistance to gum disease, however, vulnerability had little impact, yet the manipulation of this variable may have failed to produce the desired effect on subjects.<sup>158</sup>

A "parallel response" perspective, wherein two processes, danger control and fear control, occur in the individual upon exposure to a strong fear appeal, has been advanced as an explanation for the positive relationship between fear and effects. Danger control is thought to be a problem-solving process guided by external environmental information and resulting in behavior, or the decision to act, while fear control processes internal cues guided by emotional behavior; the emotional fear reaction is thought to be unnecessary in driving behavior, due to the danger control process.<sup>159</sup>

Thus, the two major frameworks advanced in this area, "defensive-avoidance" and "parallel response," have both been lent some support from empirical evidence. When product relevance is considered, however, the defensive reaction appears to prevail.

#### Fear Appeal Research in Marketing

Although fear arousal has been a mechanism commonly used in persuasive communication, marketing literature regarding the use of fear appeals is sparse. Fear appeals are ignored in marketing literature or "guardedly rejected

for marketing and advertising application" supposedly based on the negative findings of the earliest research.<sup>160</sup>

Both positive and negative advertising copy appeals for life insurance were found to bring about a small positive attitude shift, but when respondents were divided by characteristic anxiety levels, attitude shifts were insignificant.<sup>161</sup> This insignificance may have been due to the lack of arousal from the positive advertisement equaling the repression arousal from the negative appeal. Product relevance was not considered.

Similarly, in a study of the relationship between "locus of control" and fear appeals in a marketing context attitude and intention scores for externals (perceiving events as beyond one's control) was predicted to be higher with strong fear appeals, and higher for internals (perceiving events as a consequence of one's own actions) with mild fear appeals.<sup>162</sup>

Four fear levels of a direct mail brochure dealing with health care were sent to potential subjects with an accompanying questionnaire. The main effect of the fear treatment was significant, indicating that the higher the fear level, the more positive the attitude toward the Health Maintenance Organization, supporting the positive relationship view of fear and effect. Locus of control, however, was not confirmed as a response predictor, and relevance of insurance was again ignored.<sup>163</sup>

Three demographic and four sociopsychological clusters of the characteristics were analyzed in an assessment of the impact of fear promotion on attitudinal and behavioral responses to the same health insurance plan. The value of segmentation strategy was granted some support, in that higher fear messages produced the desired attitudinal results in two of the seven clusters created.<sup>164</sup> Such clustering may be applicable to relevance or product involvement variables.

Mild fear appeals have been compared with both mild humor and straightforward information (as a control treatment) for two products: toothpaste and a flu vaccine, using four types of humor and two types of fear (physical and social). While cognitive responses to the communications were equivalent, attitudinal and behavioral responses differed, as mild humor was more successful in developing favorable responses than was mild fear, and was also less effective than the straightforward approach.<sup>165</sup>

Although the notion of "social" fear as opposed to merely physical fear was introduced in this study, the notion was not studied further, and no mention was made about differential effects of the two types of fear employed. This type of fear is intuitively less severe than physical fear, yet is probably equally important when dealing with product advertising. Product importance was similarly not mentioned.



Users and non-users of the advertised product did appear in one marketing study. For non-users of a product, a strong fear appeal was predicted to result in greater interest in the message and, thus, facilitating effects, while for users of a product, or those for which a threat would be relevant, a strong fear appeal was predicted to most likely result in a defensive-avoidance reaction.<sup>166</sup>

Exposure to a fear appeal regarding life insurance showed a small positive mean attitude change overall, but a negative reaction resulted in owners and a positive reaction in non-owners ( $p < .10$ ), supportive of the notion that lack of product ownership may overcome defensive tendencies.<sup>167</sup> Levels of fear arousal were not tested, but this research does support the idea of relevance as an important mediating variable. Nonowners of a product might naturally show a greater attitude change following advertising, however, since owners supposedly are more favorable initially.<sup>168</sup>

#### Summary of Fear Appeal Research

Two major explanatory frameworks have been advanced regarding reactions to fear arousal. The defensive-avoidance notion stipulates a curvilinear relationship between strength of fear appeal and attitude as strong appeals create defensive reactions. The "parallel-response" idea, conversely, dictates a positive relationship between fear arousal and effect as danger control processes mediate

attitudes. Empirical evidence has been advanced in support of both views.

Inconsistencies among studies have been attributed to the differing conceptualizations of "fear" and "what is feared," with regard to realism, imminency, and seriousness.<sup>169</sup> Acceptance of the curvilinear relationship between fear level and effectiveness may be the best manner in which to reconcile fear appeal research, where the positive relation is uncovered when high fear is relatively less severe.<sup>170</sup> (See Figure 1)

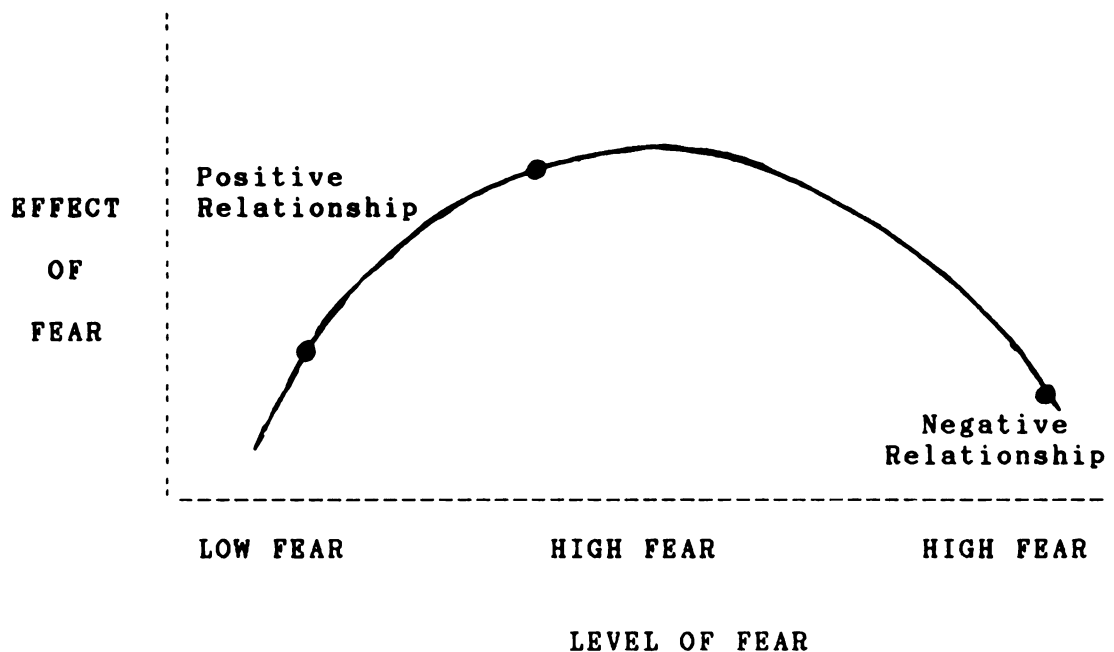


Figure 1. FEAR AROUSAL-EFFECTIVENESS RELATIONSHIP

Source: Kenneth L. Higbee, "Fifteen Years of Fear Arousal: Research on Threat Appeals: 1953-1968," Psychological Bulletin, 72 (1969):426-44.

The topics utilized in the study of fear appeals can be categorized as health- or safety-related almost without exception. (See Table 2) Fear appeals regarding different topics may arouse vastly different reactions. Topics regarding on-going or relevant events, however, consistently resulted in a lesser impact of strong fear appeals.

Furthermore, while several variables other than fear were manipulated, the relevance variables almost consistently produced a curvilinear result as well, suggesting the avoidance paradigm. Therefore, the defensive reaction may best explain responses to fear-arousal for relevant issues. The relevance of the issue may evoke positive motivational responses under conditions of low anxiety, but negative reactions when the level of anxiety is high. (See Figure 2)

The fundamental difference between the use of fear appeals in persuasive communication and the inclusion of product warning information in advertising is that the fear may be aroused but not resolved through recommendations in the message. Yet based on the fear appeal literature reviewed, if a warning induces anxiety, subsequent response should be a function of product relevance.

Table 2. MAJOR EMPIRICAL FEAR APPEAL RESEARCH

		<u>TOPIC</u>	<u>OTHER MANIPULATIONS</u>
<u>Curvilinear Relationship:</u>			
1953	Janis & Feshbach	Dental Hygiene	
1954	Janis & Feshbach	Dental Hygiene	Personality
1959	Goldstein	Dental Hygiene	Predispositions
1962	Janis & Terwilliger	Cigarette Smoking	
<u>Positive Relationship:</u>			
1960	Berkowitz & Cottingham	Safety Belt Usage	* Interest
1965	Hewgill & Miller	Fallout Shelters	Source
1965	Powell	Fallout Shelters	Referents
1965	Insko, Arkoff, & Insko	Cigarette Smoking	* Smoking
1965	Leventhal, Singer, & Jones	Tetanus Shots	
1966	Dabbs & Leventhal	Tetanus Shots	Recommendations
1966	Leventhal & Watts	Cigarette Smoking	* Susceptibility
1966	Chu	Roundworms	Efficacy, Imminency
1977	Dziokonski & Weber	Gum Disease	Vulnerability
1981	Watson, Pettingale, & Goldstein	Cigarette Smoking	* Smoking
<u>Marketing Literature:</u>			
1970	Wheatley & Oshikawa	Life Insurance	
1971	Wheatley	Life Insurance	* Ownership
1980	Burnett & Oliver	Health Insurance	Segments
1980	Burnett & Milkes	Health Insurance	Segments
1981	Burnett	Health Insurance	Locus of Control
1981	Brooker	Toothbrush, Flu Vaccine	

\* Curvilinear relationship indicated

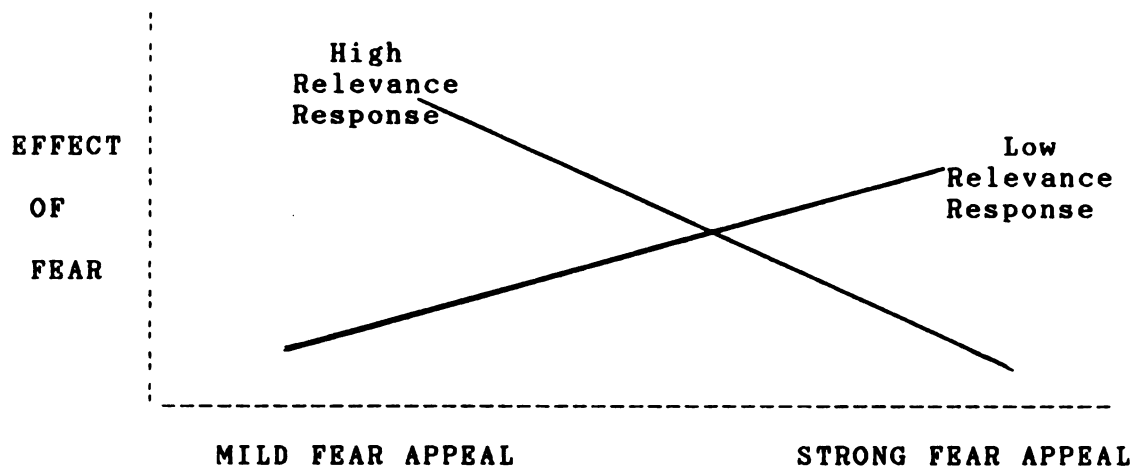


Figure 2. FEAR LEVEL-RELEVANCE-EFFECTIVENESS RELATIONSHIP

#### Two-Sided Appeal Research

A two-sided appeal in persuasive communication involves presenting opposing viewpoints on a controversial issue. In advertising, this type of message typically contains both product benefit information and limitations of the product.<sup>171</sup> A two-sided appeal is analogous to the provision of a product warning in an advertisement. Because negative information is included, the arousal of conflict in the consumer mind may occur. Again, because the dissonance should be mediated by product importance, research in this area was analyzed from this perspective.

Early social psychological research comparing one- and two-sided appeals regarding an end to World War II in radio broadcasts uncovered no significant differences in

persuasive effectiveness overall. Further analysis, however, found that for those who initially disagreed with the views advocated by the communicator, the two-sided appeal was more effective than was the one-sided appeal in producing opinion change, while the one-sided message proved more effective with subjects favorably predisposed toward the advocated position.<sup>172</sup>

The greater effectiveness of the one-sided message with those subjects favorably predisposed may suggest that the two-sided message produced an anxiety reaction to the opposing information, rendering the overall message weak as subjects failed to agree with the information. Importance of the topic was not considered, however, as "measurements of intensity of feeling" or extent of emotional involvement were not obtained.<sup>173</sup>

The effectiveness of message sidedness on resistance to later counterpropaganda has also been tested. Radio programs with one- and two-sided arguments regarding Russian scientific atomic bomb knowledge were presented to high school students; the conclusion of the programs was that Russia would be unable to produce such bombs in the near future.<sup>174</sup>

While little overall difference occurred without exposure to counterpropaganda, the two-sided appeal was significantly more effective when counterpropaganda existed. Explanations for such findings posited that a one-sided appeal will sway individuals, but presenting

counterarguments will counteract this movement. When presented with counterarguments initially, however, subjects are aware of both views and have still reached a positive conclusion; therefore, additional counterarguments will have a lesser impact.<sup>175</sup>

Again, this finding is suggestive of a type of anxiety arousal. When subjects received the two-sided argument, weighed the issue, and made a decision, counterarguing was not effective; subjects may have ignored, discounted, or argued against the later counterarguments. When only one side of the issue was initially presented, however, and subjects did not have a strong pre-set opinion, opposing arguments were effective.

Both the sidedness of the original communication and that of the countercommunication, as recorded messages of the prosecution and defense of a hypothetical law case, were presented to college students. Only differences between receiving prosecution or defense arguments first proved significant.<sup>176</sup> Thus, the fact that the issue employed in the earlier studies was one about which subjects likely had a previous opinion may have affected the results of earlier studies.

Familiarity of the issue was actually manipulated through presenting a lecture on the advisability of creating a free trade zone in Taiwan prior to exposure. One-sided arguments were more effective overall with unfamiliar

subjects. No significant differences occurred, however, when subjects were initially favorable toward the issue.<sup>177</sup> Initial attitudes were not likely to be strong, however, as they would be based only on the prior lecture.

Responses to one- and two-sided communications from a "psychological reactance" perspective were investigated with the assertion that pressure to adopt a particular opinion on an attitude issue threatens freedom and induces resistance. Therefore, when an individual is aware of two sides but receives a one-sided communication, resistance or reactance is likely to occur. College students were exposed to a one- or two-sided communication regarding the prosecution summary in a bigamy trial and one-half of the subjects were previously made aware of both sides of the issue.<sup>178</sup>

Overall, the one-sided communication was more effective in producing agreement with the advocated position and was also more effective in the unaware condition, yet no significant difference occurred with the two-sided communication as a function of awareness.<sup>179</sup> Again, the topic was not one about which subjects would have held a previous opinion, precluding an analysis of relevance.

#### Two-Sided Appeals in Marketing

Just as marketers are reluctant to utilize fear appeals, they are equally wary of using two-sided appeals in advertising products. This reluctance stems from the notion



that including potentially denegrating information or mentioning opposing claims may weaken, or at least fail to reinforce the benefit claims regarding a particular product or brand.<sup>180</sup>

The informativeness of one- and two-sided print advertisements for pain relievers was tested with college students. No significant differences resulted from message sidedness, although this variable did interact with the comparative structure in producing product feature awareness; a two-sided comparative advertisement produced highest feature recall.<sup>181</sup> Again, the finding of no differences may have been due to a lack of product relevance which might have affected reaction to the sidedness of the claims. Furthermore, intensity of the messages was not manipulated.

One- and two-sided comparative and noncomparative advertisements were also examined for a fictional toothpaste brand, with the impact of preferences included through measurement of behavior and attitude toward the comparison brand. Message sidedness produced no significant results in either comparative or noncomparative advertisements on the dependent measures of attitudes and purchase intentions. Low levels of cognitive processing may have occurred, however, limiting higher order responses such as attitudes and behavioral intent, either because the brand

was unknown or the product category not highly important to the subjects.<sup>182</sup>

The effects of repetition of refutational and supportive appeals in print advertisements were compared for five products: a pen, aspirin, automobile, soap, and diet drink. Type of appeal and repetition had no main effects on purchase intent overall. When subjects were divided into users and nonusers, however, repetition of the supportive appeal was slightly more effective for those who used the brand, suggesting the impact of relevance.<sup>183</sup>

The effects of message sidedness in radio commercials for an automobile, gas range, and floor wax with student subjects uncovered significantly greater effectiveness of a two-sided message in influencing attitudes. Furthermore, two-sided arguments were more effective for audience members initially opposed to the viewpoint, or those who used competitive products. For subjects who used the advertised product, however, the one-sided commercial tended to be superior.<sup>184</sup> Again, this finding suggests that those involved with the product, or for whom the brand was relevant, preferred the positive communication.

The type of product advertised also influenced response as greater attitude change occurred for the least expensive product (floor wax),<sup>185</sup> further implying that influence of product importance, or degree of involvement, may mediate response to a two-sided message.

## Affirmative Disclosure in Advertising

A specific instance wherein advertising appeals might be considered "two-sided" is affirmative disclosure of information. As mentioned, the FTC affirmative disclosure program operates under the notion that the absence of meaningful information can lead to purchase decisions based on false assumptions; thus, disclosure of material product information is required.<sup>186</sup> Corrective advertising is intended to negate residual effects of deception or misinformation in advertising.<sup>187</sup> Requiring that information be disclosed in advertising is similar to disclosing product warnings as negative product information may be involved in both instances.

A seven-year analysis of FTC case dockets, revealed that health and safety matters were involved in 37% of all affirmative disclosure cases, indicating the applicability of the topic to studying warning information disclosure.<sup>188</sup> Affirmative disclosure research has dealt primarily with corrective advertising, however, and, again, affective variables were predominantly measured.

Experimental research on corrective advertising information found that such messages produced less favorable attitudes toward the product<sup>189</sup> and also impacted negatively on product beliefs.<sup>190</sup> Furthermore, aided recall was found to be higher for a corrective message than for a noncorrective message.<sup>191</sup>

Field studies, however, uncovered far less dramatic results. Day-after recall of corrective information was slight, relative to the sales message,<sup>192</sup> and although longitudinal field studies did find that corrective messages eventually altered beliefs about a brand, the impact was gradual, occurring slowly over time.<sup>193</sup>

Significant differences did result between explicit and general corrective messages or message intensity in laboratory research, in both attitudes toward the product and offensiveness and informativeness when interacted with media.<sup>194</sup> This variable may be analogous to strong and weak fear appeals. A strong disclaimer in print advertising was found to produce a greater impact on attitude toward the advertisement than did a mild disclaimer.<sup>195</sup> While one study found no differences based on brand usage,<sup>196</sup> in another, corrective messages resulted in significantly more negative product beliefs for nonusers of a brand relative to brand users.<sup>197</sup>

All research on such disclosures, however, has dealt with brands as opposed to disclosures across product categories. Due to the potential substitutability of brands, little impact may result. If a disclosure, such as a product warning, was applied across a category, greater differences may result between product users and nonusers.

### Summary of Two-Sided Appeal Research

Again, relevance of the topic may determine response to negative information based on sidedness. The one-sided message was more effective with unfamiliar or irrelevant issues and the two-sided appeal for familiar issues, perhaps due to perceived biases. Similarly, the one-sided appeal was more effective for those favorably predisposed, possibly due to counterarguing or selective processes when faced with the two-sided appeal.

While research in social psychology uncovered differential impacts of one- and two-sided messages, most marketing experiments using advertisements found little or no difference in the two types of message structure. Some differences did appear, however, when brand usage was examined, again suggesting the possible influence of a relevance variable and the potential for two-sided messages to create anxiety in brand or product users. (See Table 3) Message intensity, which may be similar to fear appeal strength, was largely ignored by this research, but found to be positively related to effectiveness in affirmative disclosure studies.

### Conclusions from Theoretical Literature

Based on the literature presented, responses to warning information should be contingent largely upon relevance of the product to the consumer. When a product is relevant to

Table 3. EFFECTIVENESS OF MESSAGE SIDEDNESS

Topic	Most Effective Appeal		No Difference
	One-Sided	Two-Sided	
End of War	(Predisposed)	X	
Wax, Range, Automobile	(Predisposed)	X	
Free Trade Zone	(Unfamiliar)	(Familiar)	X
Bigamy Trial	X		
Russian Bomb Capability		(Counterpropaganda)	X
Legal Case			X
Pain Reliever			X
Toothpaste			X
Pen, Soap, Diet Drink Automobile, Aspirin	(users)	(nonusers)	X

a consumer, a product warning will be less likely to be effective due to defensive reactions. Conversely, if the consumer does not consider the product highly relevant, warning information will likely lead to greater effects as it is not selectively processed or counterargued.

The severity or intensity of the message should interact with product relevance, however, based on the potential anxiety aroused by the negative communication. Therefore, message severity should be negatively related to effectiveness when relevance is considered. A mild warning should have a greater impact than a severe warning on consumers for whom the advertised product is highly relevant. A severe warning should have a greater impact than a mild warning on consumers for whom the advertised product is not highly relevant.

In the five experimental studies previously detailed that dealt specifically with warning information in advertisements, both product relevance and message severity, potentially important predictor variables, were ignored. Furthermore, mode of transmission was not varied in those studies dealing with broadcast television commercials.

### Research Questions

Studies on reaction to negative information generally suggest that relevance may mediate responses to such information due to possible tension aroused based upon

severity of the message. Furthermore, the transmission of such information may be influenced by physical communication factors, because of the processing associated with broadcast messages. Thus, several general research questions may be derived from the presented literature review.

1. Is broadcast television advertising an effective channel through which to communicate product warning information?
2. Will consumer response to product warning information in broadcast television advertising differ based on relevance to the consumer of the advertised product?
3. Will consumer response to product warning information in broadcast television advertising differ according to the intensity of the warning message?
4. Will consumer response to product warning information in broadcast television advertising differ based on the mode of information transmission?

### Hypotheses

More specific hypotheses, stated in research form, are as follows:

- H<sub>1</sub>: Warning information in a broadcast television advertisement will have an impact on recall of the advertisement.
- H<sub>2</sub>: Warning information in a broadcast television advertisement will have an impact on beliefs about the safety of the advertised product.



Based upon the research regarding the impact of severity of fear appeals and explicitness of disclosure messages, hypotheses about message severity were developed:

- H<sub>3-1</sub>: The severity of a warning in a broadcast television advertisement will have an impact on recall of the warning message.
- H<sub>3-2</sub>: The severity of a warning in a broadcast television advertisement will have an impact on beliefs about the safety of the advertised product.

Hypotheses regarding transmission mode were derived from the psychological and communication literature on visual and auditory presentation:

- H<sub>4-1</sub>: Mode of transmission of a warning in a broadcast television advertisement will have an impact on recall of the warning message.
- H<sub>4-2</sub>: Mode of transmission of a warning in a broadcast television advertisement will have an impact on beliefs about the safety of the advertised product.

Literature discussing product importance and magnitude of reactions to discrepant information provided the basis for relevance hypotheses:

- H<sub>5-1</sub>: Product relevance will have an impact on recall of a warning message in a broadcast television advertisement.
- H<sub>5-2</sub>: Product relevance will have an impact on beliefs about the safety of the advertised product following exposure to a broadcast television advertisement containing a warning.

Interaction effects between and among the independent variables are also hypothesized to occur:

- H<sub>6-1</sub>: An interaction effect will occur between warning severity and mode of transmission on recall of a warning message in a broadcast television advertisement.

- H<sub>6</sub>-2: An interaction effect will occur between warning severity and mode of transmission on beliefs about the safety of the advertised product following exposure to a broadcast television advertisement containing a warning.
- H<sub>7</sub>-1: An interaction effect will occur between warning severity and product relevance on recall of a warning message in a broadcast television advertisement.
- H<sub>7</sub>-2: An interaction effect will occur between warning severity and product relevance on beliefs about the safety of the advertised product following exposure to a broadcast television advertisement containing a warning.
- H<sub>8</sub>-1: An interaction effect will occur between product relevance and mode of transmission on recall of a warning message in a broadcast television advertisement.
- H<sub>8</sub>-2: An interaction effect will occur between product relevance and mode of transmission on beliefs about the safety of the advertised product following exposure to a broadcast television advertisement containing a warning.
- H<sub>9</sub>-1: An interaction effect will occur among warning severity, mode of transmission, and product relevance on recall of a warning message in a broadcast television advertisement.
- H<sub>9</sub>-2: An interaction effect will occur among warning severity, mode of transmission, and product relevance on beliefs about the safety of the advertised product following exposure to a broadcast television advertisement containing a warning.

Attention levels and belief and impacts are expected to be greater overall when the message is more severe, based on the greater impact found with high fear and explicit disclosure messages, and past research implies that audio-video and audio-only messages will produce more recall than will video-only messages. Furthermore, greater attention is assumed when product relevance is high. Therefore, given

significant main effects of the independent variables,  
directional hypotheses may be further tested:

- H<sub>10</sub>: A high-severity warning will be more effective than will a low severity warning in a broadcast television advertisement.
- H<sub>11</sub>: An audio-video and audio-only warning message in a broadcast television advertisement will have a greater impact than will a video-only warning message.
- H<sub>12</sub>: Subjects for whom the advertised product is high in relevance will demonstrate greater impact from a warning in a broadcast television advertisement than will those for whom the product is irrelevant.

## ENDNOTES FOR CHAPTER II

<sup>1</sup>Philip Kotler, "Behavioral Models for Analyzing Buyers," in James U. McNeal and Stephen W. McDaniel, Eds., Consumer Behavior--Classical and Contemporary Dimensions (Boston: Little, Brown & Company, 1982), p. 5.

<sup>2</sup>W. Edwards, "The Theory of Decision Making," Psychological Bulletin, 51 (1954):380-417.

<sup>3</sup>Ronald Munson, Intervention and Reflection--Basic Issues in Medical Ethics (Belmont, California: Wadsworth Publishing Co., 1979), p. 221.

<sup>4</sup>James R. Bettman, "Issues in Designing Consumer Information Environments," Journal of Consumer Research, 2 (December 1975):169-77.

<sup>5</sup>Ibid., p. 169.

<sup>6</sup>15 U.S.C.A. SS. 1453

<sup>7</sup>John A. Miller, "Product Labeling and Government Regulation," Journal of Contemporary Business, 7 (1978):105-19.

<sup>8</sup>15 U.S.C.A. SS. 1453

<sup>9</sup>Miller, "Product Labeling and Government Regulation."

<sup>10</sup>Peter H. Rheinstein and Carlene S. Baum, "Labeling Effectiveness and the Health Environment," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds., Banbury Report 6: Product Labeling and Health Risks (New York: Cold Spring Laboratory, 1980), p. 275.

<sup>11</sup>For a detailed review, see: John A. Miller, Labeling Research--The State of the Art (Cambridge, Massachusetts: Marketing Science Institute, 1978).

<sup>12</sup>Jean Mayer and Jeanne Goldberg, "Nutrition: Diet Product Labels Better Late than Never," Detroit Free Press, August 23, 1984, p. 7D.

<sup>13</sup>"FDA Proposes Warning Labels as First Step Toward Aerosol Ban," Advertising Age, November 29, 1976, p. 2; "Details Set for Use of Aerosol Label Warnings," Advertising Age, May 2, 1977, p. 10.

<sup>14</sup>Steven P. Schwartz, "Consumer Attitudes Toward Product Labeling," in Morris, Mazis, and Barofsky, p. 92.

<sup>15</sup>R. Dennis Murphy, "Consumer Response to Cigarette Health Warnings," in Morris, Mazis, and Barofsky, p. 13.

<sup>16</sup>James L. Hamilton, "The Demand for Cigarettes: Advertising, the Health Scare, and the Cigarette Advertising Ban," Review of Economics and Statistics, 54 (1972):401-410.

<sup>17</sup>Ibid.

<sup>18</sup>Sandra J. Teel, Jesse E. Teel, and William O. Bearden, "Lessons Learned from the Broadcast Cigarette Advertising Ban," Journal of Marketing, 43(January 1979):45.

<sup>19</sup>Raymond E. Schucker, Raymond C. Stokes, Michael L. Stewart, and Douglas P. Henderson, "Impact of the Saccharin Warning Label on Sales of Diet Soft Drinks in Supermarkets," Journal of Public Policy and Marketing, 2(1983):51.

<sup>20</sup>Ibid., p. 53.

<sup>21</sup>Robert G. Orwin, Raymond E. Schucker, and Raymond C. Stokes, "Evaluating the Life Cycle of a Product Warning: Saccharin and Diet Soft Drinks," Evaluation Review, 8 (December 1984):

<sup>22</sup>Louis A. Morris, "Estrogenic Drugs--Patient Package Inserts," in Morris, Mazis, and Barofsky, p. 23.

<sup>23</sup>Ibid.

<sup>24</sup>F. Robert Dwyer, "Consumer Processing and Use of Supplementary Drug Label Information," in H. Keith Hunt, ed., Proceedings of the Association for Consumer Research (Ann Arbor, Michigan, 1978), pp. 220-4.

<sup>25</sup>"Food Labeling Formats," Federal Register, 45 (July 8, 1980):45962.

<sup>26</sup>Ibid.

<sup>27</sup>Lorna Opatow, "Consumer Opinions of Open-Dating, Nutritional Labeling, Packaging and Pollution," in Boris W. Becker and Helmut Becker, eds., Combined Proceedings of the American Marketing Association (Chicago, Illinois: American Marketing Association, 1973), pp. 236-40.

<sup>28</sup>Ibid.

<sup>29</sup>Patricia A. Daly, "The Response of Consumers to Nutrition Labeling," Journal of Consumer Affairs, 10 (Winter 1976):170-78.

<sup>30</sup>Daly; Jacob Jacoby, Robert W. Chestnut, and William Silberman, "Consumer Use and Comprehension of Nutrition Information," Journal of Consumer Research, 4 (September 1977):119-28; R. J. Lenahan, J. A. Thomas, D. A. Taylor, D. L. Call, and D. I. Padberg, "Consumer Reaction to Nutritional Labels on Food Products," Journal of Consumer Affairs, 7 (Summer 1973):1-12.

<sup>31</sup>Edward H. Asam and Louis P. Bucklin, "Nutrition Labeling for Canned Goods: A Study of Consumer Response," Journal of Marketing, 37 (April 1973):32-7.

<sup>32</sup>Ibid, p. 36.

<sup>33</sup>Robert A. Peterson, "Consumer Perceptions as a Function of Product Color, Price and Nutrition Labeling," in William D. Perreault, Jr., ed., Proceedings of the Association for Consumer Research (Ann Arbor, Michigan, 1977), pp. 61-3.

<sup>34</sup>Daly.

<sup>35</sup>Pamela Klopp and Maurice MacDonald, "Nutrition Labels: An Exploratory Study of Consumer Reasons for Nonuse," Journal of Consumer Affairs, 15 (Winter 1981): 301-16.

<sup>36</sup>Ibid.

<sup>37</sup>Jacoby, Chestnut, and Silberman.

<sup>38</sup>Edwin C. Hackleman, "Food Label Information: What Consumers Say They Want and What They Need," in Kent B. Monroe, ed., Proceedings of the Association for Consumer Research (Ann Arbor, Michigan, 1980), pp. 474-8.

<sup>39</sup>Ibid.

<sup>40</sup>Daly.

<sup>41</sup>Ibid.

<sup>42</sup>"Food Labeling Formats."

<sup>43</sup>George S. Day, "Assessing the Effects of Information Disclosure Requirements," Journal of Marketing, 40 (April 1976):42-52.

<sup>44</sup>Jacoby, Chestnut, and Silberman, p. 119.

<sup>45</sup>A. Lee Fritschler, Smoking and Politics: Policymaking and the Federal Bureaucracy (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1983), p. 21.

<sup>46</sup>15 U.S.C.A. SS. 55

<sup>47</sup>Fritschler, pp. 107-12.

<sup>48</sup>15 U.S.C.A. SS. 1331

<sup>49</sup>Testimony of William J. E. Crissy in U.S., Congress, House, Committee on Interstate and Foreign Commerce, Cigarette Labeling and Advertising, Hearings before the Committee on Interstate and Foreign Commerce on H.R. 2248, 3014, 4007, 7051, 4244, 89th Congress, 1965, p. 360.

<sup>50</sup>Ibid.

<sup>51</sup>Statement of John J. Kennedy in Ibid., p. 548.

<sup>52</sup>Statement of Dr. Darrell B. Lucas in Ibid., p. 687.

<sup>53</sup>Crissy.

<sup>54</sup>1973 CCH Transfer Binder P. 19,902

<sup>55</sup>Fritschler.

<sup>56</sup>"Tobacco--Not Up in Smoke Yet," Detroit Free Press, November 9, 1984, p. B5.

<sup>57</sup>Joey Ledford, "Congress Oks Tougher Labels on Cigarettes," The State News, September 27, 1984, p. 3.

<sup>58</sup>"Tobacco--Not Up in Smoke Yet," p. B5.

<sup>59</sup>"Advertising for Over-the-Counter Antacids, Invitation to Comment," Federal Register, 41 (April 6, 1976):14534-14535.

<sup>60</sup>"Federal Trade Commission Bureau Directors, Staff Recommend Termination of Over-the-Counter Antacids Rulemaking," FTC News, July 20, 1984.

<sup>61</sup>Memorandum from Amanda B. Pedersen, Deputy Director, Federal Trade Commission to Federal Trade Commission, re: Advertising for Over-the-Counter Antacids Rulemaking Proceeding, February 28, 1984.

<sup>62</sup>Memorandum from Devenette Cheek, Legal Technician, Federal Trade Commission to Federal Trade Commission, re: Summary of Public Comments Received Regarding the Proposed Trade Regulation Rule on Over-the-Counter Antacids, February 9, 1984.

<sup>63</sup>National Association of Broadcasters, "Advertising Guidelines," September 1, 1973.

<sup>64</sup>Peter Wright, "Concrete Action Plans in TV Messages to Increase Reading of Drug Warnings," Journal of Consumer Research, 6 (December 1982):256-69.

<sup>65</sup>Gary T. Ford and Philip G. Kuehl, "Label Warning Messages in OTC Drug Advertising," Current Issues and Research in Advertising (1979):115-28.

<sup>66</sup>Ibid., p. 127.

<sup>67</sup>Terrell G. Williams, "Effects of an Advertising Warning Message on Consumer Attitudes and Buying Intentions," in Kenneth L. Bernhardt, ed., Educator's Proceedings of the American Marketing Association (Chicago: American Marketing Association, 1976), p. 363.

<sup>68</sup>Ibid., p. 364.

<sup>69</sup>Ibid., p. 366.

<sup>70</sup>Ibid., p. 363.

<sup>71</sup>"ASI Audience Reaction Tests," conducted for Federal Trade Commission Bureau of Consumer Protection, April 17-19, 1975.

<sup>72</sup>Betty Holcomb, "Pitching Patients," Madison Avenue, May, 1985, pp. 101-7.

<sup>73</sup>Louis A. Morris, David Brinberg, and Linda Plimpton, "Prescription Drug Information for Consumers: An Experiment of Source and Format," in James H. Leigh and Claude R. Martin, Jr., eds., Current Issues and Research in Advertising (Ann Arbor, Michigan: University of Michigan, 1984), pp. 65-78.

<sup>74</sup>Michael S. Yesley, "Afterward: Policy Issues in Risk Labeling," in Morris, Mazis, and Barofsky, p. 313.

<sup>75</sup>Michael B. Mazis, Richard Staelin, Howard Beales, and Steven Salop, "A Framework for Evaluating Consumer Information Regulation," Journal of Marketing, 45 (Winter 1981):12.



<sup>76</sup>Paul Slovic, Baruch Fischhoff, and Sarah Lichtenstein, "Informing People About Risk," in Morris, Mazis, and Barofsky, p. 175.

<sup>77</sup>For a more detailed description, see: David E. Kanouse and Barbara Hayes-Roth, "Cognitive Considerations in the Design of Product Warnings," in Morris, Mazis, and Barofsky, pp. 147-63.

<sup>78</sup>See: Charles Ramond, Advertising Research: The State of the Art (New York: Association of National Advertisers, Inc., 1976), pp. 14-20; Steuart Henderson Britt, Psychological Principles of Marketing and Consumer Behavior (Lexington, Massachusetts: Lexington Books, 1978), pp. 27-36.

<sup>79</sup>For a detailed discussion, see: Thomas S. Robertson, Joan Zielinski, and Scott Ward, Consumer Behavior (Glenview, Illinois: Scott, Foresman and Company, 1984), pp. 95-115.

<sup>80</sup>Alice M. Tybout, Bobby J. Calder, and Brian Sternthal, "Using Information Processing Theory to Design Marketing Strategies," Journal of Marketing Research, XVIII (February 1981):73-9.

<sup>81</sup>Fergus I. M. Craik and Robert S. Lockhart, "Levels of Processing: A Framework for Memory Research," Journal of Verbal Learning and Verbal Behavior, 11 (1972):671-84.

<sup>82</sup>Howard Beales, Michael B. Mazis, Steven C. Salop, and Richard Staelin, "Consumer Search and Public Policy," Journal of Consumer Research, 8 (June 1981):11-22.

<sup>83</sup>Ibid.

<sup>84</sup>Robertson, Zielinski, and Ward, p. 89.

<sup>85</sup>Herbert E. Krugman, "The Measurement of Advertising Involvement," Public Opinion Quarterly, XXX (Winter 1966-67):583-96; and Herbert E. Krugman, "Memory without Recall, Exposure without Perception," Journal of Advertising Research, 17 (August 1977):7-12.

<sup>86</sup>See: Raymond A. Bauer, "The Initiative of the Audience," Journal of Advertising Research, 2 (June 1963):2-7; Raymond A. Bauer, "The Limits of Persuasion," Harvard Business Review, 36 (September-October, 1958):105-110; and Joseph T. Klapper, The Effects of the Mass Media (New York: Bureau of Applied Social Research, Columbia University, 1949).

<sup>87</sup>Krugman, "The Measurement of Advertising Involvement," Krugman, "Memory without Recall, Exposure without Perception."

<sup>88</sup>V. A. C. Henmon, "The Relation Between Mode of Presentation and Retention," The Psychological Review, XIX (March 1912):79-96.

<sup>89</sup>Catherine G. Penney, "Modality Effects in Short-term Verbal Memory," Psychological Bulletin, 82 (1975), p. 73.

<sup>90</sup>Henmon.

<sup>91</sup>Shelly Chaiken and Alice H. Eagly, "Communication Modality as a Determinant of Message Persuasiveness and Message Comprehensibility," Journal of Personality and Social Psychology, 34 (1976), p. 608.

<sup>92</sup>Ibid., p. 609.

<sup>93</sup>Hower Hsia and Robert E. Jester, "Output, Error, Equivocation and Recalled Information on Auditory, Visual and Audiovisual Information Processing with Constraint and Noise," Journal of Communication, 13 (1968):325-53.

<sup>94</sup>Dan G. Drew and Thomas Grimes, "The Effect of Audio-Visual Redundancy on Audio and Video Recall in Television News," presented to the Radio-Television Journalism Division, Association for Education in Journalism and Mass Communication, Memphis, Tennessee, August 1985.

<sup>95</sup>Leland L. Belk, "Immediate Recall of TV Commercial Elements," Journal of Advertising Research, 2, p. 14.

<sup>96</sup>Charles Atkin, "The Effects of Television Advertising on Children--First Year Experimental Evidence," Michigan State University, East Lansing, Michigan, June 1975.

<sup>97</sup>F. Earl Barcus, Weekend Commercial Children's Television (Newton, Maryland: Action for Children's Television, 1975).

<sup>98</sup>Bruce L. Stern and Robert R. Harmon, "The Incidence and Characteristics of Disclaimers in Children's Television Advertising," Journal of Advertising, 13 (1984), p. 14.

<sup>99</sup>David D. Loviland and Allan B. Padderud, "Video Disclaimers in Television Advertising: Are They Effective?" Journal of Communication, 31 (Spring 1981), p. 75.

<sup>100</sup>Ibid.

<sup>101</sup>National Association of Broadcasters, "Non-Prescription Medications Guidelines: Questions-and-Answers," Code Authority Interpretation, in Felix H. Kent and Elhanan C. Stone, Legal and Business Aspects of the Advertising Industry 1982 (Practising Law Institute, 1982), p. 181.

<sup>102</sup>66 FCC 2nd 302.

<sup>103</sup>Muzafer Sherif and H. Cantril, The Psychology of Ego Involvements (New York: Wiley, 1947).

<sup>104</sup>See: John L. Lastovicka and David M. Gardner, "Components of Involvement," in J. C. Maloney and B. Silverman, eds., Attitude Research Plays for High Stakes (Chicago: American Marketing Association, 1979); Tyzoon T. Tyebjee, "Refinement of the Involvement Concept: An Advertising Planning Point of View," in Attitude Research Plays for High Stakes, J. C. Maloney and B. Silverman, eds. (Chicago: American Marketing Association, 1979), pp. 94-111.

<sup>105</sup>Richard E. Petty, Thomas M. Ostrom, and Timothy C. Brock, eds., Cognitive Responses in Persuasion (Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers, 1981).

<sup>106</sup>Statement of Roger Blackwell in Federal Trade Commission, Advertising for Over-the-counter Antacids, Final Staff Report and Recommendations, August 1983, p. 194.

<sup>107</sup>Steven H. Chaffee, Keith R. Stamm, Jose L. Guerrero, and Leonard P. Tipton, "Experiments on Cognitive Discrepancies and Communication," Journalism Monographs (December 1969), p. 49.

<sup>108</sup>Peter L. Wright, "The Cognitive Processes Mediating Acceptance of Advertising," Journal of Marketing Research, X (February 1983):53-62.

<sup>109</sup>Richard E. Petty and John T. Cacioppo, "Issue Involvement Can Increase or Decrease Persuasion by Enhancing Cognitive Responses," Journal of Personality and Social Psychology, 37 (1979):1915-26.

<sup>110</sup>Thomas S. Robertson, "Low-Commitment Consumer Behavior," Journal of Advertising Research, 16 (April 1976):19-24.

<sup>111</sup>Dodds I. Buchanan, "How Interest in the Product Affects Recall: Print Ads vs. Commercials," Journal of Advertising Research, 4 (Winter 1964):9-14.

<sup>112</sup>Blackwell, p. 198.

<sup>113</sup>Marc G. Weinberger, Chris T. Allen, and William R. Dillon, "Negative Information: Perspectives and Research Directions," in Proceedings: Association for Consumer Research, 9 (1981):398-404.

<sup>114</sup>Ibid.

<sup>115</sup>Fritz Heider, "Attitudes and Cognitive Organization," Journal of Psychology, 21 (1946):107-12.

<sup>116</sup>Steven W. Littlejohn, Theories of Human Communication (Columbus, Ohio: Charles E. Merrill Publishing Company, 1978).

<sup>117</sup>Leon Festinger, A Theory of Cognitive Dissonance (Stanford, California: Stanford University Press, 1957), p. 13.

<sup>118</sup>Ibid., p. 16.

<sup>119</sup>Jonathan L. Freedman and David O. Sears, "Selective Exposure," in Leonard Berkowitz, ed., Advances in Experimental Social Psychology (New York: Academic Press, 1965), pp. 57-97.

<sup>120</sup>Festinger.

<sup>121</sup>Eunice Cooper and Marie Jahoda, "The Evasion of Propaganda: How Prejudiced People Respond to Anti-Prejudice Propaganda," The Journal of Psychology, 23 (1947):15-25.

<sup>122</sup>Ibid., p. 19.

<sup>123</sup>Richard Wallen, "Ego-Involvement as a Determinant of Selective Forgetting," Journal of Abnormal and Social Psychology, 37 (1942):20-39.

<sup>124</sup>Statement of Dr. William J. E. Crissy in U.S., Congress, House, Committee on Interstate and Foreign Commerce, Cigarette Labeling and Advertising, Hearings before the Committee on Interstate and Foreign Commerce on H.R. 643, 1237, 3055, 6543, 91st Congress, 1969, p. 1332.

<sup>125</sup>Carl Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, Experiments on Mass Communications, V. 3 (Princeton, New Jersey: Princeton University Press, 1949); Irving L. Janis and Robert F. Terwilliger, "An Experimental Study of Psychological Resistances to Fear Arousing Communications," Journal of Abnormal and Social Psychology, 65 (1962):403-10.

<sup>126</sup>Wright, p. 54.

<sup>127</sup>A. G. Greenwald, "Cognitive Learning, Cognitive Response to Persuasion and Attitude Change," in A. G. Greenwald, T. C. Brock, and T. M. Ostrom, eds., Psychological Foundations of Attitudes (New York: Academic Press, 1968).

<sup>128</sup>Richard E. Petty and John Cacioppo, Attitudes and Persuasion: Classic and Contemporary Approaches (William C. Brown, 1981), p. 155.

<sup>129</sup>J. W. Brehm, A Theory of Psychological Reactance (New York: Academic Press, 1966).

<sup>130</sup>Statement of Dr. Charles Winick in U.S., Congress, House, Committee on Interstate and Foreign Commerce, Cigarette Labeling and Advertising, Hearings before the Committee on Interstate and Foreign Commerce on H.R. 2248, 3014, 4007, 7051, 4244, 89th Congress, 1965, p. 690.

<sup>131</sup>Ibid.

<sup>132</sup>Petty and Cacioppo, Attitudes and Persuasion: Classic and Contemporary Approaches, p. 157.

<sup>133</sup>Michael L. Ray and William L. Wilkie, "Fear: The Potential of an Appeal Neglected by Marketing," Journal of Marketing, 34 (January, 1970), p. 54.

<sup>134</sup>See: Kenneth D. Frandsen, "Effects of Threat Appeals and Media of Transmission," Speech Monographs, 30 (1963):101-4; Howard Moltz and Donald L. Thistlethwaite, "Attitude Modification and Anxiety Reduction," Journal of Abnormal and Social Psychology, 50 (1955):231-7.

<sup>135</sup>Irving L. Janis and Seymour Feshbach, "Effects of Fear-arousing Communications," Journal of Abnormal and Social Psychology, 48 (1953):78-92.

<sup>136</sup>Ibid., p. 84.

<sup>137</sup>Ibid., p. 89.

<sup>138</sup>Irving L. Janis and Seymour Feshbach, "Personality Differences Associated with Responsiveness to Fear-arousing Communications," Journal of Psychology, 23 (1954):154-66.

<sup>139</sup>Michael J. Goldstein, "The Relationship Between Coping and Avoiding Behavior and Response to Fear-Arousing Propaganda," Journal of Abnormal and Social Psychology, 58 (1959):247-52.

<sup>140</sup>Ibid.

<sup>141</sup>Janis and Terwilliger.

<sup>142</sup>Ibid.

<sup>143</sup>Ibid., p. 410.

<sup>144</sup>Irving L. Janis, "Effects of Fear Arousal on Attitude Change: Recent Developments in Theory and Experimental Research," in Advances in Experimental Social Psychology, v. 3 (New York: Academic Press, 1967), pp. 167-225.

<sup>145</sup>Janis and Feshbach, "Effects of Fear-arousing Communications," p. 156.

<sup>146</sup>Janis and Terwilliger.

<sup>147</sup>Howard Leventhal, R. Singer, and Susan Jones, "Effects of Fear and Specificity of Recommendations Upon Attitudes and Behavior," Journal of Personality and Social Psychology, 2 (1965):20-9; James M. Dabbs and Howard Leventhal, "Effects of Varying the Recommendations in a Fear-arousing Communication," Journal of Personality and Social Psychology, 4 (1966):525-31.

<sup>148</sup>Murray A. Hewgill and Gerald R. Miller. "Source Credibility and Response to Fear-arousing Communications." Speech Monographs, 32 (1965):95-101.

<sup>149</sup>Godwin C. Chu, "Fear Arousal, Efficacy, and Imminency," Journal of Personality and Social Psychology, 4 (1966):517-24.

<sup>150</sup>Leonard Berkowitz and Donald R. Cottingham, "The Interest Value and Relevance of Fear Arousing Communications," Journal of Abnormal and Social Psychology, 60 (1960):37-43.

<sup>151</sup>Ibid.

<sup>152</sup>Fredric A. Powell, "The Effect of Anxiety-arousing Messages When Related to Personal, Familial, and Impersonal Referents," Speech Monographs, 32 (1965):102-6.

<sup>153</sup>Robert L. Thornton and Donald C. King, "Ecology--The Fear Appeal in the Public Sector," Michigan State University Business Topics, 20 (Winter 1972):35-8.

<sup>154</sup>Chester A. Insko, Abe Arkoff, and Verla M. Insko, "Effects of High and Low Fear-Arousing Communications Upon Opinions Toward Smoking," Journal of Experimental Social Psychology, 1 (1965):256-66.

<sup>155</sup>Ibid.

<sup>156</sup>M. Watson, K. W. Pettingale, and D. Goldstein, "Effects of a Fear Appeal on Arousal, Self-Reported Anxiety, and Attitude Toward Smoking," Psychological Reports, 52 (1983):139-46.

<sup>157</sup>Howard Leventhal and Jean C. Watts, "Sources of Resistance to Fear-arousing Communications on Smoking and Lung Cancer," Journal of Personality, 34 (1966):155-75.

<sup>158</sup>Walter Dziokonski and Stephen J. Weber, "Repression-Sensitization, Perceived Vulnerability, and the Fear Appeal Communication," Journal of Social Psychology, 102 (1977):105-12.

<sup>159</sup>Howard Leventhal, "Findings and Theory in the Study of Fear Communications," in Advances in Experimental Social Psychology, V. 5 ed. Leonard Berkowitz (New York: Academic Press, 1970), pp. 119-86.

<sup>160</sup>Ray and Wilkie, p. 54.

<sup>161</sup>John J. Wheatley and Sadaomi Oshikawa, "The Relationship Between Anxiety and Positive and Negative Advertising Appeals," Journal of Marketing Research, VII (February, 1970):85-9.

<sup>162</sup>John J. Burnett, "Internal-External Locus of Control as a Moderator of Fear Appeals," Journal of Applied Psychology, 66 (1981):390-3.

<sup>163</sup>Ibid.

<sup>164</sup>John J. Burnett and Richard L. Oliver, "Fear Appeal Effects in the Field: A Segmentation Approach," Journal of Marketing Research, XVI (May 1979):181-90; John J. Burnett and Robert E. Wilkes, "Fear Appeals to Segments Only," Journal of Advertising Research, 20 (October 1980):21-4.

<sup>165</sup>George W. Brooker, "A Comparison of the Persuasive Effects of Mild Humor and Mild Fear Appeals," Journal of Advertising, 10 (1981):29-40.

<sup>166</sup>John J. Wheatley, "Marketing and the Use of Fear- or Anxiety-arousing Appeals," Journal of Marketing, 35 (April, 1971):62-4.

<sup>167</sup>Ibid.

<sup>168</sup>Herbert Kay, "Do We Really Know the Effects of Using 'Fear' Appeals?" Journal of Marketing, 36 (April, 1972):55-64.

<sup>169</sup>Kenneth L. Higbee, "Fifteen Years of Fear Arousal: Research on Threat Appeals: 1953-1968," Psychological Bulletin, 72 (1969):426-44.

<sup>170</sup>Ibid.; Brian C. Sternthal and C. Samuel Craig, "Fear Appeals: Revisited and Revised," Journal of Consumer Research, 1 (December 1974):22-34.

<sup>171</sup>Ronald L. Earl and William M. Pride, "The Effects of Advertisement Structure, Message Sidedness, and Performance Test Results On Print Advertisement Informativeness," Journal of Advertising, 9 (1980):36-46.

<sup>172</sup>Hovland, Lumsdaine, and Sheffield.

<sup>173</sup>Ibid., p. 73.

<sup>174</sup>Arthur A. Lumsdaine and Irving L. Janis, "Resistance to 'Counterpropaganda' Produced by One-Sided and Two-Sided 'Propaganda' Presentations," Public Opinion Quarterly, 17 (Fall 1953):311-18.

<sup>175</sup>Ibid.

<sup>176</sup>Chester A. Insko, "One-Sided versus Two-Sided Communications and Countercommunications," Journal of Abnormal and Social Psychology, 65 (1962):203-6.

<sup>177</sup>Godwin C. Chu, "Prior Familiarity, Perceived Bias, and One-Sided Versus Two-Sided Communications," Journal of Experimental Social Psychology, 3 (1967):243-54.

<sup>178</sup>Russell A. Jones and Jack W. Brehm, "Persuasiveness of One- and Two-Sided Communications as a Function of Awareness There are Two Sides," Journal of Experimental Social Psychology, 6 (1970):47-56.

<sup>179</sup>Ibid.

<sup>180</sup>James F. Engel, Hugh G. Wales, and Martin R. Warshaw, Promotional Strategy (Homewood, Illinois: Richard D. Irwin, Inc., 1971), p. 359.

<sup>181</sup>Earl and Pride.

<sup>182</sup>George E. Belch, "An Examination of Comparative and Noncomparative Television Commercials: The Effects of Claim Variation and Repetition on Cognitive Response and Message Acceptance," Journal of Marketing Research, XVIII (August 1981):333-49.



<sup>183</sup>Alan G. Sawyer, "The Effects of Repetition of Refutational and Supportive Advertising Appeals," Journal of Marketing Research, X (February 1973):23-33.

<sup>184</sup>Edmund Winston Jordan Faison, "Effectiveness of One-Sided and Two-Sided Mass Communications in Advertising," Public Opinion Quarterly, 25 (Fall 1961):468-9.

<sup>185</sup>Ibid.

<sup>186</sup>Benjamin J. Katz, ed., Advertising and Governmental Regulation (Cambridge, Massachusetts: Marketing Science Institute, 1979), p. 9.

<sup>187</sup>Richard J. Semenik, "Corrective Advertising: An Experimental Evaluation of Alternative Television Messages," Journal of Advertising, 9 (1980):21-30.

<sup>188</sup>William L. Wilkie, "Affirmative Disclosure at the FTC: Theoretical Framework and Typology of Case Selection," Journal of Public Policy and Marketing, 2 (1983):3-15.

<sup>189</sup>H. Keith Hunt, "Source Effects, Message Effects, and General Effects in Counteradvertising," in Proceedings, Third Annual Conference of the Association for Consumer Research, 2 (1972):370-81; H. Keith Hunt, "Effects of Corrective Advertising," Journal of Advertising Research, 13 (1973):15-24.

<sup>190</sup>Gary M. Armstrong, Metin N. Gurol, and Frederick A. Russ, "Detecting and Correcting Deceptive Advertising," Journal of Consumer Research, 6 (December 1979):237-46; Robert F. Dyer and Phillip G. Kuehl, "A Longitudinal Study of Corrective Advertising," Journal of Marketing Research, XV (February 1978):39-48; Michael B. Mazis and Janice E. Adkinson, "An Experimental Evaluation of a Proposed Corrective Advertising Remedy," Journal of Marketing Research, XIII (May 1976):178-83.

<sup>191</sup>Mazis and Adkinson.

<sup>192</sup>Michael B. Mazis, Dennis L. McNeill, and Kenneth L. Bernhardt, "Day-after Recall of Listerine Corrective Commercials," Journal of Public Policy and Marketing, 2 (1983):29-37.

<sup>193</sup>Gary M. Armstrong, Metin N. Gurol, and Frederick A. Russ, "A Longitudinal Evaluation of the Listerine Corrective Advertising Campaign," Journal of Public Policy and Marketing, 2 (1983):16-28; Thomas C. Kinnear, James R. Taylor, and Oded Gur-Arie, "Affirmative Disclosure: Long-term Monitoring of Residual Effects," Journal of Public Policy and Marketing, 2 (1983):38-45.

<sup>194</sup>H. Keith Hunt, "Effects of Corrective Advertising"; Robert F. Dyer and Phillip G. Kuehl, "The 'Corrective Advertising' Remedy of the FTC: An Experimental Evaluation," Journal of Marketing, 38 (January 1974):48-54.

<sup>195</sup>Charles Atkin and Martin Block, "Content and Effects of Alcohol Advertising," submitted to Bureau of Alcohol, Tobacco and Firearms, Federal Trade Commission, National Institute on Alcohol Abuse and Alcoholism, and Department of Transportation, 1980, p. 10.

<sup>196</sup>Mazis and Adkinson.

<sup>197</sup>Seminik.

## CHAPTER III. METHOD

### Design

A controlled laboratory experiment, utilizing a 2 x 2 x 3 factorial model, was conducted to test the formulated hypotheses regarding consumer response to product warnings in advertising. Following a division based upon product relevance, subjects were randomly assigned either to one of six treatment groups varied by severity of the warning message and mode of transmission: Low Severity, Audio Only; High Severity, Audio Only; Low Severity, Video Only; High Severity, Video Only; Low Severity, Audio-Video; High Severity, Audio-Video; or to one of two control groups: No Warning; Different Exposure.

A post-test-only-with-control-group experimental design was used to determine the impact of warnings in advertisements for subjects with high and low relevance for the advertised test product. (See Figure 3) This design treats random assignment of subjects as initial equation<sup>1</sup> and controls for possible threats to internal validity.<sup>2</sup>

### Sample

Generating a random sample of subjects from the general adult population was prevented for economic reasons. Therefore, a sample of undergraduate students enrolled in an

High-Relevance Group			Low-Relevance Group		
R	X <sub>a1</sub> X <sub>b1</sub>	O <sub>1</sub>	R	X <sub>a1</sub> X <sub>b1</sub>	O <sub>9</sub>
R	X <sub>a2</sub> X <sub>b1</sub>	O <sub>2</sub>	R	X <sub>a2</sub> X <sub>b1</sub>	O <sub>10</sub>
R	X <sub>a1</sub> X <sub>b2</sub>	O <sub>3</sub>	R	X <sub>a1</sub> X <sub>b2</sub>	O <sub>11</sub>
R	X <sub>a2</sub> X <sub>b2</sub>	O <sub>4</sub>	R	X <sub>a2</sub> X <sub>b2</sub>	O <sub>12</sub>
R	X <sub>a1</sub> X <sub>b3</sub>	O <sub>5</sub>	R	X <sub>a1</sub> X <sub>b3</sub>	O <sub>13</sub>
R	X <sub>a2</sub> X <sub>b3</sub>	O <sub>6</sub>	R	X <sub>a2</sub> X <sub>b3</sub>	O <sub>14</sub>
R	X <sub>o1</sub>	O <sub>7</sub>	R	X <sub>o1</sub>	O <sub>15</sub>
R	X <sub>o2</sub>	O <sub>8</sub>	R	X <sub>o2</sub>	O <sub>16</sub>

Where:            R = Random Assignment

                  X<sub>a1</sub> = High Severity

                  X<sub>a2</sub> = Low Severity

                  X<sub>b1</sub> = Audio Only

                  X<sub>b2</sub> = Video Only

                  X<sub>b3</sub> = Audio-Video

                  X<sub>o1</sub> = No Warning

                  X<sub>o2</sub> = Different Exposure

                  O<sub>n</sub> = Post-test

Figure 3. EXPERIMENTAL DESIGN

Notation adapted from: Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally College Publishing Company, 1963), p. 27.

advertising principles course at Michigan State University was selected. Approximately 20% of the enrolled students eventually major in advertising, yet the course is the first student exposure to advertising instruction. Therefore, extensive knowledge regarding copy-testing experimentation as well as governmental regulation concerning advertising disclosures was assumed to be nonexistent.

The population of individuals of interest to this study was those comprising the market for the selected product. Three products (aspirin, beer, and sports vehicles) were selected as potential test products based on existent or proposed warnings on the product labels and potential relevance to student subjects. A group of 50 undergraduate students rated each product on a relevance scale.

Beer was rated most important and also provided the greatest variance among the group. Therefore, beer was the product used in the experiment since it represented a product for which the selected audience could be most readily divided into high- and low-relevance groups. Alcohol has been considered a product of social significance, as consumers may attach a symbolic characteristic to the product.<sup>3</sup>

Furthermore, several consumer organizations have attempted to initiate a governmental ban on all alcoholic beverage advertising from broadcast television.<sup>4</sup> Such groups typically cite drunk-driving accident statistics,

maintaining that a relationship exists between exposure to alcohol advertising and alcohol consumption that contributes to automobile accidents. At Senate hearings in 1976 and 1977 concerning alcohol consumption and abuse by young people, brewers and advertisers claimed that advertising was designed not to increase consumption, but to encourage those who drink to switch to a particular brand,<sup>5</sup> the identical claim made by cigarette manufacturers in earlier hearings, drawing a similarity between the two products.

While current consumer groups contend that an advertising ban would be preferable, they also hold that the provision of warning information in advertising through the use of equal time for public service messages sponsored by beer and wine manufacturers may be acceptable. Although proposals do not exist to include warnings in alcohol advertising, this may be an option acceptable to both consumer groups and industry, and has been suggested by the courts.<sup>6</sup> Product usage warnings have also been proposed for alcohol labeling.<sup>7</sup> A 1979 analysis of alcoholic beverage print advertisements uncovered that approximately two percent alluded to the value of moderation in drinking.<sup>8</sup> Therefore, this product was particularly conducive to studying the topic of warning information.

As mentioned previously, a student sample was selected for economic reasons, however students are members of the market for the selected product. Simmons Market Research Bureau (SMRB) data indicate that males aged 18 to 34

constitute the predominant market for beer.<sup>9</sup> SMRB also reports that 51.2% of 18-to-24-year-old adults are consumers of beer, and 26.1% of heavy beer consumers are in this age bracket.<sup>10</sup> (See Table 4) A poll conducted by the Gallup organization found that 72% of full-time college students use alcoholic beverages, 63% of those who drink alcohol do so once a week or more often, and 68% of those who drink alcohol usually consume beer.<sup>11</sup> Past product involvement research has also found beer to represent a highly important product for students.<sup>12</sup> (See Figure 4)

**Table 4. CONSUMER MARKET FOR BEER**

**REGULAR DOMESTIC BEER: USAGE IN LAST 7 DAYS**

	<u>ALL USERS</u>			<u>HEAVY USERS (5+)</u>		
	<u>(000)</u>	<u>% DOWN</u>	<u>ACROSS %</u>	<u>(000)</u>	<u>% DOWN</u>	<u>ACROSS %</u>
ADULTS	65238	100.0	39.6	21446	100.0	13.0
MALES	42170	64.6	54.0	16536	77.1	21.2
FEMALES	23069	35.4	26.6	4910	22.9	5.7
18-24	14699	22.5	51.2	5608	26.1	19.5
25-34	18928	29.0	49.0	6150	28.7	15.9
35-44	10878	16.7	39.3	3474	16.2	12.6
45-54	7997	12.3	35.5	2593	12.1	11.5
55-64	6775	10.4	30.9	2042	9.5	9.3
65+	5962	9.1	23.4	1581	7.4	6.2

% DOWN = % of users in demographic segment

ACROSS % = % of demographic segment that are users

Adapted from: Simmons Market Research Bureau, "Study of Media and Markets," v. P-17, p. 0108.

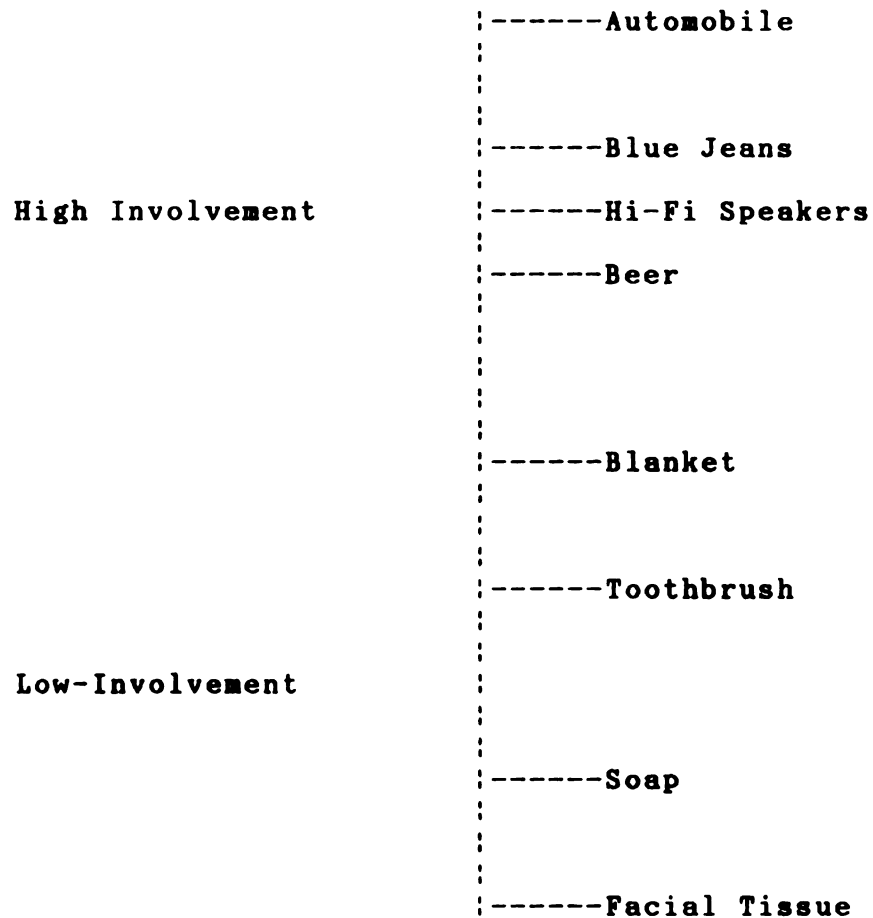


FIGURE 4. STUDENT PRODUCT INVOLVEMENT

Adapted from: John L. Lastovicka and David M. Gardner, "Components of Involvement," in J. C. Maloney and B. Silverman, eds., Attitude Research Plays for High Stakes (Chicago: American Marketing Association, 1979).

A sample of 480 students was chosen, with 30 subjects then randomly assigned to each of the initial cells in the experiment to avoid systematic biases,<sup>13</sup> following a division based on product relevance. (See Table 5) The number of subjects selected was based on the commonly accepted notion that the number of data points should be 10



Table 5. SAMPLING SCHEME

		Product Relevance				
		High		Low		
		Severity of Warning				
		High	Low	High	Low	
Mode  of  Trans- mission	Audio Only	30	30	30	30	120
	Video Only	30	30	30	30	120
	Audio- Video	30	30	30	30	120
	No Warning	30		30		60
	Different Exposure	30		30		60
		240		240		480

or more times the number of dependent variables to be analyzed.<sup>14</sup> Furthermore, 100 or more subjects per category in the major variable breakdowns in an experiment and 20 to 50 subjects in each category in the minor breakdowns is followed as a general rule in determining sample sizes.<sup>15</sup>

Participation in the experiment was voluntary; in accordance with Michigan State University use of human subjects policy, subjects completed a consent form prior to treatment exposure (see Appendix A). College undergraduates are not typical of the general public, limiting generalizability of the results,<sup>16</sup> and opinions of students who chose to participate may inaccurately reflect the average student opinions, which might further reduce generalizability of the experimental findings. Students were used primarily for convenience, however, with no obvious biases indicated, considered an acceptable practice in small-scale research.<sup>17</sup> The lack of generalizability is considered less significant when conducting research uncovering causal relationships than it would be in the case of description of specific characteristics.<sup>18</sup>

### Procedure

The experiment was conducted on two consecutive evenings in May, 1985. One morning and one afternoon session were also provided for those unable to attend the evening sessions. Subjects were pretested for product

relevance four weeks prior to exposure to the experimental treatment (see Appendix B). Subjects, divided by relevance, were then randomly assigned to one of the treatment conditions, and were told that they would be viewing a program and asked opinions concerning the content. Those who failed to complete the pre-test were randomly assigned to a treatment or control group.

Theater-type copy-testing was conducted in classrooms, with the test commercials inserted at the same point in the presented programming. This environment was somewhat artificial, in that the setting was not identical to that in which such commercials would be typically viewed by the subjects, posing a potential limitation on the generalizability of the findings to natural broadcast television-viewing settings.<sup>19</sup> Economic considerations, however, prevented the use of an in-home technique (i.e., split-cable); furthermore, subject viewing could not be guaranteed through such a method.

Because the availability of monitors was limited, only four treatments could be run simultaneously. Treatment order was randomly chosen.

Subjects were exposed to a 22-minute program segment with one commercial interruption; this interruption consisted of four 30-second commercials and occurred approximately 10 minutes after the start of the program. Research on commercial embedding reveals that consumers are typically able to sense the timing of commercial

interruptions in programs watched habitually, and are, therefore, able to "tune out" the advertising messages.<sup>20</sup> Because the break in the test program did not occur in the usual position, however, attention levels should not have been decreased through this type of habitual response.

Furthermore, the first and last commercials within a chain have been found to receive greater attention than those in the middle,<sup>21</sup> due to a primacy-recency effect found in studies on learning.<sup>22</sup> Therefore, to avoid inflated attention levels, the test commercial was inserted at the second position in the chain.

The program aired was an episode of the "All in the Family" series, as a beer commercial might typically air in this program. Program environment, and in particular humorous and involving programming has been found in some research to increase attention to the included advertising,<sup>23</sup> yet this program was selected due to logical media placement and appeal to both sexes. Non-test commercials advertised products from categories non-competitive with that of the test commercial. This surrounding programming environment was kept constant across the eight total treatment groups acting as control factors. Treatment advertisements were tested within the context of a program environment in an attempt to insure attention levels as identical as possible to those that would occur in realistic television viewing.

The classrooms used were devoid of any distracting elements that might create extraneous influences on attention to the programming. The program sessions, moderator dialogue, and timing of the post-test questionnaire were kept as consistent as possible to prevent any treatment condition discrepancies due to factors other than those under investigation, thereby insuring greater validity of the results.<sup>24</sup>

Following exposure to the program and included commercials, post-tests identical in length and format were administered to all subjects to determine recall levels, and beliefs about the safety of the advertised test product. Questionnaire content differed slightly for control groups as questions about control advertisements were substituted for those about the test commercial (see Appendix C). Each experimental session lasted approximately 50 minutes.

### Variables and Measurement

#### Independent Variables

##### Inclusion of Warning

A 30-second television commercial was professionally altered to fit each of the treatment conditions through the inclusion, or lack thereof, of a warning message. The commercial selected advertised a popular national brand of beer, as the brand advertising involved no humor which might have counteracted the impact of the warning message or

inflated attention to the commercial.<sup>25</sup> Furthermore, only 18.3% of 18-to-24-year-old adults are consumers of the selected brand;<sup>26</sup> therefore, brand loyalty effects which may confound results should have been minimal.<sup>27</sup> Because the company had launched a new campaign in February of 1985,<sup>28</sup> familiarity with the advertisement, which has been found to result in inattention from repeated exposure,<sup>29</sup> was not expected to greatly distort results. While three types of warnings may exist, as previously mentioned, the type of warning employed concerned product usage, as opposed to an inherent characteristic or susceptible audience message, due to the nature of both the selected product and group of subjects.

#### Warning Severity

Severity of the warning was operationalized by using one message determined through a pretest as relatively mild and one as more severe or more highly anxiety-arousing. A focus group using undergraduate students was conducted to determine areas of potential concern to students regarding alcohol warnings; such a technique is commonly used in marketing research to uncover relevant and appropriate ideas for a given target group.<sup>30</sup>

Eight warning statements regarding the product were constructed initially from focus group comments, past research on student concerns regarding alcohol,<sup>31</sup> and previously proposed warning areas for the product.<sup>32</sup> A

pretest was then performed using undergraduate advertising students to determine the proper wording for a warning with high and low severity. A total sample of 135 undergraduate advertising students were asked to rate one of the constructed statements in terms of severity and anxiety-arousing capabilities. To avoid repeated measures and comparison of messages, no student saw more than one warning statement. The four-item severity scale, derived from fear appeal literature,<sup>33</sup> was pre-tested for reliability with a group of 48 undergraduate students, using a Cronbach's alpha test; an alpha of .83669 was achieved.

Two statements rated significantly different in terms of severity, based on a difference-of-means test, were selected for use in the experiment ( $t=2.45$ ,  $df=23$ ,  $p < .01$ ). While each statement had to be kept simple and comprehensible,<sup>34</sup> intensity and specificity were varied. The low-severity statement said: "Alcohol should be used in moderation," while the high-severity statement said: "Warning: Alcohol consumption may lead to loss of coordination."

#### Mode of Warning Transmission

The broadcast television medium was selected due to both the aforementioned consumer group proposal and the involuntary exposure typically associated with processing this medium, possibly preventing selective inattention. Audio, video, and audio-video messages were included through

a voice-over, overlay, or voice-over and overlay at the end of the commercial. The voice-over consisted of an individual reading the warning message printed on the commercial. Following FTC proposed disclosure requirements for broadcast messages, National Association of Broadcasters guidelines, and past research on broadcast warnings, the warning message appeared for approximately 5 seconds at the end of the 30-second commercial.<sup>35</sup> This time frame was also based on principles of perception; the warning had to appear long enough to allow subject perception. Cigarette warnings in print advertisements are required to be large enough to be perceived.<sup>36</sup> The message was placed at the end of the test commercial in order to provide some separation from the advertisement, thought to prevent disclosures from becoming unclear.<sup>37</sup> The test commercials were then professionally embedded in the program.

#### Product Relevance

Relevance of the product to subjects, defined as the instrumental importance of the product to the consumer, was operationalized through a pre-exposure questionnaire asking for frequency of product usage, product dependence, and ratings of product importance. Scale items were derived from previous studies of product importance.<sup>38</sup> Eleven items were created and pre-tested for reliability with a group of 50 undergraduate students from a public relations course, eliminating four items that correlated least with the total



scale and achieving an alpha of .87064. A median split of the subjects on the relevance scale was made to establish high- and low-relevance groups.

### Dependent Variables

#### Warning Recall

The amount of warning information registered from the test advertisement was operationalized through both recall and recognition techniques. Different scores are usually expected dependent upon whether remembering is measured by a recall or a recognition method, with amount recognized generally found to be much greater than amount recalled.<sup>39</sup> Thus, both techniques were employed.

Testing of consumer awareness usually begins with unaided recall questioning, followed by aided questions. When exposure is controlled and the amount of advertising is small, memory may be measured with very little aid to recall.<sup>40</sup> Therefore, subjects were first asked to recall content from the commercial messages viewed in an unaided manner: "Please write down everything you can remember about each of the commercials included in the program you saw." Subjects were instructed to be as specific as possible.

The unaided recall question was administered after a controlled interval following exposure to the test advertisement. Typically, the shorter the time span

following exposure the greater the assurance of some increased accuracy in recall.<sup>41</sup> Subjects were given five full minutes to complete this portion of the questionnaire to allow for re-construction of the advertisement.

Responses were recorded by subjects in an open-ended format. Warning information recall was dichotomously operationalized based on the presence or absence of a warning message indicated and presence or absence of the specific warning transmitted. Two trained coders analyzed verbatim responses to determine whether or not the essence of the specific warning message transmitted was recalled. Inter-coder reliability was .9888.

Aided recall was operationalized through open-ended responses to a questionnaire item asking for commercial content after identifying the test commercial ("There was an ad for BEER in the program. Please write down all information you remember from this ad"), and later asking for wording of a warning message if one existed (Did the BEER ad contain a warning message? If so, what did it say?). The assumption was made that earlier unaided recall did not distort later aided responses; a common belief in advertising research states that material recalled without aid would likely have appeared with aid as well.<sup>42</sup>

The recognition measure involved a list of eight warning messages with an instruction to indicate whether or not the beer commercial contained the stated message. Guessing at answers, due to an eagerness to please the

moderator or a hesitation to appear ignorant, may inflate recognition measures.<sup>43</sup> Furthermore, respondents often demonstrate a stylistic tendency to mark "true" when in doubt of an answer.<sup>44</sup> Therefore, subjects were instructed to respond only if they were certain that they were correct.

Questions concerning the other products advertised during the program were included in the questionnaire to both disguise the purpose of the study and provide a realistic recall measure; were questions about only the test commercial included, subjects might have been more inclined to "guess" at answers, feeling pressure to respond.<sup>45</sup>

Whether or not the proposed techniques actually measured attention to the test commercial raises a question of construct validity. Correct answers to items containing factual information from the commercial and accuracy of open-ended recall may merely indicate differences in the memory capacity of subjects. Yet, because the test was administered immediately following program exposure, little time had elapsed for forgetting the information if it was, indeed, perceived.

A limitation may also arise from the lack of motivation on the part of subjects to cooperate in advertising content recall.<sup>46</sup> Therefore, recall items were placed early in the questionnaire and several types of questions were used to prevent monotony.

Generalizability of the attention results to those which might occur in an in-home situation may be limited due to the demand characteristic present in a laboratory setting.<sup>47</sup> Subjects may have felt more compelled to attend to the programming content, since they were aware that they would be subsequently asked for their opinions. Furthermore, distractions which might be present in-home were absent in the classroom. Thus, attention may have been "demanded" of the subjects and, therefore, be greater than that which would have occurred normally. Subjects were not informed, however, that questions would be asked concerning the inserted commercials; therefore, advertising attention levels may not have been excessively greater than those occurring in-home.

The attention paid to the warning message also may have been artificially inflated based upon its novelty, presenting a further possible limitation on the measurement of true levels of recall. Novelty, unexpectedness, and change have been predicted to be inherently satisfying to the individual and, therefore, actively pursued.<sup>48</sup> Thus, the messages may have been attended to merely because they were unique; this fact may also limit interpretations of the recall results.

#### Product Safety Beliefs

Beliefs about the safety of the advertised product were operationalized through ratings on semantic differential and

Likert-scale items measuring amount of product usage and perceived product safety. The semantic differential has been shown to be a sufficiently reliable and valid measurement tool for numerous research purposes,<sup>49</sup> and has been used to study responses to advertising.<sup>50</sup> Because no standard semantic differential scale could be located to measure product safety beliefs, a scale was created for purposes of the research in question, considered a common practice when using the semantic differential.<sup>51</sup>

A total of nine initial product safety belief scale pairings were derived from past research on negative appeals.<sup>52</sup> Scale pre-testing involved a sample of 48 undergraduate advertising students, as scale items should be pre-tested with a minimum of five persons per item.<sup>53</sup> An item-to-total corrected correlation conducted on the original item pool eliminated those four items that correlated least with the entire scale,<sup>54</sup> resulting in a scale alpha of .88833. When testing hypothesized construct measures, an alpha of .70 or higher is usually considered reliable.<sup>55</sup> Increasing reliabilities much beyond .80 is often considered useless as measurement error fails to noticeably attenuate correlations.<sup>56</sup> To obtain an overall construct measure, ratings on approximately half a dozen scales are usually employed;<sup>57</sup> Thus, five items in summated form constituted the safety belief score.

Seven-point semantic differential scales consisted of bi-polar adjectives describing safety dimensions: "safe--unsafe," "dangerous--not dangerous," "not harmful--harmful," "damaging--not damaging," "not hazardous--hazardous." Subjects were instructed to rank the test product along these dimensions.<sup>58</sup> The polarity of some items was reversed such that the negative adjective appeared on the right of the scale in order to prevent systematic responses at a specific scale point.<sup>59</sup> While a dichotomous scale might have been more easily administered, the reliability of such scales has been demonstrated to be a monotonically increasing function of the number of scale steps; this reliability levels at approximately seven steps.<sup>60</sup>

Responses on five Likert-type scales were used as a second measure of product safety beliefs. Scales ranged from one to five, indicative of "strongly disagree" to "strongly agree" following a statement about the safety of the test product. Statements were derived from research on alcohol consumption.<sup>61</sup> A ten-item safety scale was pre-tested with 28 undergraduate advertising students, was reduced to five items, and produced an alpha of .76006.

An odd number of points on the Likert-type scales were used to prevent forcing respondents into an "agree" or "disagree" format, which may have yielded misleading results,<sup>62</sup> and five degrees of agreement with each statement were selected as the norm when using Likert-type measurement

scales.<sup>63</sup> Again, the polarity of some items was reversed such that strong disagreement with the statement indicated a positive belief about product safety, to prevent stylistic tendencies to profess agreement with statements.<sup>64</sup> Items concerning issues dealt with in the program were interspersed with those regarding alcohol consumption safety for the aforementioned reasons regarding study purpose disguise and response demand.

Due to the nature of the issue and its potential bearing on social acceptability, subjects may have been unwilling to disclose their true perceptions regarding the safety of the test product, perhaps biasing the results.<sup>65</sup> The extent to which subject anonymity is ensured, however, should logically encourage subjects to respond frankly.<sup>66</sup> Therefore, guarantees of anonymity and assurance that results would appear only in aggregate form were included in both the consent form and moderator dialogue.

A further possible limitation on the interpretation of these safety belief scores may result from differing individual perceptions of product safety prior to exposure. Yet, due to the random assignment of subjects, if the sample was representative of students, such beliefs should have been equal across experimental and control conditions initially.<sup>67</sup> Therefore, safety perceptions should have been affected by the various treatment conditions as would those of the general student population.

### ENDNOTES FOR CHAPTER III

<sup>1</sup>Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally College Publishing Co., 1963), p. 25.

<sup>2</sup>Ibid., p. 13.

<sup>3</sup>Peter H. Bloch and Marsha L. Richins, "A Theoretical Model for the Study of Product Importance Perceptions," Journal of Marketing, 47 (Summer 1983):69-81.

<sup>4</sup>See: "Are Ad Bans Legal?" The 4A's Washington Newsletter, February/March 1985, pp.1-6; "'What's in it' for Liquor Marketers?" Advertising Age, August 13, 1984, p. 18.

<sup>5</sup>U.S., Congress, Senate, Subcommittee on Alcoholism and Narcotics, Committee of Labor and Public Welfare, Hearings, Media Images of Alcohol and the Effects of Advertising and other Media on Alcohol Abuse, March 8 and 11, 1976 and Hearings, Alcohol and Drug Abuse Among Young People, March 24 and 25, 1977, cited in: Mary Hancock, "Federal Jurisdictional Disputes in the Labeling and Advertising of Malt Beverages," Food Drug Cosmetic Law Journal, 34 (June 1979):286.

<sup>6</sup>Oklahoma Telecasters Association v. Richard A. Crisp, 8 Med. L. Rep. 1097 (1982).

<sup>7</sup>Amitai Etzioni, "Caution: Too Many Health Warnings Could Be Counterproductive," Psychology Today, December, 1978, pp. 20-2; John A. Miller, "Product Labeling and Governmental Regulation," Journal of Contemporary Business, 7 (1978):112; "Liquor Marketers Hail Label Study," Advertising Age, December 1, 1980, p. 3; "Labeling Alcohol Bottles with Pregnancy Warnings," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds., Banbury Report 6: Product Labeling and Health Risks (New York: Cold Spring Harbor Laboratory, 1978), p. 210.

<sup>8</sup>Warren Breed and James R. DeFoe, "Themes in Magazine Alcohol Advertisements: A Critique," Journal of Drug Issues, Fall 1979.

<sup>9</sup>Simmons Study of Media And Markets, Volume P-17 (Simmons Market Research Bureau, Inc., 1983), p. 0004.

<sup>10</sup>Ibid., p. 0108.



<sup>11</sup>"Gallup Organization Poll," Newsweek on Campus, April, 1985, p. 12.

<sup>12</sup>John L. Lastovicka and David M. Gardner, "Components of Involvement," in B. Silverman, Ed., Attitude Research Plays for High Stakes (Chicago: American Marketing Association, 1979).

<sup>13</sup>Geoffrey Keppel, Design and Analysis--A Researcher's Handbook (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1982), p. 18.

<sup>14</sup>George O. Wesolowsky, Multiple Regression and Analysis of Variance (New York: John Wiley & Sons, 1976), p. 87.

<sup>15</sup>Seymour Sudman, Applied Sampling (New York: Academic Press, 1976), p. 30.

<sup>16</sup>Earl R. Babbie, The Practice of Social Research (Belmont, California: Wadsworth Publishing Co., Inc., 1979), p. 272.

<sup>17</sup>Sudman, p. 27.

<sup>18</sup>Babbie, p. 273.

<sup>19</sup>Darrell Blaine Lucas and Steuart Henderson Britt, Measuring Advertising Effectiveness, (New York: McGraw-Hill Book Company, 1963), p. 156.

<sup>20</sup>See: "Strategies to Combat Ad Clutter Emerge in Two Studies," Broadcasting, August 2, 1976, pp. 56-7; Peter H. Webb, "Consumer Initial Processing in a Difficult Media Environment," Journal of Consumer Research, 6 (December 1979):225-36; Gordon L. Wise, Herbert G. Brown, and Myron K. Cox, "The Effect of Program Type and other Variables in Reaching the Daytime Television Viewer with Advertising Messages," Journal of Advertising, 4 (1975):41-6.

<sup>21</sup>See: "Strategies to Combat Ad Clutter Emerge in Two Studies;" Peter H. Webb and Michael L. Ray, "Effects of TV Clutter," Journal of Advertising Research, 19 (June 1979): 7-12; Ken Sacharin, "As They See It--Television," Marketing and Media Decisions, January 1983, p. 93.

<sup>22</sup>See: Carl Hovland (ed)., The Order of Presentation in Persuasion (New Haven, Connecticut: Yale University Press, 1957).

<sup>23</sup>Kevin J. Clancy and David M. Kweskin, "TV Commercial Recall Correlates," Journal of Advertising Research, 11 (April 1971):18-20; Herbert E. Krugman, "Television Program Interest and Commercial Interruption," Journal of Advertising Research, 23 (February/March 1983):21-3; Herbert E. Krugman, "The Measurement of Advertising Involvement," Public Opinion Quarterly, XXX (Winter 1966-67):583-96.

<sup>24</sup>Keppel, p. 68.

<sup>25</sup>George W. Brooker, "A Comparison of the Persuasive Effects of Mild Humor and Mild Fear Appeals," Journal of Advertising, 10 (1981):29-40; "Strategies to Combat Ad Clutter Emerge in Two Studies."

<sup>26</sup>Simmons Study of Media and Markets, p. 0144.

<sup>27</sup>Thomas Robertson, "Low-Commitment Consumer Behavior," Journal of Advertising Research, 16 (April 1976):19-24.

<sup>28</sup>William Meyers, "The Campaign to Save a Flagging Brand," Adweek, April, 1985, p. F.C.22.

<sup>29</sup>Joel N. Axelrod, "Advertising Wearout," Journal of Advertising Research, 20 (October 1980):13-18; C. Samuel Craig, Brian Sternthal, and Clark Leavitt, "Advertising Wearout: An Experimental Analysis," Journal of Marketing Research, XIII (November 1976):365-72.

<sup>30</sup>Bobby J. Calder, "Focus Groups and the Nature of Qualitative Marketing Research," Journal of Marketing Research, 14 (August 1977):353-64.

<sup>31</sup>Ruth C. Engs, "The Health Concerns of Students and the Implication for Alcohol Education Programming," Journal of Alcohol and Drug Education, 29 (Fall 1983):36-8; Werner G. Albert and Harry Hodgson, "Encouraging the Self-Monitoring of Alcohol Consumption Levels: The Development and Evaluation of 'Know the Score,'" Journal of Alcohol and Drug Education, 29 (Winter 1984):16.

<sup>32</sup>CBS, "60 Minutes - Beer Today! Gone Tomorrow?" May 5, 1985; "Labeling Alcohol Bottles with Pregnancy Warnings," p. 192.

<sup>33</sup>See manipulations in: Chester A. Insko, Abe Arkoff, and Verla M. Insko, "Effects of High and Low Fear-Arousing Communications upon Opinions Toward Smoking," Journal of Experimental Social Psychology, 1 (1965):256-66; Howard Leventhal, Susal Jones, and Grevilda Trembly, "Sex Differences in Attitude and Behavior Change Under Conditions of Fear and Specific Instructions," Journal of Experimental Social Psychology, 2 (1966):387-99; Michael J. Goldstein, "The Relationship Between Coping and Avoiding Behavior and Response to Fear-Arousing Propaganda," Journal of Abnormal and Social Psychology, 58 (1959):247-52.

<sup>34</sup>David E. Kanouse and Barbara Hayes-Roth, "Cognitive Considerations in the Design of Product Warnings," in Morris, Mazis, and Barofsky, p. 158.

<sup>35</sup>James R. Bettman, "Issues in Designing Consumer Information Environments," Journal of Consumer Research, 2 (December 1975):169; NAB Code Authority Interpretation, "Non-Prescription Medications Guidelines - Questions and Answers," in Felix H. Kent and Elhanan C. Stone, Legal and Business Aspects of the Advertising Industry (New York: Practising Law Institute, 1982), p. 181; Peter Wright, "Concrete Action Plans in TV Messages to Increase Reading of Drug Warnings," Journal of Consumer Research, 6 (December 1979):256.

<sup>36</sup>John Revett, "FTC Threatens Big Fines for Undersized Cigarette Warnings," Advertising Age, March 17, 1975, p. 1.

<sup>37</sup>Michael B. Mazis and Richard Staelin, "Using Information-Processing Principles in Public Policymaking," Journal of Public Policy and Marketing, 1 (1980):3-14.

<sup>38</sup>Lastovicka and Gardner.

<sup>39</sup>Lucas and Britt, p. 48; William D. Wells, "Recognition, Recall, and Rating Scales," Journal of Advertising Research, 4 (1964):2-8.

<sup>40</sup>Lucas and Britt, p. 94.

<sup>41</sup>Ibid., p. 96.

<sup>42</sup>Ibid., p. 95.

<sup>43</sup>Ibid., p. 60.

<sup>44</sup>Jum C. Nunnally, Psychometric Theory (New York: McGraw-Hill Book Co., 1978), p. 659.

<sup>45</sup>Ibid.

<sup>46</sup>Lucas and Britt, p. 82.

<sup>47</sup>Nunnally, p. 656.

<sup>48</sup>Salvatore R. Maddi, "The Pursuit of Consistency and Variety," in R. P. Abelson, ed., Theories of Cognitive Consistency (Chicago: Rand-McNally, 1968), p. 268.

<sup>49</sup>Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning (Urbana, Illinois: University of Illinois Press, 1957), pp. 140-53, 192-4.

<sup>50</sup>Ibid., pp. 314-17.

<sup>51</sup>Ibid., p. 76.

<sup>52</sup>Gary T. Ford and Philip G. Kuehl, "Label Warning Messages in OTC Drug Advertising," Current Issues and Research in Advertising (1979):115-28; Terrell G. Williams, "Effects of an Advertising Warning Message on Consumer Attitudes and Buying Intentions," in Kenneth L. Bernhardt, Ed., Educator's Proceedings of the American Marketing Association (Chicago: American Marketing Association, 1976), p. 363.

<sup>53</sup>Nunnally, p. 298.

<sup>54</sup>Ibid., p. 273.

<sup>55</sup>Ibid., p. 245.

<sup>56</sup>Ibid.

<sup>57</sup>Ibid., p. 597.

<sup>58</sup>Complete instructions adapted in shortened form from: Osgood, Suci, and Tannenbaum, pp. 82-4.

<sup>59</sup>Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1964), p. 571.

<sup>60</sup>Nunnally, p. 595.

<sup>61</sup>Charles Atkin and Martin Block, "Content and Effects of Alcohol Advertising, Report 6: Advertising Response Study," East Lansing, Michigan, report submitted to Bureau of Alcohol, Tobacco and Firearms, Federal Trade Commission, National Institute on Alcohol Abuse, and Department of Transportation, November 1979; L. W. Buckalew, "An Instructional Instrument for Increasing Alcohol Awareness," Journal of Alcohol and Drug Education 25 (Winter 1980):1-5; James R. Pipher and Clayton Rivers, "The Differential Effects of Alcohol Education on Junior High School Students," Journal of Alcohol and Drug Education, 27 (Spring 1982):84.

<sup>62</sup>Michael S. Matell and Jacob Jacoby, "Is There an Optimal Number of Alternatives for Likert-Scale Items?" Journal of Applied Psychology 56 (1972):506.

<sup>63</sup>Thomas C. Kinnear and James R. Taylor, Marketing Research--An Applied Approach (New York: McGraw-Hill Company, 1979), p. 313.

<sup>64</sup>Nunnally, p. 667.

<sup>65</sup>Kinnear and Taylor, p. 455.

<sup>66</sup>Nunnally, p. 592.

<sup>67</sup>Campbell and Stanley, p. 25.

## CHAPTER IV. RESULTS

### Final Sample Characteristics

A total of 445 subjects completed the experiment (see Table 6), 400 of whom received the pre-test. Final cell sizes ranged from 21 to 30 subjects, allowing for the valid analysis of two dependent variables.<sup>1</sup> (See Table 7)

Characteristics of the final sample are shown in Table 8. The sample was almost evenly split by gender. Approximately 80% of the students were between the ages of 19 and 21, and were concentrated at the sophomore and junior levels.

A total of 401 subjects reported at least some usage of beer. On a seven-point semantic differential scale ranging from "Often" (1) to "Never" (7), the mean beer consuming frequency was 3.485. Of these subjects, however, the average frequency of consuming the subject brand of beer was 5.196 on an identical, seven-point "Often-Never" semantic differential scale. Only 1.7% of the sample responded as "Often" (1) consuming the subject brand. Therefore, brand loyalty effects were assumed to be minimal.

The median split for product relevance resulted in the high-relevance group consisting of 60.6% males and 39.4% females, and the low-relevance group consisting of 39.6% males and 60.4% females. Gender was assumed, however, to have no impact on response to the treatment conditions.

Table 6. TOTAL RESPONDENTS

		Severity of Warning		
		High	Low	
Mode of Trans- mission	Audio Only	56	54	110
	Video Only	55	57	112
	Audio- Video	56	56	112
	No Warning	57		57
	Different Exposure	54		54

TOTAL N = 445

Table 7. RESPONDENTS WITH PRE-TEST

		Product Relevance				
		High		Low		
		Severity of Warning				
		High	Low	High	Low	
Mode  of  Trans- mission	Audio Only	30	21	21	27	99
	Video Only	21	24	30	25	100
	Audio- Video	27	24	24	26	101
	No Warning	23		26		49
	Different Exposure	23		28		51
		193		207		400



Table 8. DEMOGRAPHIC CHARACTERISTICS OF SAMPLE

	Percent of Sample
<b>Sex</b>	
Male	49.2
Female	50.8
<b>Age</b>	
18	2.9
19	20.9
20	37.8
21	22.0
22	8.5
23	3.9
24+	3.4
<b>Class</b>	
Freshman	3.8
Sophomore	49.0
Junior	34.8
Senior	11.7

#### Scale and Manipulation Validation

Prior to data analysis, scale reliabilities were re-checked using the completed sample to insure the internal consistency of each scale. Final alphas were generally consistent with pre-test alphas, and were all greater than .70, so the scales were considered reliable.<sup>2</sup> (See Table 9)

Difference-of-means tests, or t-tests, between groups exposed to or asked to rate each of the two warnings were performed with the final sample as well to insure that the warning severity manipulation was successful.

Table 9. SCALE RELIABILITIES

<u>Variable</u>	<u>Scale Description</u>	<u>Sample Items</u>	<u>Pre-test N</u>	<u>Pre-test Alpha</u>	<u>Final N</u>	<u>Final Alpha</u>
Independent:						
Importance	Seven-item, five-point Likert	"Beer is important to me." "Beer is a product for which I have no need whatsoever."	50	.87064	400	.86635
Severity	Four-item, seven-point semantic differential	"Mild--Severe Threatening--Not Threatening"	48	.83669	445	.85558
Dependent:						
Product Safety Beliefs	Five-item, seven-point semantic differential	"Safe--Unsafe" "Dangerous--Not Dangerous"	48	.88833	445	.90374
	Five-item, five-point Likert	"Drinking alcohol is not dangerous." "Drinking alcohol threatens a person's safety."	28	.76006	445	.73060

Normally-distributed populations were assumed in order to use this statistical test.<sup>3</sup> Summated severity-scale means were significantly different for those exposed to the two conditions, as well as for the control groups which received either no exposure to the warning message or no exposure to the test commercial (see Table 10). Thus, the warning severity manipulation was considered valid.

A difference-of-means test of the two warnings was also performed, however, on a scale item regarding warning influence on beer consumption behavior, and results were insignificant. Thus, the warning manipulation may have failed to affect behavioral or other higher-order variables were such measures assessed. Whether or not a greater or lesser amount of anxiety was actually induced as a result of exposure to either message, therefore, was questionable.

#### Inclusion of Warning

Overall, 78% of the subjects exposed to the test commercial recalled the advertisement without aid, while 85% recognized the test commercial when given a roster of possible advertisements viewed. Of the subjects who recalled the commercial without aid, 38% also recalled the presence of a warning disclosure of some type and 23% accurately recalled the specific warning message transmitted. With identification of the test commercial,

Table 10. WARNING SEVERITY MANIPULATION CHECK

		Pooled Variance Estimate				
	<u>Number of Cases</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>T-Value</u>	<u>df</u>	<u>Two-tailed P</u>
Total:						
High-Severity	220	16.0000	5.804	5.10	443	.000
Low-Severity	225	13.2311	5.654			
Control Groups:						
High-Severity	53	17.9245	5.140	5.35	109	.000
Low-Severity	58	12.2069	6.028			
Control Group with Different Exposure:						
High-Severity	26	17.4231	6.313	3.80	52	.000
Low-Severity	28	11.3929	5.350			

specific recall rose to 24%, and when specifically asked to recall a warning message, 45% of those who recalled the commercial did so accurately.

T-tests were performed between the average recall of the advertisement for control and treatment conditions in order to test Hypotheses 1 and 2 regarding advertisement recall and product safety beliefs as a function of exposure to advertising including warning material. Due to different sample sizes, a pooled variance estimate was obtained thorough a weighted average of the sample variances divided by the proper degrees of freedom; greater weight was given to the variance from the larger sample.<sup>4</sup> A pooled estimate of variance is considered more efficient and less-biased than estimates based on either sample alone.<sup>5</sup>

Advertisement recall was coded dichotomously as "0" (no unaided mention of the test advertisement) or "1" (unaided mention of the test advertisement). Because the t-test assumes interval-level measurement to achieve mean data,<sup>6</sup> recall was considered a dummy variable with arbitrary metric values of zero and one, allowing for treatment as an interval variable.<sup>7</sup>

Null hypotheses (the counterparts to stated research hypotheses) were rejected if computed t-values significant at the .05 alpha level were achieved. The mean advertisement recall score from the "No Warning" control was not significantly different from that of all treatments. (See Table 11) Semantic differential and Likert-scale safety

Table 11. DIFFERENCE-OF-MEANS FOR ADVERTISEMENT RECALL AND PRODUCT SAFETY BELIEFS

		Pooled Variance Estimate				
	<u>Number of Cases</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>T-Value</u>	<u>df</u>	<u>Two-tailed P</u>
Unaided Recall:						
Treatments	334	.7814	.414	.16	389	.873
Control	57	.7719	.423			
Safety Beliefs (Semantic Differentials):						
Treatments	334	21.7275	6.127	.00	443	.997
Controls	111	21.7297	6.029			
(Likerts):						
Treatments	334	10.2365	3.118	-.25	443	.812
Controls	111	10.3153	2.730			

belief scores from both controls similarly failed to significantly differ from treatment group scores. Thus, the null forms of Hypotheses 1 and 2 were not rejected, as the inclusion of warning information failed to produce a significant difference in both recall of the advertisement and beliefs about the safety of the advertised product.

### Effects of Manipulated Independent Variables

To examine the effects of product relevance, warning severity, mode of transmission, and interactions between and among these variables on recall of the warning message (the null forms of hypotheses  $H_{n-1}$ ) and product safety beliefs (the null forms of hypotheses  $H_{n-2}$ ), the cell data were partitioned into main effect and interaction sums of squares. Separate three-way analyses of variance (ANOVAs) were conducted, due to the presence of three independent variables and one dependent variable (recall or beliefs), as follows:<sup>a</sup>

#### Main Effects

Product Relevance

Severity of Warning

Mode of Transmission

#### Two-way Interactions

Relevance/Severity

Relevance/Mode

Severity/Mode

### Three-way Interaction

#### Relevance/Severity/Mode.

Normal populations and homoscedastic cell population variances were presumed to satisfy the assumptions of ANOVA.<sup>9</sup> Furthermore, the semantic differential and Likert-type scale items, although technically only ordinal measurements,<sup>10</sup> were assumed to represent interval-level data for purposes of the analysis, since ANOVA requires criterion variables measured at least at the interval level.<sup>11</sup> Recall variables, actually dichotomous in nature, were also treated as interval measurements ranging from zero to one.<sup>12</sup>

When cell frequencies in a factorial design are unequal, main effects are not independent of each other and interaction effects are not independent of main effects.<sup>13</sup> Thus, a hierarchy was imposed to make components orthogonal to one other, where each factor received credit only for the incremental sums of squares it added to the effect of the other factors.<sup>14</sup>

#### Warning Recall

A three-way ANOVA allows for the simultaneous analysis of several hypotheses.<sup>15</sup> Null hypotheses regarding recall of the warning message (counterparts to H<sub>3-1</sub>, H<sub>4-1</sub>, H<sub>5-1</sub>, H<sub>6-1</sub>, H<sub>7-1</sub>, H<sub>8-1</sub>, and H<sub>9-1</sub>) were tested with three-way ANOVAs using both unaided and aided recall as well as



recognition measures, all dummy-coded as "zero" ("no recall") or "one" ("recall"). Unaided recall and recall after identification of the test commercial was provided were analyzed based on both mention of a warning disclosure and accurate recall of the specific message included.

Both warning severity and mode of transmission main effects were significant at the .05 alpha level for unaided recall of a warning disclosure and recall with commercial identification. (See Tables 12 and 13) The main effect of product relevance, however, was insignificant.

All three-way and two-way interactions for unaided and aided recall of a warning disclosure included were insignificant. If the three-factor interaction is insignificant in a three-way ANOVA, the lower-order two-factor interactions are considered,<sup>16</sup> and when two-way interactions are insignificant, focus is placed on the main effects.<sup>17</sup> The absence of significant interactions, allows for the outcome of F tests involving the main effects to be interpreted without qualification.<sup>18</sup>

Unaided and aided accurate recall of the specific warning transmitted was significant only for the main effect of transmission mode. (See Tables 14 and 15) Yet when specifically asked to recall a warning message, if one was present, both severity and transmission mode main effects were significant. (See Table 16)

Table 12. ANOVA SUMMARY TABLE FOR UNAIDED RECALL OF A WARNING DISCLOSURE

Source	SS	DF	MS	F	P
Main Effects:					
Relevance	.493	1	.493	2.581	.109
Severity	1.823	1	1.823	9.547	.002 *
Mode	9.996	2	4.998	26.174	.001 *
First-order Interactions:					
Relevance x Severity	.402	1	.402	2.104	.148
Relevance x Mode	.029	2	.014	.075	.928
Severity x Mode	.444	2	.222	1.164	.314
Second-order Interaction:					
Relevance x Severity x Mode	.539	2	.269	1.410	.246
Residual	54.994	288	.191		
Total	69.120	299	.231		

\* Significant at .05 alpha level.

Table 13. ANOVA SUMMARY TABLE FOR AIDED RECALL OF A WARNING DISCLOSURE

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.500	1	.500	2.559	.111
Severity	1.242	1	1.242	6.361	.012 ‡
Mode	10.381	2	5.190	26.578	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	.002	1	.002	.013	.910
Relevance x Mode	.017	2	.008	.043	.958
Severity x Mode	.517	2	.258	1.323	.268
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.418	2	.209	1.071	.344
Residual	56.242	288	.195		
Total	69.667	299	.233		

‡ Significant at .05 alpha level.

Table 14. ANOVA SUMMARY TABLE FOR ACCURATE UNAIDED RECALL OF THE WARNING MESSAGE

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.030	1	.030	.196	.658
Severity	.383	1	.383	2.478	.117
Mode	4.733	2	2.366	15.315	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	.413	1	.413	2.670	.103
Relevance x Mode	.024	2	.012	.076	.927
Severity x Mode	.089	2	.044	.287	.751
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.106	2	.053	.343	.710
Residual	44.501	288	.155		
Total	50.347	299	.168		

‡ Significant at .05 alpha level.

Table 15. ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF THE WARNING MESSAGE

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.465	1	.465	2.660	.104
Severity	.268	1	.268	1.530	.217
Mode	6.602	2	3.301	18.871	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	.068	1	.068	.388	.534
Relevance x Mode	.173	2	.087	.495	.610
Severity x Mode	.817	2	.408	2.335	.099
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.195	2	.097	.556	.574
Residual	50.380	288	.175		
Total	59.130	299	.198		

‡ Significant at .05 alpha level.

Table 16. ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF  
THE WARNING MESSAGE WITH WARNING MESSAGE INQUIRY

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.297	1	.297	.442	.506
Severity	3.692	1	3.692	5.508	.020 ‡
Mode	16.814	2	8.407	12.541	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	2.017	1	2.017	3.009	.084
Relevance x Mode	1.244	2	.622	.928	.397
Severity x Mode	.546	2	.273	.407	.666
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.953	2	.477	.711	.492
Residual	193.062	288	.670		
Total	218.147	299	.730		

‡ Significant at .05 alpha level.

Thus, warning severity and transmission mode had significant impacts on recall that a warning disclosure of some type existed, while mode of transmission more often significantly affected recall of the specific message. All recall interactions, however, were insignificant. Recognition of the warning message from a list of warnings produced neither main nor interaction effects. (See Table 17)

When the hypotheses were tested only for those subjects who recalled the test commercial without aid ( $n=238$ ), results differed somewhat. Again, no significant two-way interaction effects appeared, yet main effects for all three independent variables were significant for both unaided and aided recall of a warning disclosure. (See Tables 18 and 19) A significant three-way interaction was also found for the three variables in aided recall of a warning disclosure.

Significant severity and mode effects also occurred for accurate unaided recall of the specific message transmitted (see Table 20), and product importance, mode, and the two-way interaction between severity and mode for aided accurate message recall (see Table 21). Severity and mode main effects were also significant for recall with the warning aid (see Table 22), and the main effect of product relevance was significant for warning recognition given advertisement recall. (See Table 23) Thus, when only those who displayed unaided recall of the commercial were considered, the product relevance variable became important.

Table 17. ANOVA SUMMARY TABLE FOR WARNING MESSAGE RECOGNITION

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.058	1	.058	1.797	.181
Severity	.051	1	.051	1.596	.207
Mode	.114	2	.057	1.779	.171
<b>First-order Interactions:</b>					
Relevance x Severity	.004	1	.004	.132	.717
Relevance x Mode	.015	2	.007	.231	.794
Severity x Mode	.030	2	.015	.466	.628
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.136	2	.068	2.119	.122
Residual	9.264	288	.032		
Total	9.667	299	.032		



Table 18. ANOVA SUMMARY TABLE FOR UNAIDED RECALL OF A WARNING DISCLOSURE GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.841	1	.841	4.445	.036 ‡
Severity	2.335	1	2.335	12.335	.001 ‡
Mode	10.575	2	5.287	27.932	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	.289	1	.289	1.524	.218
Relevance x Mode	.111	2	.055	.292	.747
Severity x Mode	.475	2	.238	1.255	.287
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.835	2	.417	2.205	.113
Residual	42.969	227	.189		
Total	58.745	238	.247		

‡ Significant at .05 alpha level.

Table 19. ANOVA SUMMARY TABLE FOR AIDED RECALL OF A WARNING DISCLOSURE GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	1.272	1	1.272	6.642	.011 ‡
Severity	.844	1	.844	4.405	.037 ‡
Mode	8.410	2	4.205	21.951	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	.013	1	.013	.066	.798
Relevance x Mode	.575	2	.287	1.051	.225
Severity x Mode	.977	2	.488	2.549	.080
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	1.190	2	.595	3.015	.047 ‡
Residual	43.487	227	.192		
Total	56.812	238	.239		

‡ Significant at .05 alpha level.

Table 20. ANOVA SUMMARY TABLE FOR ACCURATE UNAIDED RECALL OF THE WARNING MESSAGE GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.123	1	.123	.704	.402
Severity	.719	1	.719	4.099	.044 ‡
Mode	5.262	2	2.631	15.001	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	.461	1	.461	2.627	.106
Relevance x Mode	.030	2	.030	.087	.917
Severity x Mode	.173	2	.173	.493	.611
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.197	2	.099	.563	.570
Residual	39.809	227	.175		
Total	46.862	238	.197		

‡ Significant at .05 alpha level.

Table 21. ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF THE WARNING MESSAGE GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	.950	1	.950	5.498	.020 ‡
Severity	.132	1	.132	.764	.383
Mode	5.306	2	2.653	15.360	.001 ‡
<b>First-order Interactions:</b>					
Relevance x Severity	.084	1	.084	.487	.486
Relevance x Mode	.572	2	.286	1.656	.193
Severity x Mode	1.499	2	.750	4.341	.014 ‡
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	.604	2	.302	1.748	.176
Residual	39.209	227	.173		
Total	48.218	238	.203		

‡ Significant at .05 alpha level.

Table 22. ANOVA SUMMARY TABLE FOR ACCURATE AIDED RECALL OF THE WARNING MESSAGE  
WITH WARNING MESSAGE INQUIRY GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
Main Effects:					
Relevance	.001	1	.001	.002	.967
Severity	2.052	1	2.052	4.489	.035 ‡
Mode	20.666	2	10.333	22.600	.001 ‡
First-order Interactions:					
Relevance x Severity	.914	1	.914	2.000	.159
Relevance x Mode	.963	2	.482	1.053	.350
Severity x Mode	1.573	2	.787	1.720	.181
Second-order Interaction:					
Relevance x Severity x Mode	.683	2	.341	.747	.475
Residual	103.785	227	.457		
Total	130.745	238	.549		

‡ Significant at .05 alpha level.

Table 23. ANOVA SUMMARY TABLE FOR WARNING MESSAGE RECOGNITION GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
Main Effects:					
Relevance	.196	1	.196	6.858	.009 ‡
Severity	.012	1	.012	.421	.517
Mode	.011	2	.005	.192	.826
First-order Interactions:					
Relevance x Severity	.013	1	.013	.470	.494
Relevance x Mode	.008	2	.004	.140	.870
Severity x Mode	.038	2	.019	.663	.516
Second-order Interaction:					
Relevance x Severity x Mode	.035	2	.018	.621	.539
Residual	6.483	227	.029		
Total	6.795	238	.029		

‡ Significant at .05 alpha level.

Based on findings regarding unaided and aided recall of a warning disclosure and the specific warning, null hypotheses  $H_{4-1}$  and  $H_{3-1}$  were rejected. Null hypotheses  $H_{6-1}$  and  $H_{7-1}$  could not be rejected, as product relevance failed to interact with either of the other independent variables with respect to warning recall.  $H_{5-1}$ ,  $H_{8-1}$ , and  $H_{9-1}$  were provided partial support, yet only under specific conditions. Therefore, the null form of these hypotheses were tentatively accepted.

#### Product Safety Beliefs

Three-way ANOVAs were also performed on both the semantic differential and Likert-type summated safety belief scales to test hypotheses  $H_{3-2}$ ,  $H_{4-2}$ ,  $H_{5-2}$ ,  $H_{6-2}$ ,  $H_{7-2}$ ,  $H_{8-2}$ , and  $H_{9-2}$ . Again, second- and first-order interactions were insignificant, so main effects were analyzed. (See Tables 24 and 25) Only the product relevance main effect was significant at the .05 alpha level. Findings were identical when only subjects who recalled the test commercial were considered. (See Tables 26 and 27)

Thus, exposure to the warning message had no significant effect on beliefs about the safety of the advertised product. Therefore, only the null form of Hypothesis  $H_{3-2}$  regarding product relevance was rejected.

Table 24. ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (SEMANTIC DIFFERENTIALS)

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	877.804	1	877.804	25.579	.001 ‡
Severity	49.413	1	49.413	1.441	.231
Mode	42.058	2	21.029	.613	.542
<b>First-order Interactions:</b>					
Relevance x Severity	5.724	1	5.724	.167	.683
Relevance x Mode	94.159	2	47.080	1.373	.255
Severity x Mode	117.014	2	58.507	1.706	.183
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	164.337	2	82.169	2.396	.093
Residual	9875.307	288	34.289		
Total	11194.587	299	37.437		

‡ Significant at .05 alpha level.



Table 25. ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (LIKERT-SCALE)

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	135.477	1	135.477	15.012	.001 ‡
Severity	5.657	1	5.657	.627	.429
Mode	23.107	2	11.554	1.280	.280
<b>First-order Interactions:</b>					
Relevance x Severity	.002	1	.002	.000	.990
Relevance x Mode	38.070	2	19.035	2.109	.123
Severity x Mode	2.932	2	1.466	.162	.850
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	6.584	2	3.292	.365	.695
Residual	2599.011	288	9.024		
Total	2816.037	299	9.418		

‡ Significant at .05 alpha level.

Table 26. ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (SEMANTIC DIFFERENTIALS) GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	488.025	1	488.025	14.843	.001 ‡
Severity	34.584	1	34.584	1.052	.306
Mode	48.295	2	24.147	.734	.481
<b>First-order Interactions:</b>					
Relevance x Severity	8.854	1	8.854	.269	.604
Relevance x Mode	53.526	2	26.763	.814	.444
Severity x Mode	161.433	2	80.716	2.455	.088
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	197.514	2	98.757	3.004	.052
Residual	7463.561	227	32.879		
Total	8452.360	238	35.514		

‡ Significant at .05 alpha level.

Table 27. ANOVA SUMMARY TABLE FOR PRODUCT SAFETY BELIEFS (LIKERT-SCALE) GIVEN ADVERTISEMENT RECALL

Source	SS	DF	MS	F	P
<b>Main Effects:</b>					
Relevance	109.201	1	109.201	11.684	.001 ‡
Severity	.990	1	.990	.106	.745
Mode	19.604	2	9.802	1.049	.352
<b>First-order Interactions:</b>					
Relevance x Severity	.443	1	.443	.047	.828
Relevance x Mode	25.788	2	12.894	1.380	.254
Severity x Mode	3.656	2	1.828	.196	.822
<b>Second-order Interaction:</b>					
Relevance x Severity x Mode	12.688	2	6.344	.679	.508
Residual	2121.563	227	9.346		
Total	2293.088	238	9.635		

‡ Significant at .05 alpha level.

### Directional Effects

Analyses of variance can reveal only the existence of differences in means, yet not the direction of differences.<sup>19</sup> Thus, *a posteriori* or post hoc analyses must be performed on significant main effect variables to uncover directional differences between and among group means.<sup>20</sup> Post hoc analyses were performed on the means of the variables that showed main effects in order to test the directional hypotheses set forth ( $H_{10}$  through  $H_{12}$ ).

T-tests between subjects exposed to the high-severity warning and those exposed to the low-severity warning revealed the superiority of the high-severity message in producing aided and unaided recall of a warning disclosure and the specific warning message transmitted with the warning aid. (See Table 28) Therefore, the null form of hypothesis  $H_{10}$  was rejected.

Because three categories of mode were used, t-tests were inapplicable for post hoc analysis. Thus, the Scheffe / method was used to compare pairwise differences in transmission mode means.<sup>21</sup> Audio-video and audio-only modes produced significantly higher recall than did the video-only mode in all types of recall. (See Table 29) The audio-video and audio-only modes however, failed to differ significantly. Therefore, the null form of  $H_{11}$  was rejected.

Table 28. WARNING SEVERITY T-TESTS

	<u>Number of Cases</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>T-Value</u>	<u>df</u>	<u>Two-tailed P</u>
Unaided Warning Recall:						
High-Severity	153	.4379	.498	2.90	298	.004
Low-Severity	147	.2789	.450			
Aided Warning Recall:						
High-Severity	153	.4314	.497	2.39	298	.018
Low-Severity	147	.2293	.460			
Specific Recall with Warning Aid:						
High-Severity	153	.6601	1.083	2.22	298	.027
Low-Severity	147	.4422	.498			

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Table 29. SCHEFFE POST-HOC COMPARISONS FOR MODE OF TRANSMISSION

		Audio Only	Video Only	Audio-Video
Unaided Disclosure Recall:				
	Audio Only	.4646		*
	Video Only	.1000		
	Audio-Video	.5149		*
Aided Disclosure Recall:				
	Audio Only	.2323		*
	Video Only	.0500		
	Audio-Video	.3564		*
Unaided Specific Recall:				
	Audio Only	.4949		*
	Video Only	.1000		
	Audio-Video	.5050		*
Aided Specific Recall:				
	Audio Only	.3424		*
	Video Only	.0600		
	Audio-Video	.4059		*
Specific Recall with Warning Aid:				
	Audio Only	.5859		*
	Video Only	.2500		
	Audio-Video	.8218		*

\* Difference significant at .05 alpha level.

T-tests were also conducted to uncover the directional effect of product relevance. Subjects for whom the test product was highly relevant demonstrated significantly greater unaided and aided recall of a warning disclosure, given recall of the test commercial. (See Table 30) As expected, product safety beliefs were also higher for high-relevance subjects, as evidenced by the mean summated semantic differential scale scores (low score indicative of greater safety) and that of the Likert-scale scores (high score indicative of greater safety). Therefore, the null form of hypothesis H<sub>12</sub> was also rejected.

#### Summary of Findings

Results from the reported experiment may be summarized in general terms as follows:

1. Product warning messages in advertising were recalled without aid by over one-third of the sample; specific recall increased when aid was provided.
2. Warning severity had an effect on recall. More specifically, a more-severely worded warning had a greater impact on recall of the warning message.

Table 30. PRODUCT RELEVANCE T-TESTS

	<u>Number of Cases</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>T-Value</u>	<u>df</u>	<u>Two-tailed P</u>
Unaided Warning Recall:						
High-Relevance	133	.43761	.498	2.74	278	.033
Low-Relevance	147	.3129	.465			
Aided Warning Recall:						
High-Relevance	133	.4060	.493	2.52	278	.012
Low-Relevance	147	.2653	.443			
Product Safety Beliefs						
Semantic Differential:						
High-Relevance	193	20.1606	6.303	-4.84	398	.000
Low-Relevance	207	23.0290	5.597			
Likert-scale:						
High-Relevance	193	10.8756	2.976	3.73	398	.000
Low-Relevance	207	9.7826	2.886			



3. Mode of transmission had an effect on warning message recall. An audio-video or audio-only format had a greater impact on recall of the warning message.
4. Product relevance had little impact on warning message recall.
5. Beliefs about the safety of the advertised product were unaffected by exposure to the warning message.

#### ENDNOTES FOR CHAPTER IV

<sup>1</sup>Based on a minimum of 10 subjects per cell per dependent variable; see: George O. Wesolowsky, Multiple Regression and Analysis of Variance (New York: John Wiley & Sons, 1976), p. 87.

<sup>2</sup>Jum C. Nunnally, Psychometric Theory (New York: McGraw-Hill Book Company, 1978), p. 245.

<sup>3</sup>Hubert Blalock, Jr., Social Statistics (New York: McGraw-Hill Book Company, 1979), p. 227.

<sup>4</sup>Ibid., p. 229.

<sup>5</sup>Ibid.

<sup>6</sup>Norman H. Nie, C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent, Statistical Package for the Social Sciences (New York: McGraw-Hill Book Company, 1975), p. 269.

<sup>7</sup>Ibid., p. 374.

<sup>8</sup>Frank M. Andrews, Laura Klem, Terrence N. Davidson, Patrick M. O'Malley, and Willard L. Rodgers, A Guide for Selecting Statistical Techniques for Analyzing Social Science Data (Ann Arbor: University of Michigan, 1981), p. 26.

<sup>9</sup>Blalock, p. 334.

<sup>10</sup>Thomas C. Kinnear and James R. Taylor, Marketing Research--An Applied Approach (New York: McGraw-Hill, Inc., 1979), p. 314

<sup>11</sup>Nie et. al., p. 399.

<sup>12</sup>Ibid., p. 374.

<sup>13</sup>Ibid., p. 405.

<sup>14</sup>Ibid., p. 406.

<sup>15</sup>Blalock, p. 360.

<sup>16</sup>Ibid., p. 366.

<sup>17</sup>Geoffrey Keppel, Design and Analysis--A Researcher's Handbook (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1976), p. 314.

<sup>18</sup>Ibid., p. 211.

<sup>19</sup>Blalock, p. 348.

<sup>20</sup>William M. Hays, Statistics for the Social Sciences (New York: Holt, Rinehart and Winston, Inc., 1973), p. 606.

<sup>21</sup>Ibid.

## CHAPTER V. DISCUSSION

### Implications of Findings

#### Warning Recall

Recall levels from the presented experiment indicate the positive potential of including product warning messages in broadcast television advertising. Attention levels may have been artificially inflated, however, due to the laboratory environment perhaps forcing, or at least altering, viewing due to the novelty of the exposure conditions.

Recall may also have been inflated because of the novelty of a warning transmitted in this format. As mentioned earlier, novelty often attracts consumer attention. Several open-ended recall responses were accompanied by statements indicating that subjects were not accustomed to seeing such warnings in advertisements for the test product.

Product relevance had little or no significant bearing on overall recall of the warning message. This lack of effect may have occurred because of the test product considered; beer may represent a generally low-involvement product for consumers. Although relevance was split at the median for the group of subjects, overall relevance for the product was not extremely high (average importance rating

was 2.79 on the five-point importance scale). Subject depth of processing and subsequent storage of the advertising information may not have been strongly affected by relevance.

When only those subjects who recalled the advertisement without aid were analyzed, however, product relevance did significantly affect recall of a warning disclosure and recognition of the specific message included. Although relevance failed to affect recall of the specific message, the differences in recall of a disclosure suggest that high-relevance subjects may have processed the advertisement at a deeper level, perhaps due to greater interest, and, therefore, demonstrated greater recall of the warning.

The more severe message produced superior recall, as predicted by fear appeal research, yet level of message severity did not result in differential recall of the specific warning message transmitted. This finding suggests that the more severe message had a greater impact on awareness of a danger associated with the product, but not on the specific wording used in the message. Severity did prove significant when subjects were asked to remember a warning message, yet this result may have been due to the word "warning" triggering greater recognition of the more severe message. (The mild warning did not contain the word itself.)

Thus, a more severely-worded message would best be employed in televised product advertising to create awareness of product risks. No interaction between product relevance and warning severity was uncovered, contrary to the predictions set forth, indicating that a more severely-worded warning would not pose a risk of defensive responses by consumers. Again, however, the lack of an avoidance effect may have been due to the nature of the test product utilized in the experiment. The product may have been of insufficiently high relevance to the subjects to initiate defensive reactions.

Furthermore, the warnings employed concerned moderate product use, as opposed to advocating the extinction of some behavior or adoption of a particular stand on a controversial issue, as did the communications considered in the fear and two-sided appeal literature. Thus, anxiety also may not have been greatly aroused due to the nature of the communication. The overall threat to subjects may have been mild since amount of alcohol intake is usually a controllable behavior.

The more severe warning was also longer than the mild warning (nine words versus six words), and was more specific in nature as well, both of which may have contributed to the greater recall of this message.

Mode of transmission produced a consistently significant effect on recall of the warning message, largely

due to the weakness of the video-only form. In fact, transmission mode proved the only significant main effect in overall recall of the specific message transmitted.

As predicted by much of the literature regarding information processing based on transmission method, audio material produced far greater retention of the warning message. Present disclaimers in broadcast television advertising, however, appear predominantly in video-only form, as discussed earlier. Such disclosures are rendered somewhat useless based on the findings of the present study. For a product warning in televised advertising to have any impact on creating consumer awareness of a product risk, it should be in at least audio form. Audio-video warnings did not produce significantly different levels of recall than did those in the audio-only form, again suggesting the lack of impact of a video disclosure.

None of the variables tested differentially affected warning message recognition, suggesting that the effect of the variables on overall retention of the message was slight. Differential retrieval of the information occurred, suggesting different encoding of the messages since recall requires subsequent reconstruction of a stimulus and recognition only discrimination among stimuli.<sup>1</sup> Storage of the information occurred, however, apparently regardless of the manipulations.

### Lack of Warning Impact on Beliefs

As expected, subjects for whom the test product was relevant showed more positive beliefs about the safety of the test product following exposure to the test advertising. Yet differential safety beliefs did not appear between those exposed to treatment conditions and the control groups, indicating a lack of impact of the warning message. Message severity and transmission mode similarly produced no effect on product safety beliefs. Although message recall was apparent, recall or knowledge measures following exposure to advertising have been shown to display little relation to ultimate attitudinal changes.<sup>2</sup>

This failure of the warning to impact significantly on beliefs may have been due to several factors, including the single exposure, subject sensitization, and the length of the message. Subjects were exposed to the warning message only once. Repeated exposure may be necessary to achieve any type of impact on beliefs.

Furthermore, due to the current abundance of public service coverage regarding alcohol consumption and the present action to remove alcohol advertising from the broadcast media, subjects may have been sensitized to the dangers associated with the test product, thereby rendering the short warning message weak in producing an effect on well-formed beliefs.



The brevity of the warning message may explain why the findings were incongruous with research on fear appeals and two-sided messages. Most of that literature involved a complete discourse on the dangers associated with a particular behavior. The warning message may have been too brief to induce any belief effects.

Potential Costs of Requiring Product  
Warning Information in Advertising

Although the experimental results indicated at least recall of warnings in advertising, an analysis of the impact of including such information in advertisements must consider possible long-run detrimental ramifications. While the preceding sections focused largely upon the identification of beneficial aspects to consumers of providing warnings in advertisements as both a protective safety measure and an aid to effective decision-making, such action may, in fact, prove fruitless or even harmful to the consuming public. Consumers may be unable to cognitively process the additional information, fail to attend to or discount the importance of the messages, miscomprehend the warning, and/or experience undue anxiety upon exposure to the warning information. Furthermore, both legal and economic costs may arise for the advertiser due to such a policy.

## Consumer Psychological Costs

### Information Overload

The three major models of memory concur that a limited processing capacity available for allocation, or short-term memory store, exists suggesting that consumers are able to process only a certain amount of information before an "overload" or confusion state arises.<sup>3</sup> The "channel capacity of an observer" is defined as the greatest amount of information that the observer is able to supply about a transmitted stimulus based on absolute judgment; experiments have revealed that individuals apparently possess a limitation holding the channel capacity at approximately five to seven "chunks" of information.<sup>4</sup>

Topics studied in memory research are often simplistic and narrowly focused, using digits, letters, nonsense syllables, or words as stimuli. Thus, they are deficient in providing a direct application to consumer behavior or advertising situations.<sup>5</sup>

Due to this notion from memory research, that individuals face limitations on their ability to deal effectively with large amounts of information within a limited time period, concern has risen among advertisers and policy makers about the amount of information consumers can handle within fixed time periods.<sup>6</sup> Studies of consumer situations have focused primarily on product information amounts and presentation formats. Based on a

wide variety of package information, consumers have been found to exhibit the greatest accuracy in brand selection, or the selection of that brand closest in character to their "ideal" brand, when the fewest number of brands or the least amount of information per brand was presented; furthermore, a curvilinear relationship between increased information and effective decision-making has been uncovered, suggesting that some type of confusion or reduction in accuracy occurred beyond a fixed point.<sup>7</sup> Other researchers have argued against acceptance of this notion due to the conceptualizations and methodologies used in these studies.<sup>8</sup>

Although research results do not concur, specific limits to the amount of information that can be accommodated and effectively processed during a limited time span by consumers arriving at purchase decisions do appear to exist, and confusion and dysfunction apparently occur upon exceeding such limits. If limitations on information-processing capabilities occur in intentional learning situations, and additional information may lead to confusion, the inclusion of warning information in advertising may actually produce less efficiency in consumer awareness of product attributes. Televised disclosures, wherein processing time may be limited to only a few seconds might be particularly problematic outside of a laboratory environment.<sup>9</sup>

Memory performance, however, may depend upon what is required of consumers in processing the information. If a consumer requires only knowing a general "chunk" of information (such as a short cautionary statement), this may be more easily processed and retained than would more detailed warning information.<sup>10</sup> The present experiment did demonstrate retention of a brief warning message. Shallow processing might require encoding a health risk as a "caution," perhaps sufficient in creating consumer awareness, while deeper encoding may involve deriving a more complex meaning from a warning message.<sup>11</sup>

#### Selective "Inattention"

While a limited cognitive processing capacity might render warnings in advertisements ineffective, increasing the overall quantity of warning messages may result in consumers consciously or unconsciously choosing not to attend to the material or discounting its importance as well. Due to the vast amount of communication messages consistently forced upon an individual, he may choose to disregard certain or all of the messages, practicing "selective inattention."

The human mind is constantly bombarded by advertising messages and chooses to ignore most; an advertisement encounters a variety of screens or modifiers preventing some messages from having any impact.<sup>12</sup> Research dealing with advertising clutter levels has revealed that consumers tend

to consciously or unconsciously ignore advertisements as their amount increases;<sup>13</sup> the same might prove true of the public reaction to warnings. As the amount of and exposure to warnings increases, concern and, thus, attention may in fact decrease.<sup>14</sup> Unfortunately, "[n]owhere in the literature, neither academic nor judicial, is open consideration given to the very real problem of the impact that overwarning will have on consumers."<sup>15</sup>

Surveys reveal that consumers have become desensitized from almost daily exposure to new revelations about the dangers of food, drugs, water, and air. Seeing no evidence of imminent danger and believing that scientific judgments on the basic animal studies are irrelevant to their lives, consumers have begun to feel each discovery is another example of scientists "crying wolf."<sup>16</sup>

By increasing the sheer amount of warning information to which the public is exposed, the resulting "noise" may render specific information ineffective as a loss of discrete communication messages occurs.

To be effective, therefore, warnings must be selective and discriminating, calling attention to dangers with real and significant probabilities of occurrence.<sup>17</sup> A warning gradation system has been suggested wherein varying label colors and/or symbols might be used to help the public distinguish probabilities of danger and degree of potential harm associated with products.

For instance, one could use a black skull and crossbones where there is a very high probability of danger. . . for concentrated toxins and high-voltage electricity. . . Dark red labels . . . where there is a high probability of danger and/or serious injury (perhaps suitable for cigarette packages). Pale-blue labels. . . for lower levels of probability. . . (for instance, when a drug is for external use only and will cause upset stomach if ingested).<sup>18</sup>

The findings of the present study suggest the limitations of video disclosures, yet a similar system might be developed for use in broadcast product advertising wherein certain words are used to represent particular degrees of risk or danger.

#### Miscomprehension of Information

A third potential cost of supplying warning messages in advertising, stemming from both the inability to process information and a lack of desire to do so, is consumer miscomprehension of the warning.

It should be axiomatic that a warning that fails to communicate its intended message is functionally useless. In fact, it might be misleading. Worse yet, it might create safety problems."<sup>19</sup>

Warning messages in advertising must necessarily be brief. As pointed out earlier, while consumers may fail to understand labeling information due to its complexity, warning information in advertising may be misunderstood due

to its simplicity. With respect to the cigarette warning, for example:

Who is the Surgeon General? Does he have something to do with our military forces? Is there a Surgeon General? . . . Can you list three major diseases strongly related to smoking? Four? How dangerous is it? A slight chance of serious illness if you smoke all your life?<sup>20</sup>

Consumers have been found to miscomprehend affirmative disclosure messages designated for inclusion in advertising.<sup>21</sup> Furthermore, an experimental study of televised communication miscomprehension revealed that approximately 30% of the relevant informational content in televised communications was miscomprehended, and each communication tested was miscomprehended by at least some of the viewers.<sup>22</sup> "Whether or not information can be stored may be in large part a function of not only the consumer's interest in the information, but also of how easy the information is to process."<sup>23</sup>

A warning message in advertising, however, might best serve to direct consumers to seek further information from other sources. Furthermore, message complexity has been found to interact with medium of presentation, as better comprehension of simple information occurs with videotaped messages and better comprehension of complex messages with written communication.<sup>24</sup> This finding indicates the potential superiority of brief televised warnings in producing comprehension. Consumers have been found to be capable of comprehending simple product information

disclosures, but are sensitive to slight differences in message content,<sup>25</sup> implying the importance of testing message comprehension prior to including information in advertising. Immediate miscomprehension of an advertised warning may also subside with repeated exposure to the message over time.

### Creation of Fear

Transmitting warning or cautionary information to the public may result in inducing unnecessary anxiety, another potential psychological cost to consumers. Not only might one question the notion of creating tension as a psychological issue, but the effectiveness of communication that arouses anxiety as well.

Contemporary American society has been characterized as facing numerous tension-provoking situations, including increasing violent crime, a deteriorating environment, and the threat of nuclear war.<sup>26</sup> "An important question is whether the general level of an individual's anxiety may be further increased as a result of advertising that uses fear appeals."<sup>27</sup> While a warning may be designed merely to supply information, without the intent of creating anxiety, as is often the goal of fear appeals used in persuasive communication, warnings appearing in advertising may, indeed, arouse fear. One must question whether this potential anxiety arousal is more detrimental to society than is the lack of sufficient product warning information.



Not only might the arousal of fear prove harmful to society, inhibitory effects in consumers may result from such communication messages, rendering them weak in relaying the intended information.

Although, as pointed out earlier, the research in this area is equivocal, and the reported experiment showed no detrimental effects from a stronger warning message, one must at least be cognizant of those studies that reported the curvilinear relationship between increased fear and communication effectiveness when considering the issue of including warnings in advertising. If warnings for particular products do arouse a high level of tension, the message may have little effect in terms of both recall and belief change, as consumers may exhibit the avoidance reaction postulated by some fear appeal research. In such instances, however, milder warnings might be effectively employed as opposed to severely-worded messages.

#### Advertiser Liability

In addition to possible consumer costs, requiring warning information in advertising presents potential legal problems from the perspective of the advertiser. Product liability cases are becoming increasingly commonplace in the United States; the number of suits filed in U. S. District Courts has increased over 800% in the past decade.<sup>28</sup> The provision of any information to consumers places

responsibility for each item with the manufacturer. As previously mentioned, a warning that fails to communicate its intended message might create safety problems.

Warnings may also actually serve to induce unsafe behavior, or a lack of care, based upon consumer reliance that each and every hazard will be pointed out to them.<sup>29</sup>

Furthermore, the issuance of a product warning may result in lawsuits from those injured by the defect prior to the warning. Were the FDA to begin requiring warnings regarding the side effects of a particular drug, for example, consumers may suddenly claim to experience suffering from past use of the drug. While non-compliance to an administrative agency policy may result in negligence charges against a company, compliance does not immunize a company from strict liability.<sup>30</sup>

Thus, the requirement of warnings in advertising may give rise to additional legal action against advertisers. Suits against the media have resulted from persons led to do something seemingly safe or innocuous as depicted in the media, but resulting in injury.<sup>31</sup> Product cases have been tried in which advertising, due to its timing and/or message content, was determined to impact on the misfortune of consumers,<sup>32</sup> suggesting that advertising does presently play a role in liability cases.

Until recently, claims for damages for a product-related injury typically required proof that the product was defective or had failed to meet manufacturer's standards;

strict liability, holding the manufacturer completely responsible without fault, is becoming more prevalent, as a movement toward total fault lying with the product and none with the conduct of the consumer apparently nears. "The manufacturer has not yet been held liable when some swinger mashes his thumb with a hammer, but that day may come."<sup>33</sup>

Unlike negligence, under which the possible punishable behavior of the manufacturer is examined, the doctrine of strict liability focuses on compensation for the injured person. Manufacturers can be held strictly liable for inadequately warning or failing to warn consumers about unreasonable dangers. Thus, manufacturers must foresee dangers associated with reasonable and intended use of the product and inform users of these dangers; the warning must be specific so that if followed, "it would render the product safe for consumers."<sup>34</sup> Otherwise, the manufacturer may be held liable.

The inclusion of warnings in advertising may actually help the advertiser in certain instances. A cause of action predicated on strict tort liability may be based on a marketing defect wherein failure to provide adequate warning of the dangers, risks, and hazards involved in the use of a product is apparent, rendering the product unreasonably dangerous. Whether or not the mere provision of a warning message provides a certain defense, however, is questionable, depending upon the adequacy and risk reduction

value of the warning.<sup>35</sup> Yet because "failure to warn" has become an important fault concept in law,<sup>36</sup> providing additional product warnings in advertising may help serve as a defense for manufacturers against product liability allegations.

### Research Directions

#### Repetition Effects

Frequency effects clearly require future study. That repeated exposure to a stimulus enhances future recall of that stimulus is one of the oldest notions in memory research. Furthermore, testing based on multiple advertising exposures is significantly more likely to give correct predictions than are commercial tests based on a single exposure.<sup>37</sup> Due to the nature of consumer response to television advertising, repeated exposure may be effective in producing a greater overall level of information recall.

Studies of corrective advertising have revealed that while one exposure to a corrective message may have little influence on beliefs,<sup>38</sup> multiple exposures might produce a significant impact.<sup>39</sup> Exposure to corrective messages in broadcast versus print media have also been shown to result in differing effects on consumer beliefs,<sup>40</sup> suggesting the importance of testing warnings in different media due to potentially different methods of information processing.

Attention to warning messages in advertising, however, may also decrease due to repetition effects. Studies of advertising wearout suggest that stimulus repetition eventually leads to a lack of attention. Warning message spacing and variation, however, may counteract potential negative effects from repetition as the novelty of the message may both attract attention and forestall wearout.<sup>41</sup> Therefore, varying warning executions, as is proposed with cigarette labeling, may allow for the establishment of an effective middleground between underexposure and overexposure.

#### Warnings for Various Products

Due to the small-scale nature of the presented research, warning messages for only one product were examined. Although selected based on the subjects, beer may represent an idiosyncratic product. As mentioned, public service announcements and the current campaign to remove broadcast alcohol advertising may have sensitized student subjects to the dangers of excessive alcohol use. This prior awareness might have affected perception of the warning message. Prior awareness of the dangers associated with other products, however, may be minimal or even nonexistent.

Furthermore, advertising for different product classes may inherently produce different consumer reactions. At

present, warning labels have been proposed at the state or national level on products ranging from smokeless tobacco<sup>42</sup> to children's toys<sup>43</sup> to food sulfites<sup>44</sup> to objectionable phonograph records.<sup>45</sup> Consumers may react differently to warning messages for these very differing product categories. Thus, warnings presented in the advertising for other products require similar experimental testing.

Prescription drugs represent a particularly important product since advertising directly to consumers is becoming a reality. Prescription drug advertising directed at physicians presently includes a block of copy regarding potential drug side effects, yet "[n]o one is sure how the technical information can be summarized in a meaningful form for consumers, especially in tv ads."<sup>46</sup>

#### Different Types of Warnings

The present research also focused only on warnings regarding excessive product usage; other types of warnings should be tested as well, since consumer response may differ. Because of intrinsic properties, certain products, such as heavy machinery, chemicals, and flammable materials, present the potential for harm to the ultimate user.<sup>47</sup> Thus, warnings regarding inherent product characteristics require experimental study.

Furthermore, a small group of consumers may possess an unusual susceptibility to a product, such as an allergic reaction, thereby necessitating a product warning.<sup>48</sup>

Reactions to warnings of this nature may differ as well due to the increased relevance of product risks to particular users. Thus, both inherent product element warnings, such as ingredient disclosures, and warnings directed at susceptible individuals, such as pregnant women, require experimental testing in advertisements.

#### Source of Warning Message

Not only should different media, products, and warning types be tested experimentally, but varying sources of the warning message as well. Sources were not included in the warning messages used in the reported experiment, yet, as mentioned, consumers have been found to be sensitive to slight modifications in the wording of affirmative disclosures. Furthermore, the present experiment did demonstrate that consumers were able to replay the presented warning fairly accurately, suggesting the capability for perceiving the source of a warning message.

Studies on the effect of the source in corrective advertising messages do not unanimously concur, yet some have found differential effects contingent upon whether the source of the message originated from the government or the advertiser.<sup>49</sup> The credibility of the message has also been found to influence responses to communications using fear appeals.<sup>50</sup> Therefore, the source of a warning message, an

industry, company, governmental agency, or other organization, should also be tested in an advertising context.

### Conclusions

Results from the experiment undertaken indicate that including product warning messages in advertising may, indeed, be an effective method of transmitting product risk information to consumers. Obviously, the study was limited in scope as it examined only one type of warning for one product and involved only one exposure to the message. Yet the finding that the warning message was perceived in this setting provides support for the notion that consumers may benefit from such messages, at least in attaining awareness. This topic clearly warrants further study in the areas outlined in order to determine the full potential for providing consumers with protective information in this format.



## ENDNOTES FOR CHAPTER V

<sup>1</sup>James R. Bettman, "Memory Factors in Consumer Choice," Journal of Marketing, 43 (Spring 1979):39-48.

<sup>2</sup>Jack B. Haskins, "Factual Recall as a Measure of Advertising Effectiveness," Journal of Advertising Research:2-8.

<sup>3</sup>James R. Bettman, "Memory Factors in Consumer Choice," p. 39.

<sup>4</sup>See: George A. Miller, "The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information," The Psychological Review, 63 (March 1956):81-97; Herbert A. Simon, "How Big is A Chunk?" Science, February 1974, pp. 482-8.

<sup>5</sup>Bettman, "Memory Factors in Consumer Choice," p. 44.

<sup>6</sup>Debra L. Scammon, "'Information Load' and Consumers," Journal of Consumer Research, 4 (December 1977):148-55.

<sup>7</sup>See: Jacob Jacoby, Donald E. Speller, and Carol A. Kohn, "Brand Choice Behavior as a Function of Information Load," Journal of Marketing Research, XI (February 1974):63-9; Jacob Jacoby, Donald E. Speller, and Carol Kohn Berning, "Brand Choice Behavior as A Function of Information Load: Replication and Extension," Journal of Consumer Research, 1 (June 1974):33-42; and Jacob Jacoby, "Information Load and Decision Quality: Some Contested Issues," Journal of Marketing Research, XIV (November 1977):569-73.

<sup>8</sup>See: William L. Wilkie, "Analysis of Effects of Information Load," Journal of Marketing Research, XI (November 1974):462-6; J. Edward Russo, "More Information is Better: A Reevaluation of Jacoby, Speller and Kohn," Journal of Consumer Research, 1 (December 1974):68-72; and Naresh K. Malhotra, Arun K. Jain, and Stephen W. Lagakos, "The Information Overload Controversy: An Alternative Viewpoint," Journal of Marketing, 46 (Spring 1982):27-37.

<sup>9</sup>James R. Bettman, "Issues in Designing Consumer Information Environments," Journal of Consumer Research, 2 (December 1975):169-77.

<sup>10</sup>Bettman, "Memory Factors in Consumer Choice," p. 47.

<sup>11</sup>J. C. Olson, "An Information Processing Perspective," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds., Banbury Report 6: Product Labeling and Health Risks (New York: Cold Spring Harbor Laboratory, 1980), p. 127.

<sup>12</sup>Burleigh Gardner. A Conceptual Framework for Advertising (Chicago: Crain Communications, Inc., 1982).

<sup>13</sup>For example, see: Leo Bogart and Charles Lehman, "The Case of the 30-Second Commercial," Journal of Advertising Research, 23 (February/March 1983):11-19; David E. Carter, "Newspaper Advertising Readership: Thick vs. Thin Issues," Journal of Advertising Research, 11 (April 1971):18-20; "The Clutter Crisis," Media Decisions, December 1971, pp. 42-4; and Dennis H. Gensch, "Media Factors: A Review Article," Journal of Marketing Research, 7 (May 1970):216-25.

<sup>14</sup>Amitai Etzioni, "Caution: Too Many Health Warnings Could be Counterproductive," Psychology Today, December 1978, pp. 20-22.

<sup>15</sup>A. D. Twerski, A. S. Weinstein, W. A. Donaher, and H. R. Piehler, "The Use and Abuse of Warnings in Products Liability--Design Defect Litigation Comes of Age," Cornell Law Review, 61 (April 1976), p. 513.

<sup>16</sup>Michael B. Mazis, "An Overview of Product Labeling and Health Risks," in Morris, Mazis, and Barofsky, p. 3.

<sup>17</sup>Twerski, Weinstein, Donaher, and Piehler, p. 514.

<sup>18</sup>Etzioni, p. 21.

<sup>19</sup>George A. Peters, "Toward Effective Warnings for Automobiles," Trial, November 1983, p. 116.

<sup>20</sup>John A. Miller, "Are Mandated Disclosures Deceptive Advertising?" Journal of Advertising, 6 (Winter 1977): 4-9.

<sup>21</sup>Jacob Jacoby, Margaret C. Nelson, and Wayne D. Hoyer, "Corrective Advertising and Affirmative Disclosure Statements: Their Potential for Confusing and Misleading the Consumer," Journal of Marketing, 46 (Winter 1982):61-72.

<sup>22</sup>Jacob Jacoby, Wayne D. Hoyer, and David A. Sheluga, Miscomprehension of Televised Communications (New York: The Education Foundation of the American Association of Advertising Agencies, 1980), p. 89.

<sup>23</sup>Bettman, "Memory Factors in Consumer Choice," p. 43.

<sup>24</sup>Shelly Chaiken and Alice H. Eagly, "Communication Modality as a Determinant of Message Persuasive and Message Comprehensibility," Journal of Personality and Social Psychology, 34 (1976):605-14.

<sup>25</sup>G. Ray Funkhouser, "An Empirical Study of Consumers' Sensitivity to the Wording of Affirmative Disclosure Messages," Journal of Public Policy and Marketing, 3 (1984):26-37.

<sup>26</sup>Homer E. Spence and Reza Moinpour, "Fear Appeals in Marketing--A Social Perspective," Journal of Marketing, 36 (July 1972):41.

<sup>27</sup>Ibid.

<sup>28</sup>Marcia Stepanek, "Battling Blame: Pros and Cons of Liability Bill," Detroit Free Press, August 5, 1984, p. F4.

<sup>29</sup>Peters, p. 118.

<sup>30</sup>Walter Guzzardi, Jr., "The Mindless Pursuit of Safety," Fortune, April 9, 1979, p. 62.

<sup>31</sup>Robert Drechsel, "Media Tort Liability for Physical Harm: Problems in Legal Duty and Cause," presented to the Law Division, Association for Education in Journalism and Mass Communication, Memphis, Tennessee, August 1985, p. 2.

<sup>32</sup>For detailed discussion, see: Fred W. Morgan, Jr., "The Products Liability Consequences of Advertising," Journal of Advertising, 8 (Fall 1979):30-7; and Gene W. Murdock and James Peterson, "Strict Product Liability for Advertising Agencies: A Pro/con Discussion," Journal of Advertising, 10 (1981):5-10.

<sup>33</sup>Guzzardi, p. 62.

<sup>34</sup>Fred W. Morgan and Dana I. Avrunin, "Consumer Conduct in Product Liability Litigation," Journal of Consumer Research, 9 (June 1982):49.

<sup>35</sup>James B. Sales, "The Duty to Warn and Instruct for Safe Use in Strict Tort Liability," St. Mary's Law Journal, 13 (1982), p. 524.

<sup>36</sup>Peters, p. 119.

<sup>37</sup>Joel N. Axelrod, Choosing the Best Advertising Alternative (New York: Association of National Advertisers, Inc., 1971), p. 25.

<sup>38</sup>Alan G. Sawyer and Richard J. Semenik, "Carryover Effects of Corrective Advertising," in H. Keith Hunt, ed., Proceedings of the Association for Consumer Research (Ann Arbor: Association for Consumer Research, 1978), pp. 343-51.

<sup>39</sup>Richard W. Mizerski, Neil K. Allison, and Stephen Calvert, "A Controlled Field Study of Corrective Advertising Using Multiple Exposures and a Commercial Medium," Journal of Marketing Research, XVII (August 1980):341-8.

<sup>40</sup>Japhet H. Nkonge and C. Scott Greene, "The Impact of Communication Medium and Message Format on the Effectiveness of Corrective Messages," Current Issues and Research in Advertising, 1982, pp. 89-112.

<sup>41</sup>Joel N. Axelrod, "Advertising Wearout," Journal of Advertising Research, 20 (October 1980):13-18; Allan Greenberg and Charles Suttoni, "Television Commercial Wearout," Journal of Advertising Research, 13 (October 1973):47-54.

<sup>42</sup>Richard L. Gordon, "Health Warnings Urged for Smokeless-Product Ads," Advertising Age, February 20, 1984, p. 14; CBS, "60 Minutes--Going Smokeless," June 9, 1985.

<sup>43</sup>Dan Sperling, "A Push for Safety Labels for Toys," USA Today, 1985, p. 1A.

<sup>44</sup>Jacquelynn Boyle, "State Orders Warnings Over Sulfites in Food," Detroit Free Press, August 16, 1985, p. 1A.

<sup>45</sup>"Warning Label Urged to Identify 'Sexy' Song," Lansing State Journal, November 1, 1984.

<sup>46</sup>Betty Holcomb, "Pitching Patients," Madison Avenue, May 1985, pp. 100-107.

<sup>47</sup>Sales, p. 531.

<sup>48</sup>Ibid., p. 538.

<sup>49</sup>See: Robert F. Dyer and Philip G. Kuehl, "The Corrective Advertising Remedy of the FTC: An Experimental Evaluation," Journal of Marketing, 38 (January 1974):48-54; H. Keith Hunt, "Effects of Corrective Advertising," Journal of Advertising Research, 13 (October 1973):15-24.

<sup>50</sup>Brian Sternthal and C. Samuel Craig, "Fear Appeals: Revisited and Revised," Journal of Consumer Research, 1 (December 1974):22-34.

## **APPENDICES**

## **APPENDIX A**

## APPENDIX A. SUBJECT CONSENT FORM

### MICHIGAN STATE UNIVERSITY

DEPARTMENT OF ADVERTISING

EAST LANSING • MICHIGAN • 48824-1212

#### CONSENT FORM

The purpose of this study is to determine responses to televised material. You will be asked to view a televised program and answer questions about the content. The experiment will take approximately 45 minutes to complete. A more detailed explanation of the purpose of the study will be provided following completion of the experiment. Results will be made available to participants upon request.

I, \_\_\_\_\_, understand that participation  
(Please Print Your Name)  
in this experiment is voluntary and that I may withdraw from the experiment at any time without penalty. I understand that there are no physical, psychological, or social risks involved, and any responses that I make during the study will remain anonymous and will be reported only in aggregate form. With the above understanding, I agree to participate in this experiment.

\_\_\_\_\_  
(Subject's Signature)

\_\_\_\_\_  
(Date)

Michigan State University is an Equal Opportunity Institution



## **APPENDIX B**

## APPENDIX B. PRODUCT RELEVANCE PRE-TEST

### ADVERTISING 205 - RESEARCH PARTICIPATION

#### PART I

Follow the instructions below. Mark your answers on the back of your exam scoring sheet (questions 85 - 105).

PART II of the research participation will occur near the end of the term. Check the hotline for further instructions.

-----

Below is a list of statements. For each of the statements, mark your answer on your scoring sheet as follows:

1. Strongly Agree
2. Agree
3. Neutral
4. Disagree
5. Strongly Disagree

85. I use **ASPIRIN** often.

86. I rate **ASPIRIN** as being of highest importance to me personally.

87. If I received negative information about **ASPIRIN**, I would easily change my mind about using it.

88. I presently do not use **ASPIRIN** at all.

89. **ASPIRIN** is a product for which I have no need whatsoever.

90. **ASPIRIN** is important to me.

91. I will use **ASPIRIN** in the future.

- 92. I consume beer often.
- 93. I rate beer as being of highest importance to me personally.
- 94. If I received negative information about beer, I would easily change my mind about using it.
- 95. I presently do not consume beer at all.
- 96. Beer is a product for which I have no need whatsoever.
- 97. Beer is important to me.
- 98. I will consume beer in the future.
- 99. I use sports vehicles (jeeps, motorcycles, etc.) often.
- 100. I rate sports vehicles as being of highest importance to me personally.
- 101. If I received negative information about sports vehicles, I would easily change my mind about using them.
- 102. I presently do not use sports vehicles at all.
- 103. Sports vehicles are products for which I have no need whatsoever.
- 104. Sports vehicles are important to me.
- 105. I will use sports vehicles in the future.

## **APPENDIX C**

APPENDIX C. Post-Exposure Questionnaire

ADVERTISING 205 RESEARCH PARTICIPATION PART II

NAME -----  
(Please print Last Name, First Name)

STUDENT NUMBER -----

DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

A group of concepts follows. Please evaluate the concepts on the traits listed beneath each concept by placing an "X" in the space along the line that most closely reflects your feeling about the concept. For example, if you feel the concept is closely related to one end of the scale, mark the space close to that end. If you consider the concept to be neutral on a trait, or that both sides of the scale are equally associated with the concept, you should mark the space in the middle of the scale.

### MARRIAGE

BAD	_____	_____	_____	_____	_____	_____	GOOD
SAFE	_____	_____	_____	_____	_____	_____	UNSAFE
PLEASANT	_____	_____	_____	_____	_____	_____	UNPLEASANT
DANGEROUS	_____	_____	_____	_____	_____	_____	NOT DANGEROUS
NOT USEFUL	_____	_____	_____	_____	_____	_____	USEFUL
NOT HARMFUL	_____	_____	_____	_____	_____	_____	HARMFUL
UNIMPORTANT	_____	_____	_____	_____	_____	_____	IMPORTANT
DAMAGING	_____	_____	_____	_____	_____	_____	NOT DAMAGING
NOT HAZARDOUS	_____	_____	_____	_____	_____	_____	HAZARDOUS

CONTINUE TO THE NEXT PAGE.

**RELIGION**

BAD \_\_\_\_\_ GOOD  
 SAFE \_\_\_\_\_ UNSAFE  
 PLEASANT \_\_\_\_\_ UNPLEASANT  
 DANGEROUS \_\_\_\_\_ NOT DANGEROUS  
 NOT USEFUL \_\_\_\_\_ USEFUL  
 NOT HARMFUL \_\_\_\_\_ HARMFUL  
 UNIMPORTANT \_\_\_\_\_ IMPORTANT  
 DAMAGING \_\_\_\_\_ NOT DAMAGING  
 NOT HAZARDOUS \_\_\_\_\_ HAZARDOUS

**ETHNIC BACKGROUND**

BAD \_\_\_\_\_ GOOD  
 SAFE \_\_\_\_\_ UNSAFE  
 PLEASANT \_\_\_\_\_ UNPLEASANT  
 DANGEROUS \_\_\_\_\_ NOT DANGEROUS  
 NOT USEFUL \_\_\_\_\_ USEFUL  
 NOT HARMFUL \_\_\_\_\_ HARMFUL  
 UNIMPORTANT \_\_\_\_\_ IMPORTANT  
 DAMAGING \_\_\_\_\_ NOT DAMAGING  
 NOT HAZARDOUS \_\_\_\_\_ HAZARDOUS

**STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.**

Please write down everything you can remember about each of the commercials included in the program you saw, such as the products advertised, brand names, sales messages, slogans, and other information presented. Be as specific as possible.

STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.



A group of products follows. Please evaluate the products on the traits listed beneath each product by placing an "X" in the space along the line that most closely reflects your feeling about the product. For example, if you feel the product is closely related to one end of the scale, mark the space close to that end. If you consider the product to be neutral on a trait, or that both sides of the scale are equally associated with the product, you should mark the space in the middle of the scale.

## ASPIRIN

BAD	_____	_____	_____	_____	_____	_____	GOOD
SAFE	_____	_____	_____	_____	_____	_____	UNSAFE
PLEASANT	_____	_____	_____	_____	_____	_____	UNPLEASANT
DANGEROUS	_____	_____	_____	_____	_____	_____	NOT DANGEROUS
NOT USEFUL	_____	_____	_____	_____	_____	_____	USEFUL
NOT HARMFUL	_____	_____	_____	_____	_____	_____	HARMFUL
UNIMPORTANT	_____	_____	_____	_____	_____	_____	IMPORTANT
DAMAGING	_____	_____	_____	_____	_____	_____	NOT DAMAGING
NOT HAZARDOUS	_____	_____	_____	_____	_____	_____	HAZARDOUS

CONTINUE TO THE NEXT PAGE.

**BEER**

<b>BAD</b> _____	<b>GOOD</b> _____
<b>SAFE</b> _____	<b>UNSAFE</b> _____
<b>PLEASANT</b> _____	<b>UNPLEASANT</b> _____
<b>DANGEROUS</b> _____	<b>NOT DANGEROUS</b> _____
<b>NOT USEFUL</b> _____	<b>USEFUL</b> _____
<b>NOT HARMFUL</b> _____	<b>HARMFUL</b> _____
<b>UNIMPORTANT</b> _____	<b>IMPORTANT</b> _____
<b>DAMAGING</b> _____	<b>NOT DAMAGING</b> _____
<b>NOT HAZARDOUS</b> _____	<b>HAZARDOUS</b> _____

**FRUITS AND VEGETABLES**

<b>BAD</b> _____	<b>GOOD</b> _____
<b>SAFE</b> _____	<b>UNSAFE</b> _____
<b>PLEASANT</b> _____	<b>UNPLEASANT</b> _____
<b>DANGEROUS</b> _____	<b>NOT DANGEROUS</b> _____
<b>NOT USEFUL</b> _____	<b>USEFUL</b> _____
<b>NOT HARMFUL</b> _____	<b>HARMFUL</b> _____
<b>UNIMPORTANT</b> _____	<b>IMPORTANT</b> _____
<b>DAMAGING</b> _____	<b>NOT DAMAGING</b> _____
<b>NOT HAZARDOUS</b> _____	<b>HAZARDOUS</b> _____

**STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.**

Please mark the following statements by circling "True" (T) or "False" (F).  
If you are uncertain, circle "Don't Know" (DK).

The wedding ceremony in the program was performed by a judge.	T	F	DK
--	---	---	----

Mike and Gloria were celebrating their third wedding anniversary.	T	F	DK
--	---	---	----

The program took place in only two rooms.	T	F	DK
---	---	---	----

Gloria wore the same wedding dress Edith had worn in her wedding.	T	F	DK
--	---	---	----

Mike's uncle wanted the wedding to be performed by a priest.	T	F	DK
---	---	---	----

The program included an advertisement for:

Carpeting	T	F	DK
-----------	---	---	----

Automobiles	T	F	DK
-------------	---	---	----

Aspirin	T	F	DK
---------	---	---	----

A Grocery Store	T	F	DK
-----------------	---	---	----

Laundry Detergent	T	F	DK
-------------------	---	---	----

Beer	T	F	DK
------	---	---	----

A Fishing Supply Store	T	F	DK
------------------------	---	---	----

A Medical Education Center	T	F	DK
----------------------------	---	---	----

STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

Please evaluate the following statements by circling whether you Strongly Agree (SA), Agree (A), are Neutral (N), Disagree (D), or Strongly Disagree (SD) with each statement.

People who marry should be of the same religion.	SA	A	N	D	SD
It is important that parents be involved in the weddings of their children.	SA	A	N	D	SD
I will drink beer in the future.	SA	A	N	D	SD
Religion should play a part in marriage.	SA	A	N	D	SD
People should drink alcohol in moderation.	SA	A	N	D	SD
Marriage is important to me.	SA	A	N	D	SD
Smoking cigars is dangerous.	SA	A	N	D	SD
Drinking alcohol may lead to losing your coordination.	SA	A	N	D	SD
Parents should have no role in the marriage plans of their children.	SA	A	N	D	SD
Drinking beer every day will have a negative effect on your health.	SA	A	N	D	SD
Marriage is more important to religious people.	SA	A	N	D	SD
Weddings were taken more seriously in the 1960s than they are today.	SA	A	N	D	SD
People shouldn't drink so much alcohol.	SA	A	N	D	SD
Religion is not important to me.	SA	A	N	D	SD
Drinking alcohol is not dangerous.	SA	A	N	D	SD
Smoking cigars is unhealthy.	SA	A	N	D	SD
Religion is more important today than it was in the 1960s.	SA	A	N	D	SD
Drinking alcohol threatens a person's safety.	SA	A	N	D	SD
It is important that parents like the person their child marries.	SA	A	N	D	SD
I will smoke cigars in the future.	SA	A	N	D	SD
Alcohol is not hazardous to a person's health.	SA	A	N	D	SD

STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

There was an ad for CARPETING in the program. Please write down all information you remember from this ad.

There was an ad for a FISHING SUPPLY STORE in the program. Please write down all information you remember from this ad.

CONTINUE TO THE NEXT PAGE.

There was an ad for BEER in the program. Please write down all information you remember from this ad.

There was an ad for a GROCERY STORE in the program. Please write down all information you remember from this ad.

STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

There was an ad for a MEDICAL CENTER in the program. Please write down all information you remember from this ad.

There was an ad for a GROCERY STORE in the program. Please write down all information you remember from this ad.

**STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.**

For each of the traits listed below, please place an "X" in the space along the line that most clearly reflects your feelings after viewing the ~~BEER~~ **COMMERCIAL**. For example, if your feelings were closely related to one end of the scale, mark the space close to that end. If your feelings were neutral on a trait, or if both sides of the scale equally represent your feelings, you should mark the space in the middle of the scale.

BORED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISTURBED

NOT  
ANXIOUS \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ ANXIOUS

CONCERNED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ UNCONCERNED

PLEASED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISPLEASED

SAD \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ HAPPY

RELAXED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ TENSE

For each of the traits listed below, please place an "X" in the space along the line that most clearly reflects your feelings after viewing the ~~CARPET STORE~~ **COMMERCIAL**.

BORED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISTURBED

NOT  
ANXIOUS \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ ANXIOUS

CONCERNED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ UNCONCERNED

PLEASED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISPLEASED

SAD \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ HAPPY

RELAXED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ TENSE

CONTINUE TO THE NEXT PAGE.



For each of the traits listed below, please place an "X" in the space along the line that most clearly reflects your feelings after viewing the **GROCERY STORE COMMERCIAL**. For example, if your feelings were closely related to one end of the scale, mark the space close to that end. If your feelings were neutral on a trait, or if both sides of the scale equally represent your feelings, you should mark the space in the middle of the scale.

BORED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISTURBED  
 NOT  
 ANXIOUS \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ ANXIOUS  
 CONCERNED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ UNCONCERNED  
 PLEASED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISPLEASED  
 SAD \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ HAPPY  
 RELAXED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ TENSE

For each of the traits listed below, please place an "X" in the space along the line that most clearly reflects your feelings after viewing the **CARPET STORE COMMERCIAL**.

BORED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISTURBED  
 NOT  
 ANXIOUS \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ ANXIOUS  
 CONCERNED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ UNCONCERNED  
 PLEASED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ DISPLEASED  
 SAD \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ HAPPY  
 RELAXED \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ TENSE

CONTINUE TO THE NEXT PAGE.

What was the name of the CARPET STORE advertised?

-----

Was the location of the CARPET STORE given?           Y           N           DK

If so, what was the location?

-----

What was the name of the FISHING SUPPLY STORE advertised?

-----

Was the location of the FISHING STORE given?           Y           N           DK

If so, what was the location?

-----

What brand of BEER was advertised?           -----

Did the BEER ad contain a warning message?           Y           N           DK

If so, what did it say?           -----

-----

What was the name of the GROCERY STORE advertised?

-----

Were food prices given in the GROCERY STORE ad?           Y           N           DK

If so, what item(s) was (were) advertised with prices?

-----

-----

**STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.**

What was the name of the CARPET STORE advertised?

-----

Was the location of the CARPET STORE given?           Y           N           DK

If so, what was the location?

-----

What was the name of the FISHING SUPPLY STORE advertised?

-----

Was the location of the FISHING STORE given?           Y           N           DK

If so, what was the location?

-----

What was the name of the MEDICAL CENTER advertised?

-----

Did the MEDICAL CENTER ad include a phone number?   Y           N           DK

If so, what was the number? -----

What was the name of the GROCERY STORE advertised?

-----

Were food prices given in the GROCERY STORE ad?       Y           N           DK

If so, what item(s) was (were) advertised with prices?

-----

-----

STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

The Kessel Food Market commercial contained price advertising.  
Were prices advertised for. . .

strawberries?	Y	N	DK
corn?	Y	N	DK
meat?	Y	N	DK
lettuce?	Y	N	DK
eggs?	Y	N	DK
juice?	Y	N	DK
bread?	Y	N	DK

The (BRAND) beer commercial included a warning message.  
Did the message mention. . .

alcohol and pregnancy?	Y	N	DK
liver damage?	Y	N	DK
loss of consciousness?	Y	N	DK
drinking and driving?	Y	N	DK
alcohol addiction?	Y	N	DK
loss of coordination?	Y	N	DK
using alcohol in moderation?	Y	N	DK
heart disease?	Y	N	DK

STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

The Kessel Food Market commercial contained price advertising.  
Were prices advertised for. . .

strawberries?	Y	N	DK
corn?	Y	N	DK
meat?	Y	N	DK
lettuce?	Y	N	DK
eggs?	Y	N	DK
juice?	Y	N	DK
bread?	Y	N	DK

The Karen's Carpets commercial included price advertising.  
Were prices advertised for. . .

kitchen carpet?	Y	N	DK
indoor/outdoor carpet?	Y	N	DK
braided floor rugs?	Y	N	DK
bathroom carpet?	Y	N	DK
horizon carpet?	Y	N	DK
galaxy carpet?	Y	N	DK
eclipse carpet?	Y	N	DK

STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.

Please rate the statement below on the characteristics listed by placing an "X" in the space along the line that most closely reflects your feelings about the statement.

**WARNING: ALCOHOL CONSUMPTION MAY LEAD TO LOSS OF COORDINATION.**

<b>FRIGHTENING</b>	_____	_____	_____	_____	_____	_____	_____	<b>NOT FRIGHTENING</b>
<b>MILD</b>	_____	_____	_____	_____	_____	_____	_____	<b>SEVERE</b>
<b>NOT THREATENING</b>	_____	_____	_____	_____	_____	_____	_____	<b>THREATENING</b>
<b>SPECIFIC</b>	_____	_____	_____	_____	_____	_____	_____	<b>GENERAL</b>
<b>ALARMING</b>	_____	_____	_____	_____	_____	_____	_____	<b>NOT ALARMING</b>
<b>VAGUE</b>	_____	_____	_____	_____	_____	_____	_____	<b>CLEAR</b>
<b>EASY TO UNDERSTAND</b>	_____	_____	_____	_____	_____	_____	_____	<b>DIFFICULT TO UNDERSTAND</b>
<b>NOT BELIEVABLE</b>	_____	_____	_____	_____	_____	_____	_____	<b>BELIEVABLE</b>

How much influence would this message have on your alcohol consumption behavior?

<b>NO INFLUENCE</b>	_____	_____	_____	_____	_____	_____	_____	<b>STRONG INFLUENCE</b>
-------------------------	-------	-------	-------	-------	-------	-------	-------	-----------------------------

**STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.**

Please rate the statement below on the characteristics listed by placing an "X" in the space along the line that most closely reflects your feelings about the statement.

**ALCOHOL SHOULD BE USED IN MODERATION.**

<b>FRIGHTENING</b>	_____	_____	_____	_____	_____	_____	_____	<b>NOT FRIGHTENING</b>
<b>MILD</b>	_____	_____	_____	_____	_____	_____	_____	<b>SEVERE</b>
<b>NOT THREATENING</b>	_____	_____	_____	_____	_____	_____	_____	<b>THREATENING</b>
<b>SPECIFIC</b>	_____	_____	_____	_____	_____	_____	_____	<b>GENERAL</b>
<b>ALARMING</b>	_____	_____	_____	_____	_____	_____	_____	<b>NOT ALARMING</b>
<b>VAGUE</b>	_____	_____	_____	_____	_____	_____	_____	<b>CLEAR</b>
<b>EASY TO UNDERSTAND</b>	_____	_____	_____	_____	_____	_____	_____	<b>DIFFICULT TO UNDERSTAND</b>
<b>NOT BELIEVABLE</b>	_____	_____	_____	_____	_____	_____	_____	<b>BELIEVABLE</b>

How much influence would this message have on your alcohol consumption behavior?

<b>NO INFLUENCE</b>	_____	_____	_____	_____	_____	_____	_____	<b>STRONG INFLUENCE</b>
-------------------------	-------	-------	-------	-------	-------	-------	-------	-----------------------------

**STOP. DO NOT TURN TO THE NEXT PAGE UNTIL YOU ARE INSTRUCTED TO DO SO.**

Please mark the following statements by circling "True" (T) or "False" (F).  
If you are uncertain, circle "Don't Know" (DK).

A 12-ounce can of beer contains the same amount of alcohol as a 1-1/2-ounce shot of hard liquor.	T	F	DK
Alcohol is a stimulant.	T	F	DK
Most alcohol is absorbed into the stomach.	T	F	DK
Most adults who have about one drink an hour are sober enough to drive safely.	T	F	DK
Drinking hot coffee speeds up the sobering process.	T	F	DK
Eating food before drinking alcohol slows down the absorption of alcohol.	T	F	DK
People who drink a cocktail daily run a high risk of becoming alcoholics.	T	F	DK

-----  
Finally, please fill out the following information about yourself.

SEX:            Male \_\_\_\_\_ Female \_\_\_\_\_

AGE:            \_\_\_\_\_

CLASS:        Fr \_\_\_\_\_ So \_\_\_\_\_ Jr \_\_\_\_\_ Sr \_\_\_\_\_ Grad \_\_\_\_\_

MAJOR:        \_\_\_\_\_

How often do you drink beer?

Often \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Never

If you drink beer, How often do you drink (BRAND) beer?

Often \_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_:\_\_\_\_\_ Never

THIS CONCLUDES THE EXPERIMENT. THANK YOU FOR YOUR COOPERATION.



## **BIBLIOGRAPHY**

## BIBLIOGRAPHY

- "Advertising for Over-the-Counter Antacids, Invitation to Comment." Federal Register, 41 (April 6, 1976): 14534-35.
- Albert, Werner G. and Harry Hodgson. "Encouraging the Self-Monitoring of Alcohol Consumption Levels: The Development and Evaluation of 'Know the Score.'" Journal of Alcohol and Drug Education, 29 (Winter 1984):8-18.
- Andrews, Frank M., Laura Klem, Terrence N. Davidson, Patrick M. O'Malley, and Willard L. Rodgers. A Guide for Selecting Statistical Techniques for Analyzing Social Science Data Ann Arbor: University of Michigan, 1981.
- "Are Ad Bans Legal?" The 4A's Washington Newsletter, February/March 1985, pp. 1-6.
- Armstrong, Gary M., Metin N. Gurol, and Frederick A. Russ. "Detecting and Correcting Deceptive Advertising." Journal of Consumer Research, 6 (December 1979): 237-46.
- Armstrong, Gary M., Metin N. Gurol, and Frederick A. Russ. "A Longitudinal Evaluation of the Listerine Corrective Advertising Campaign." Journal of Public Policy and Marketing, 2 (1983):16-28.
- Asam, Edward H. and Louis P. Bucklin. "Nutrition Labeling for Canned Goods: A Study of Consumer Response." Journal of Marketing, 37 (April 1973):32-7.
- "ASI Audience Reaction Tests," conducted for Federal Trade Commission Bureau of Consumer Protection, April 17-19, 1975.
- Assael, Henry. Consumer Behavior and Marketing Action. Boston: Kent Publishing Company, 1981.
- Atkin, Charles. "The Effects of Television Advertising on Children--First Year Experimental Evidence." Michigan State University, East Lansing, Michigan, June 1975.

- Atkin, Charles and Martin Block. "Content and Effects of Alcohol Advertising." Reports submitted to Bureau of Alcohol, Tobacco and Firearms, Federal Trade Commission, National Institute on Alcohol Abuse and Alcoholism, and Department of Transportation, 1979, 1980.
- Axelrod, Joel N. "Advertising Wearout." Journal of Advertising Research, 20 (October 1980):13-18.
- Axelrod, Joel N. Choosing the Best Advertising Alternative New York: Association of National Advertisers, Inc., 1971.
- Babbie, Earl R. The Practice of Social Research Belmont, California: Wadsworth Publishing Co., Inc., 1979.
- Barcus, F. Earl. Weekend Commercial Children's Television. Newton, Maryland: Action for Children's Television, 1975.
- Barsh, Russell L. "Putting the Muscle on Products: The Informational Alternative." Journal of Contemporary Business, 7 (1978):1-2.
- Bauer, Raymond A. "The Initiative of the Audience." Journal of Advertising Research, 2 (June 1963):2-7.
- Bauer, Raymond A. "The Limits of Persuasion." Harvard Business Review, 36 (September-October, 1958):105-110.
- Beales, Howard, Michael B. Mazis, Steven C. Salop, and Richard Staelin. "Consumer Search and Public Policy." Journal of Consumer Research, 8 (June 1981):11-22.
- Belch, George E. "An Examination of Comparative and Noncomparative Television Commercials: The Effects of Claim Variation and Repetition on Cognitive Response and Message Acceptance." Journal of Marketing Research, XVIII (August 1981):333-49.
- Belk, Leland. "Immediate Recall of TV Commercial Elements." Journal of Advertising Research, 2 (September 1962):13-18.
- Berkowitz, Leonard and Donald R. Cottingham. "The Interest Value and Relevance of Fear Arousing Communications." Journal of Abnormal and Social Psychology, 60 (1960):37-43.

- Bettman, James R. "Issues in Designing Consumer Information Environments." Journal of Consumer Research, 2 (December 1975):169-77.
- Bettman, James R. "Memory Factors in Consumer Choice: A Review." Journal of Marketing, 43 (Spring 1979): 37-53.
- Blalock, Jr., Hubert. Social Statistics New York: McGraw-Hill Book Company, 1979.
- Bloch, Peter H. and Marsha L. Richins. "A Theoretical Model for the Study of Product Importance Perceptions." Journal of Marketing, 47 (Summer 1983):69-81.
- Bogart Leo and Charles Lehman. "The Case of the 30-Second Commercial." Journal of Advertising Research, 23 (February/March 1983):11-19.
- Boyle, Jacquelyn. "State Orders Warnings Over Sulfites in Food." Detroit Free Press, August 16, 1985, p. 1A.
- Breed, Warren and James B. DeFoe. "Themes in Magazine Alcohol Advertisements: A Critique." Journal of Drug Issues, Fall 1979.
- Brehm, J. W. A Theory of Psychological Reactance. New York: Academic Press, 1966.
- Brewer, Joel N. "Labeling and Advertising Trends: If it is in the Labeling is it Off our Shoulders?" Food Drug Cosmetic Law Journal, 34 (December 1979):631-9.
- Britt, Steuart Henderson. Psychological Principles of Marketing and Consumer Behavior. Lexington, Massachusetts: Lexington Books, 1978.
- Brooker, George W. "A Comparison of the Persuasive Effects of Mild Humor and Mild Fear Appeals." Journal of Advertising, 10 (1981):29-40.
- Buchanan, Dodds I. "How Interest in the Product Affects Recall: Print Ads vs. Commercials." Journal of Advertising Research, 4 (March 1984):9-14.
- Buckalew, L. W. "An Instructional Instrument for Increasing Alcohol Awareness." Journal of Alcohol and Drug Education, 25 (Winter 1980):1-5.
- Burnett, John J. "Internal-External Locus of Control as a Moderator of Fear Appeals." Journal of Applied Psychology, 66 (1981):390-3.



- Burnett, John J. and Richard L. Oliver. "Fear Appeal Effects in the Field: A Segmentation Approach." Journal of Marketing Research, XVI (May 1979):181-90.
- Burnett, John J. and Robert E. Wilkes. "Fear Appeals to Segments Only." Journal of Advertising Research, 20 (October 1980):21-4.
- Calder, Bobby J. "Focus Groups and the Nature of Qualitative Marketing Research." Journal of Marketing Research, 14 (August 1977):353-64.
- Campbell, Donald T. and Julian C. Stanley. Experimental and Quasi-Experimental Designs for Research Chicago: Rand McNally College Publishing Co., 1963.
- Carter, David E. "Newspaper Advertising Readership: Thick vs. Thin Issues." Journal of Advertising Research, 11 (April 1971):18-20.
- Castleman, James A. "Advertising, Product Safety, and a Private Right of Action Under the Federal Trade Commission Act." Hofstra Law Review, 2 (1974):669-91.
- CBS, "60 Minutes - Beer Today! Gone Tomorrow?" May 5, 1985.
- Chaffee, Steven H., Keith R. Stamm, Jose L. Guerrero, and Leonard P. Tipton. "Experiments on Cognitive Discrepancies and Communication." Journalism Monographs, December 1969.
- Chaiken, Shelly and Alice H. Eagly. "Communication Modality as a Determinant of Message Persuasiveness and Message Comprehensibility." Journal of Personality and Social Psychology, 34 (1975):605-14.
- Chandran, Rajan, Jeffrey Lowenhar, and Steven C. Salop. "A Framework for Evaluating Consumer Information Regulation." Journal of Marketing, 45 (Winter 1981): 11-20.
- Chandran, Rajan, Jeffrey Lowenhar, and John Stanton. "Product Safety: The Role of Advertising." Journal of Advertising, 8 (Spring 1979):36-48.
- Cheek, Devenette, memorandum to Federal Trade Commission, re: Summary of Public Comments Received Regarding the Proposed Trade Regulation Rule on Over-the-Counter Antacids, February 9, 1984.

- Chu, Godwin C. "Fear Arousal, Efficacy, and Imminency." Journal of Personality and Social Psychology, 4 (1966): 517-24.
- Chu, Godwin C. "Prior Familiarity, Perceived Bias, and One-Sided versus Two-Sided Communications." Journal of Experimental Social Psychology, 3 (1967):243-54.
- Cigarette Labeling Act, 15 U.S.C.A. SS. 1331.
- Clancy, Kevin J. and David M. Kveskin. "TV Commercial Recall Correlates." Journal of Advertising Research, 19 (June 1979):7-12.
- "The Clutter Crisis." Media Decisions, December 1971, pp. 42-4.
- Cohen, Dorothy. "Remedies for Consumer Protection: Prevention, Restitution, or Punishment." Journal of Marketing, 39 (October 1975):24-31.
- Comstock, George, Steven Chaffee, Natan Katzman, Maxwell McCombs, and Donald Roberts, eds. Television and Human Behavior. New York: Columbia University Press, 1978.
- Consumer Credit Protection Act, 15 U.S.C.A. SS. 1601.
- Consumer Product Safety Act, 15 U.S.C.A. SS. 2051.
- Cooper, Eunice and Marie Jahoda. "The Evasion of Propaganda: How Prejudiced People Respond to Anti-Prejudice Propaganda." The Journal of Psychology, 23 (1947):15-25.
- Craig, C. Samuel, Brian Sternthal, and Clark Leavitt. "Advertising Wearout: An Experimental Analysis." Journal of Marketing Research, XIII (November 1976):365-72.
- Craik, Fergus I. M. and Robert S. Lockhart. "Levels of Processing: A Framework for Memory Research." Journal of Verbal Learning and Verbal Behavior, 11 (1972):671-84.
- Dabbs, James M. and Howard Leventhal. "Effects of Varying the Recommendations in a Fear-arousing Communication." Journal of Personality and Social Psychology, 4 (1966): 525-31.
- Daly, Patricia A. "The Response of Consumers to Nutrition Labeling." Journal of Consumer Affairs, 10 (Winter 1976):170-78.

- Day, George S. "Assessing the Effects of Information Disclosure Requirements." Journal of Marketing, 40 (April 1976):42-52.
- "Details Set for Use of Aerosol Label Warnings." Advertising Age, May 2, 1977, p. 10.
- DiPrima, Frank P. "Advertising of OTC Drugs: Proposed TRR on Warnings." Food Drug and Cosmetic Law Journal, 32 (March 1977):96-102.
- Drechsel, Robert. "Media Tort Liability for Physical Harm: Problems in Legal Duty and Cause." Presented to the Law Division, Association for Education in Journalism and Mass Communication, Memphis, Tennessee, August 1985.
- Drew, Dan G. and Thomas Grimes. "The Effect of Audio-Visual Redundancy on Audio and Video Recall in Television News," paper presented to the Radio-Television Journalism Division, Association for Education in Journalism and Mass Communication, Memphis, Tennessee, August 1985.
- Dyer, Robert F. and Phillip G. Kuehl. "The 'Corrective Advertising' Remedy of the FTC: An Experimental Evaluation." Journal of Marketing, 38 (January 1974): 48-54.
- Dyer, Robert F. and Phillip G. Kuehl. "A Longitudinal Study of Corrective Advertising." Journal of Marketing Research, XV (February 1978):39-48.
- Dwyer, F. Robert. "Consumer Processing and Use of Supplementary Drug Label Information," in H. Keith Hunt, ed. Proceedings of the Association for Consumer Research. Ann Arbor, Michigan, 1978, pp. 220-4.
- Dziokonski, Walter and Stephen J. Weber. "Repression-Sensitization, Perceived Vulnerability, and the Fear Appeal Communication." Journal of Social Psychology, 102 (1977):105-12.
- Earl, Ronald L. and William M. Pride. "The Effects of Advertisement Structure, Message Sidedness, and Performance Test Results on Print Advertisement Informativeness." Journal of Advertising, 9 (1980): 36-46.
- Edwards, W. "The Theory of Decision Making." Psychological Bulletin, 51 (1954):380-417.



Engel, James F., Hugh G. Wales, and Martin R. Warshaw. Promotional Strategy. Homewood, Illinois: Richard D. Irwin, Inc., 1971.

Engs, Ruth C. "The Health Concerns of Students and the Implication for Alcohol Education Programming." Journal of Alcohol and Drug Education, 19 (Fall 1983):36-8.

Etzioni, Amitai. "Caution: Too Many Health Warnings Could Be Counterproductive." Psychology Today, December 1978, pp. 20-2.

Fair Packaging and Labeling Act. 15 U.S.C.A. SS. 1453.

Faison, Edmund Winston Jordan. "Effectiveness of One-Sided and Two-Sided Mass Communications in Advertising." Public Opinion Quarterly, 25 (Fall 1961):468-9.

"FDA Proposes Warning Labels as First Step Toward Aerosol Ban." Advertising Age, November 29, 1976, p. 2.

Federal Communication Commission Broadcast Requirements. 66 FCC 2nd 302.

Federal Trade Commission. Advertising for Over-the-Counter Antacids, Final Staff Report and Recommendations. August 1983.

Federal Trade Commission Act. 15 U.S.C.A. SS. 45.

"Federal Trade Commission Bureau Directors, Staff Recommend Termination of Over-the-Counter Antacids Rulemaking." FTC News, July 20, 1984.

Federal Trade Commission Consent Order. 1973 CCH Transfer Binder, P. 19,902.

Feldman, Laurence P. Consumer Protection: Problems and Prospects. St Paul: West Publishing Company, 1980.

Festinger, Leon. A Theory of Cognitive Dissonance. Stanford, California: Stanford University Press, 1957.

Food Drug and Cosmetic Act. 21 U.S.C.A. SS. 343.

"Food Labeling Formats." Federal Register, 45 (July 8, 1980):45962.

- Ford, Gary T. and Philip G. Kuehl. "Label Warning Messages in OTC Drug Advertising." Current Issues and Research in Advertising (1979):115-28.
- Frandsen, Kenneth D. "Effects of Threat Appeals and Media of Transmission." Speech Monographs, 30 (1963):101-4.
- Freedman, Jonathan L. and David O. Sears. "Selective Exposure," in Leonard Berkowitz, ed. Advances in Experimental Social Psychology. New York: Academic Press, 1965.
- French, Warren A. and Leila O. Schroeder. "Package Information Legislation: Trends and Viewpoints." MSU Business Topics, Summer 1972, pp. 39-44.
- Fritschler, A. Lee. Smoking and Politics: Policymaking and the Federal Bureaucracy. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963.
- Funkhouser, G. Ray. "An Empirical Study of Consumers' Sensitivity to the Wording of Affirmative Disclosure Messages." Journal of Public Policy and Marketing, 3 (1984):26-37.
- "Gallup Organization Poll." Newsweek on Campus, April 1985, p. 12.
- Gardner, Burleigh. A Conceptual Framework for Advertising. Chicago: Crain Communications, Inc., 1982.
- Gensch, Dennis H. "Media Factors: A Review Article." Journal of Marketing Research, 7 (May 1970):216-25.
- Goldstein, Michael J. "The Relationship Between Coping and Avoiding Behavior and Response to Fear-Arousing Propaganda." Journal of Abnormal and Social Psychology, 58 (1959):247-52.
- Gordon, Richard L. "Health Warnings Urged for Smokeless-Product Ads." Advertising Age, February 20, 1984, p. 14.
- Greenberg, Allan, and Charles Suttoni. "Television Commercial Wearout." Journal of Advertising Research, 13 (October 1973):47-54.
- Greenwald, A. G. "Cognitive Learning, Cognitive Response to Persuasion and Attitude Change," in A. G. Greenwald, T. C. Brock, and T. M. Ostrom, eds. Psychological Foundations of Attitudes. New York: Academic Press, 1968.

- Greyser, Stephen A. and Steven Diamond. Consumerism and Advertising: A U. S. Management Perspective. Cambridge, Massachusetts: Marketing Science Institute, 1976.
- Guzzardi, Jr., Walter. "The Mindless Pursuit of Safety." Fortune, April 9, 1979, pp. 54-64.
- Hackleman, Edwin C. "Food Label Information: What Consumers Say They Want and What They Need," in Kent B. Monroe, ed. Proceedings of the Association for Consumer Research. Ann Arbor, Michigan, 1980, pp. 474-78.
- Hamilton, James L. "The Demand for Cigarettes: Advertising, the Health Scare, and the Cigarette Advertising Ban." Review of Economics and Statistics, 54 (1972):401-10.
- Hancock, Mary. "Federal Jurisdictional Disputes in Labeling and Advertising of Malt Beverages." Food Drug Cosmetic Law Journal, 34 (June 1979):271-88.
- Haskins, Jack B. "Factual Recall as a Measure of Advertising Effectiveness." Journal of Advertising Research, 4 (March 1964):2-8.
- Hays, William M. Statistics for the Social Sciences. New York: Holt, Rinehart, and Winston, Inc., 1973.
- Heider, Fritz. "Attitudes and Cognitive Organization." Journal of Psychology, 21 (1946):107-12.
- Henmon, V. A. C. "The Relation Between Mode of Presentation and Retention." The Psychological Review, XIX (March 1912):79-96.
- Hewgill, Murray A. and Gerald R. Miller. "Source Credibility and Response to Fear-arousing Communications." Speech Monographs, 32 (1965):95-101.
- Higbee, Kenneth L. "Fifteen Years of Fear Arousal: Research on Threat Appeals: 1953-1968." Psychological Bulletin, 72 (1969): 426-44.
- Hinich, Melvin J. and Richard Staelin. Consumer Protection Legislation and the U. S. Food Industry. New York: Pergamon Press, 1980.
- Holcomb, Betty. "Pitching Patients." Madison Avenue, May 1985, pp. 100-107.
- Hovland, Carl, ed. The Order of Presentation in Persuasion. New Haven, Connecticut: Yale University Press, 1957.

Hovland, Carl, Arthur A. Lumsdaine, and Fred D. Sheffield. Experiments on Mass Communications, V. 3. Princeton, New Jersey: Princeton University Press, 1949.

Hsia, Hower and Robert E. Jester. "Output, Error, Equivocation and Recalled Information on Auditory, Visual and Audiovisual Information Processing with Constraint and Noise." Journal of Communication, 13 (1968):325-53.

Hunt, H. Keith. "Effects of Corrective Advertising." Journal of Advertising Research, 13 (1973):15-24.

Hunt, H. Keith. "Source Effects, Message Effects, and General Effects in Counteradvertising," in Proceedings, Third Annual Conference of the Association for Consumer Research, 2 (1972):370-81.

Insko, Chester A., Abe Arkoff, and Verla M. Insko. "Effects of High and Low Fear-Arousing Communications Upon Opinions Toward Smoking." Journal of Experimental Social Psychology, 1 (1965):256-66.

Insko, Chester A. "One-Sided versus Two-Sided Communications and Countercommunications." Journal of Abnormal and Social Psychology, 65 (1962):203-6.

Jacoby, Jacob. "information Load and Decision Quality: Some Contested Issues." Journal of Marketing Research, XIV (November 1977):569-73.

Jacoby, Jacob, Robert W. Chestnut, and William Silberman. "Consumer Use and Comprehension of Nutrition Information." Journal of Consumer Research, 4 (September 1977):119-28.

Jacoby, Jacob, Wayne D. Hoyer, and David A. Sheluga. Miscomprehension of Televised Communications. New York: The Educational Foundation of the American Association of Advertising Agencies, 1980.

Jacoby, Jacob, Margaret C. Nelson, and Wayne D. Hoyer. "Corrective Advertising and Affirmative Disclosure Statements: Their Potential for Confusing and Misleading the Consumer." Journal of Marketing, 46 (Winter 1982):61-72.

Jacoby, Jacob, Donald E. Speller, and Carol A. Kohn. "Brand Choice Behavior as a Function of Information Load." Journal of Marketing Research, XI (February 1974): 63-9.

- Jacoby, Jacob, Donald E. Speller, and Carol Kohn Berning. "Brand Choice Behavior as a Function of Information Load: Replication and Extension." Journal of Consumer Research, 1 (June 1974):33-42.
- Janis, Irving L. "Effects of Fear Arousal on Attitude Change: Recent Developments in Theory and Experimental Research," in Advances in Experimental Social Psychology, V. 3, New York: Academic Press, 1967, pp. 167-225.
- Janis, Irving L. and Seymour Feshbach. "Effects of Fear-arousing Communications." Journal of Abnormal and Social Psychology, 48 (1953):78-92.
- Janis, Irving L. and Seymour Feshbach. "Personality Differences Associated with Responsiveness to Fear-arousing Communications." Journal of Psychology, 23 (1954):154-66.
- Janis, Irving L. and Robert F. Terwilliger. "An Experimental Study of Psychological Resistances to Fear Arousing Communications." Journal of Abnormal and Social Psychology, 65 (1962):403-10.
- Jentz, Gaylord A. "Federal Regulation of Advertising." American Business Law Journal, 6 (January 1968):409-27 in Benjamin J. Katz, ed., Advertising and Governmental Regulation. Cambridge, Massachusetts: Marketing Science Institute, 1979.
- Jones, Russell A. and Jack W. Brehm. "Persuasiveness of One- and Two-Sided Communications as a Function of Awareness that there are Two Sides." Journal of Experimental Social Psychology, 6 (1970):47-56.
- Kanouse, David E. and Barbara Hayes-Roth. "Cognitive Considerations in the Design of Product Warnings," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 147-63.
- Katz, Benjamin J., ed. Advertising and Governmental Regulation. Cambridge, Massachusetts: Marketing Science Institute, 1979.
- Kay, Herbert. "Do We Really Know the Effects of Using 'Fear' Appeals?" Journal of Marketing, 36 (April 1972):55-64.
- Kent, Felix H. and Elhanan C. Stone. Legal and Business Aspects of the Advertising Industry. New York: Practising Law Institute, 1982.

- Keppel, Geoffrey. Design and Analysis--A Researcher's Handbook. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1982.
- Kerlinger, Fred N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, Inc., 1964.
- Kinnear, Thomas C. and James R. Taylor. Marketing Research--An Applied Approach. New York: McGraw-Hill Company, 1979.
- Kinnear, Thomas C., James R. Taylor, and Oded Gur-Arie. "Affirmative Disclosure: Long-Term Monitoring of Residual Effects." Journal of Public Policy and Marketing, 2 (1983):38-47.
- Kintner, Earl W. A Primer on the Law of Deceptive Practices. New York: The MacMillan Company, 1971.
- Klapper, Joseph T. Effects of the Mass Media. New York: Bureau of Applied Social Research, Columbia University, 1949.
- Klopp, Pamela and Maurice MacDonald. "Nutrition Labels: An Exploratory Study of Consumer Reasons for Nonuse." Journal of Consumer Affairs, 15 (Winter 1981):301-16.
- Kotler, Philip. "Behavioral Models for Analyzing Buyers," in James U. McNeal and Stephen W. McDaniel, eds. Consumer Behavior--Classical and Contemporary Dimensions. Boston: Little, Brown & Company, 1982, pp. 4-16.
- Kozol, Jonathan. Illiterate America. Garden City, New York: Anchor Press/Doubleday, 1985.
- Krugman, Herbert E. "The Measurement of Advertising Involvement." Public Opinion Quarterly, XXX (Winter 1966-67):583-96.
- Krugman, Herbert E. "Memory without Recall, Exposure without Perception." Journal of Advertising Research, 17 (August 1977):7-12.
- Krugman, Herbert E. "Television Program Interest and Commercial Interruption." Journal of Advertising Research, 23 (February/March 1983):21-3.
- "Labeling Alcohol Bottles with Pregnancy Warnings," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1978.

- Lastovicka, John L. and David M. Gardner. "Components of Involvement," in J. C. Maloney and B. Silverman, eds. Attitude Research Plays for High Stakes. Chicago: American Marketing Association, 1979, pp. 53-73.
- Ledford, Joey. "Congress Oks Tougher Labels on Cigarettes." The State News, September 27, 1984, p. 3.
- Lenahan, R. J., J. A. Thomas, D. A. Taylor, D. L. Call, and D. I. Padberg. "Consumer Reaction to Nutritional Labels on Food Products." Journal of Consumer Affairs, 7 (Summer 1973):1-12.
- Leventhal, Howard. "Findings and Theory in the Study of Fear Communications," in Advances in Experimental Social Psychology, V. 5, ed. Leonard Berkowitz New York: Academic Press, 1970, pp. 119-86.
- Leventhal, Howard, Susan Jones, and Grevilda Trembly. "Sex Differences in Attitude and Behavior Change Under Conditions of Fear and Specific Instructions." Journal of Experimental Social Psychology, 2 (1966): 387-99.
- Leventhal, Howard, R. Singer, and Susan Jones. "Effects of Fear and Specificity of Recommendations upon Attitudes and Behavior." Journal of Personality and Social Psychology, 2 (1968):20-9.
- Leventhal, Howard and Jean C. Watts. "Sources of Resistance to Fear-arousing Communications on Smoking and Lung Cancer." Journal of Personality, 34 (1966):155-75.
- "Liquor Marketers Hail Label Study." Advertising Age, December 1, 1980, p. 3.
- Littlejohn, Steven W. Theories of Human Communication. Columbus, Ohio: Charles E. Merrill Publishing Company, 1978.
- Loviland, David D. and Allan B. Padderud. "Video Disclaimers in Television Advertising: Are They Effective?" Journal of Communication, 31 (Spring 1981):
- Lucas, Darrell Blaine and Steuart Henderson Britt. Measuring Advertising Effectiveness. New York: McGraw-Hill Book Company, 1963.
- Lumsdaine, Arthur A. and Irving L. Janis. "Resistance to 'Counterpropaganda' Produced by One-Sided and Two-Sided 'Propaganda' Presentations," Public Opinion Quarterly, 17 (Fall 1953):311-18.

Maddi, Salvatore R. "The Pursuit of Consistency and Variety," in R. P. Abelson, ed. Theories of Cognitive Consistency. Chicago: Rand-McNally, 1957.

Magnuson-Moss/Federal Trade Commission Improvement Act.  
Pub. L. No. 93-637, 88 Stat. 218.

Malhotra, Naresh K., Arun K. Jain, and Stephen W. Lagakos. "The Information Overload Controversy: An Alternative Viewpoint." Journal of Marketing, 46 (Spring 1982): 27-37.

Matell, Michael S. and Jacob Jacoby. "Is There an Optimal Number of Alternatives for Likert-Scale Items?" Journal of Applied Psychology, 56 (1972):506-9.

Mayer, Jean and Jeanne Goldberg. "Nutrition: Diet Product Labels Better Late than Never." Detroit Free Press, August 23, 1984, p. 7D.

Mazis, Michael B. "An Overview of Product Labeling and Health Risks," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 3-11.

Mazis, Michael B. and Janice E. Adkinson. "An Experimental Evaluation of a Proposed Corrective Advertising Remedy." Journal of Marketing Research, XIII (May 1976):178-83.

Mazis, Michael B., Dennis L. McNeill, and Kenneth L. Bernhardt. "Day-after Recall of Listerine Corrective Commercials." Journal of Public Policy and Marketing, 2 (1983):29-37.

Mazis, Michael B. and Richard Staelin. "Using Information-Processing Principles in Public Policymaking." Journal of Public Policy and Marketing, 1 (1980):3-14.

Mazis, Michael B., Richard Staelin, Howard Beales, and Steven Salop. "A Framework for Evaluating Consumer Information Regulation." Journal of Marketing, 45 (Winter 1981):11-21.

Meyers, William. "The Campaign to Save a Flagging Brand." Adweek, April 1985, p. F.C.22.

Miller, George A. "The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information." The Psychological Review, 63 (March 1956):81-97.



- Miller, John A. "Are Mandated Disclosures Deceptive Advertising?" Journal of Advertising, 6 (Winter 1977): 4-9.
- Miller, John A. Labeling Research--The State of the Art. Cambridge, Massachusetts: Marketing Science Institute, 1978.
- Miller, John A. "Product Labeling and Government Regulation." Journal of Contemporary Business, 7 (1978):105-19.
- Mizerski, Richard W., Neil K. Allison, and Stephen Calvert. "A Controlled Field Study of Corrective Advertising Using Multiple Exposures and a Commercial Medium." Journal of Marketing Research, XVIII (August 1980): 341-8.
- Moltz, Howard and Donald L. Thistlethwaite. "Attitude Modification and Anxiety Reduction." Journal of Abnormal and Social Psychology, 50 (1955):231-7.
- Morgan, Jr., Fred W. "The Products Liability Consequences of Advertising." Journal of Advertising, 8 (Fall 1979): 30-7.
- Morgan, Fred W. and Dana I. Avrunin. "Consumer Conduct in Product Liability Litigation." Journal of Consumer Research, 9 (June 1982):47-55.
- Morris, Louis A. "Estrogenic Drugs--Patient Package Inserts," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 23-33.
- Morris, Louis A., David Brinberg, and Linda Plimpton. "Prescription Drug Information for Consumers: An Experiment of Source and Format," in James H. Leigh and Claude R. Martin, Jr., eds. Current Issues and Research in Advertising. Ann Arbor, Michigan: University of Michigan, 1984, pp. 65-78.
- Morris, Louis A., Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980.
- Munson, Ronald. Intervention and Reflection--Basic Issues in Medical Ethics. Belmont, California: Wadsworth Publishing Co., 1979.

- Murdock, Gene W. and James Peterson. "Strict Product Liability for Advertising Agencies: A Pro/Con Discussion." Journal of Advertising, 10 (1981):5-10.
- Murphy, R. Dennis. "Consumer Response to Cigarette Health Warnings," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 13-18.
- National Association of Broadcasters. "Advertising Guidelines." September 1, 1973.
- National Association of Broadcasters. "Non-Prescription Medications Guidelines: Questions-and-Answers." Code Authority Interpretation; in Felix H. Kent and Elhanan C. Stone. Legal and Business Aspects of the Advertising Industry 1982. New York: Practising Law Institute, 1982.
- Nie, Norman H., C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent. Statistical Package for the Social Sciences. New York: McGraw-Hill Book Company, 1975.
- Nkonge, Japhet H. and C. Scott Greene. "The Impact of Communication Medium and Message Format on the Effectiveness of Corrective Messages." Current Issues and Research in Advertising, 1982, pp. 89-112.
- Nunnally, Jum C. Psychometric Theory. New York: McGraw-Hill Book Co., 1978.
- Oklahoma Telecasters Association v. Richard A. Crisp, 8 Med. L. Rep. 1097 (1982).
- Olson, J. C. "An Information Processing Perspective," in Louis A. Morris, Michael B. Mazis, and Ivan F. Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 123-30.
- Opatow, Lorna. "Consumer Opinions of Open-Dating, Nutritional Labeling, Packaging and Pollution," in Boris W. Becker and Helmut Becker, eds. Combined Proceedings of the American Marketing Association. Chicago, Illinois: American Marketing Association, 1973, pp. 236-40.

- Orwin, Robert G., Raymond E. Schucker, and Raymond C. Stokes. "Evaluating the Life Cycle of a Product Warning: Saccharin and Diet Soft Drinks." Evaluation Review, 8 (December 1984):801-22.
- Osgood, Charles E., George J. Suci, and Percy H. Tannenbaum. The Measurement of Meaning. Urbana, Illinois: University of Illinois Press, 1957.
- Pederson, Amanda B., memorandum to Federal Trade Commission, re: Advertising for Over-the-Counter Antacids Rulemaking Proceeding, February 28, 1984.
- Penney, Catherine G. "Modality Effects in Short-term Verbal Memory." Psychological Bulletin, 82 (1975): 68-84.
- Peters, George A. "Toward Effective Warnings for Automobiles." Trial, November 1983, pp. 116-19.
- Peterson, Robert A. "Consumer Perceptions as a Function of Product Color, Price and Nutrition Labeling," in William D. Perreault, Jr., ed. Proceedings of the Association for Consumer Research. Ann Arbor, Michigan, 1977, pp. 61-63.
- Petty, Richard E. and John T. Cacioppo. Attitudes and Persuasion: Classic and Contemporary Approaches. Dubuque, Iowa: William C. Brown, 1981.
- Petty, Richard E. and John T. Cacioppo. "Issue Involvement Can Increase or Decrease Persuasion by Enhancing Cognitive Responses." Journal of Personality and Social Psychology, 37 (1979):1915-26.
- Petty, Richard E., Thomas M. Ostrom, and Timothy C. Brock, eds. Cognitive Responses in Persuasion. Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers, 1981.
- Pipher, James H. and Clayton Rivers. "The Differential Effects of Alcohol Education on Junior High School Students." Journal of Alcohol and Drug Education, 27 (Spring 1982):73-88.
- Powell, Fredric A. "The Effect of Anxiety-arousing Messages When Related to Personal, Familial, and Impersonal Referents." Speech Monographs, 32 (1965):102-6.
- Ramond, Charles. Advertising Research: The State of the Art. New York: Association of National Advertisers, Inc., 1976.

- Ray, Michael L. and William L. Wilkie. "Fear: The Potential of an Appeal Neglected by Marketing." Journal of Marketing, 34 (January 1970):54-62.
- Revett, John. "FTC Threatens Big Fines for Undersized Cigarette Warnings." Advertising Age, March 17, 1975, p. 1.
- Rheinstein, Peter H. and Carlene S. Baum. "Labeling Effectiveness and the Health Environment," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 275-87.
- Robertson, Thomas S. "Low-Commitment Consumer Behavior." Journal of Advertising Research, 16 (April 1976):19-24.
- Robertson, Thomas S., Joan Zielinski, and Scott Ward. Consumer Behavior. Glenview, Illinois: Scott, Foresman and Company, 1984.
- Robinson, Glen O., Ernest Gellhorn, and Harold H. Bruff. The Administrative Process. St. Paul: West Publishing Company, 1980.
- Rotzell, Kim B., James E. Haefner, and Charles H. Sandage. Advertising in Contemporary Society--Perspectives Toward Understanding. Columbus, Ohio: Grid, Inc., 1978.
- Russo, J. Edward. "More Information is Better: A Reevaluation of Jacoby, Speller and Kohn." Journal of Consumer Research, 1 (December 1974):68-72.
- Sacharin, Ken. "As They See It--Television." Marketing and Media Decisions, January 1983, p. 93.
- Sales, James B. "The Duty to Warn and Instruct for Safe Use in Strict Tort Liability." St. Mary's Law Journal, 13 (1982):521-86.
- Samuelson, M., R. F. Carter, and L. Ruggels. "Education, Available Time and Use of Mass Media." Journalism Quarterly, 40:491-6.
- Sawyer, Alan G. "The Effects of Repetition of Refutational and Supportive Advertising Appeals." Journal of Marketing Research, X (February 1973):23-33.

- Sawyer, Alan G. and Richard J. Semenik. "Carryover Effects of Corrective Advertising," in H. Keith Hunt, ed. Proceedings of the Association for Consumer Research. Ann Arbor: Association for Consumer Research, 1978, pp. 343-51.
- Scammon, Debra L. "'Information Load' and Consumers." Journal of Consumer Research, 4 (December 1977):148-55.
- Schucker, Raymond E., Raymond C. Stokes, Michael L. Steward, and Douglas P. Henderson. "The Impact of the Saccharin Warning Label on Sales of Diet Soft Drinks in Supermarkets." Journal of Public Policy and Marketing, 2 (1983):46-56.
- Schwartz, Stephen P. "Consumer Attitudes toward Product Labeling," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 89-96.
- Semenik, Richard J. "Corrective Advertising: An Experimental Evaluation of Alternative Television Messages." Journal of Advertising, 9 (1980):21-30.
- Sherif, Muzafer and H. Cantril. The Psychology of Ego Involvement. New York: Wiley, 1947.
- Simon, Herbert A. "How Big is A Chunk?" Science, February 1974, pp. 482-8.
- Simmons Study of Media and Markets, Volume P-17  
Simmons Market Research Bureau, Inc., 1983.
- Slovic, Paul, Baruch Fischhoff, and Sarah Lichtenstein. "Informing People About Risk," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 165-80.
- Spence, Homer E. and Reza Moinpour. "Fear Appeals in Marketing--A Social Perspective." Journal of Marketing, 36 (July 1972):39-43.
- Sperling, Dan. "A Push for Safety Labels for Toys." USA Today, 1985, p. 1A.
- Stepanek, Marcia. "Battling Blame: Pros and Cons of Liability Bill." Detroit Free Press, August 5, 1984, p. F4.

Stern, Bruce L. and Robert R. Harmon. "The Incidence and Characteristics of Disclaimers in Children's Television Advertising." Journal of Advertising, 13 (1984): 12-16.

Sternthal, Brian and C. Samuel Craig. "Fear Appeals: Revisited and Revised." Journal of Consumer Research, 1 (December 1974):22-34.

"Strategies to Combat Ad Clutter Emerge in Two Studies." Broadcasting, August 2, 1976, pp. 56-7.

Sudman, Seymour. Applied Sampling. New York: Academic Press, 1976.

"The Sweet and Sour History of Saccharin, Cyclamates, and Aspartame." FDA Consumer, September 1981, HHS Pub. No. 81-2156.

Teel, Sandra J., Jesse B. Teel, and William O. Bearden. "Lessons Learned from the Broadcast Cigarette Advertising Ban." Journal of Marketing, 43 (January 1979):45-50.

Thorton, Robert L. and Donald C. King. "Ecology--The Fear Appeal in the Public Sector." Michigan State University Business Topics, 20 (Winter 1972):35-8.

"Tobacco--Not Up in Smoke Yet." Detroit Free Press, November 9, 1984, p. B5.

Twerski, A. D., A. S. Weinstein, W. A. Donaher, and H. R. Piehler. "The Use and Abuse of Warnings in Products Liability--Design Defect Litigation Comes of Age." Cornell Law Review, 61 (April 1976):495-539.

Tybout, Alice M., Bobby J. Calder, and Brian Sternthal. "Using Information Processing Theory to Design Marketing Strategies." Journal of Marketing Research, XVIII (February 1981):73-9.

Tyebjee, Tyzoon T. "Refinement of the Involvement Concept: An Advertising Planning Point of View," in J. C. Maloney and B. Silverman, eds. Attitude Research Plays for High Stakes. Chicago, American Marketing Association, 1979.

U. S. Congress. House. Committee on Interstate and Foreign Commerce. Cigarette Labeling and Advertising. Hearings before the Committee on Interstate and Foreign Commerce on H.R. 2248, 3014, 4007, 7051, 4244, 89th Congress, 1965.

- U. S. Congress. House. Committee on Interstate and Foreign Commerce. Cigarette Labeling and Advertising, Hearings before the Committee on Interstate and Foreign Commerce on H.R. 643, 1237, 3055, 6543, 91st Congress, 1969.
- U. S. Congress. Senate. Committee on Commerce. Cigarette Labeling and Advertising, Hearings before the Consumer Subcommittee of the Committee on Commerce on H.R. 6543, 91st Congress, 1969.
- U. S. Congress, Senate. Subcommittee on Alcoholism and Narcotics. Committee of Labor and Public Welfare. Hearings: Media Images of Alcohol and the Effects of Advertising and other Media on Alcohol Abuse, March 8 and 11, 1976.
- U. S. Congress, Senate. Subcommittee on Alcoholism and Narcotics. Committee of Labor and Public Welfare. Hearings: Alcohol and Drug Abuse Among Young People, March 24 and 25, 1977.
- Wallen, Richard. "Ego-Involvement as a Determinant of Selective Forgetting." Journal of Abnormal and Social Psychology, 37 (1942):20-39.
- "Warning Label Urged to Identify 'Sexy' Song." Lansing State Journal, November 1, 1984.
- Watson, M., K. W. Pettingale, and D. Goldstein. "Effects of a Fear Appeal on Arousal, Self-Reported Anxiety, and Attitude Toward Smoking." Psychological Reports, 52 (1983):139-46.
- Webb, Peter H. "Consumer Initial Processing in a Difficult Media Environment." Journal of Consumer Research, 6 (December 1979):225-36.
- Webb, Peter H. and Michael L. Ray. "Effects of TV Clutter." Journal of Advertising Research, 19 (June 1979):7-12.
- Weinberger, Marc G., Chris T. Allen, and William B. Dillon. "Negative Information: Perspectives and Research Directions," in Proceedings: Association for Consumer Research, 9 (1981):398-404.
- Wells, William D. "Recognition, Recall, and Rating Scales." Journal of Advertising Research, 4 (1964):2-8.
- Wesolowsky, George O. Multiple Regression and Analysis of Variance--A Researcher's Handbook. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1982.

"'What's in it' for Liquor Marketers?" Advertising Age, August 13, 1984, p. 18.

Wheatley, John J. "Marketing and the Use of Fear- or Anxiety-arousing Appeals." Journal of Marketing, 35 (April 1971):62-4.

Wheatley, John J. and Sadaomi Oshikawa. "The Relationship Between Anxiety and Positive and Negative Advertising Appeals." Journal of Marketing Research, VII (February 1970):85-9.

Wheeler-Lea Amendment to Federal Trade Commission Act. 15 U.S.C.A. SS. 55.

Wilkie, William L. "Affirmative Disclosure at the FTC: Theoretical Framework and Typology of Case Selection." Journal of Public Policy and Marketing, 2 (1983):3-15.

Wilkie, William L. "Analysis of Effects of Information Load." Journal of Marketing Research, XI (November 1974):462-6.

Williams, Terrell G. "Effects of an Advertising Warning Message on Consumer Attitudes and Buying Intentions," in Kenneth L. Bernhardt, ed. Educator's Proceedings of the American Marketing Association. Chicago: American Marketing Association, 1976, pp. 363-66.

Wise, Gordon L., Herbert G. Brown, and Myron K. Cox. "The Effect of Program Type and other Variables in Reaching the Daytime Television Viewer with Advertising Messages." Journal of Advertising, 4 (1975):41-6.

Wright, Peter. "The Cognitive Processes Mediating Acceptance of Advertising." Journal of Marketing Research, X (February 1983):53-62.

Wright, Peter. "Concrete Action Plans in TV Messages to Increase Reading of Drug Warnings." Journal of Consumer Research, 6 (December 1982):256-69.

Yesley, Michael S. "Afterward: Policy Issues in Risk Labeling," in Louis A. Morris, Michael B. Mazis, and Ivan Barofsky, eds. Banbury Report 6: Product Labeling and Health Risks. New York: Cold Spring Harbor Laboratory, 1980, pp. 313-16.



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