

THE EFFECT OF SOCIAL RESPONSIBILITY INFORMATION,  
SOURCE OF INFORMATION, AND TYPE OF MEDIA ON  
CONSUMER PERCEPTIONS OF PRODUCT RECALLS

By

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## PREFACE

Several people contributed to this project and deserve mention and thanks. My brother, Paul Jolly, helped immeasurably with the production of experimental materials. David Everman and Janet Dwyer also helped produce experimental materials, and deserve thanks. John Moner offered guidance and counseling throughout the project, and his help is appreciated. Finally, my parents, Bill and Ruth Jolly, provided love and support, and lifted sometimes sagging spirits.

## ABSTRACT

A three-variable full factorial experimental design was performed to study consumer's perceptions of a company after they had learned the company had made a product recall. The three variables studied were the effects of favorable remarks about the company's social responsibility in acting quickly to recall the defective product, the effect of the medium used to present the information, and the effect of the source of the information.

The results of the study indicated that favorable social responsibility did influence subject's attitudes toward the company in a positive manner. Media type also seemed to influence subject's responses. Subjects who received the product recall information through print media tended to view the company in a more favorable light. Although the inclusion of social responsibility information did influence subject's attitudes, the effects of media type and source of information also appear to influence consumer's thinking when they learn of a product recall.

## INTRODUCTION

Industry has recently been faced with the problem of recalling products that, because of some systematic manufacturing or engineering error, pose a safety hazard to users of the product. Product recalls have not been limited to a particular industry, but have been performed by many firms in both industrial and consumer oriented industries. In 1974, almost 25 percent of all consumer goods' companies appearing in Fortune's 500 had initiated recall campaigns (16). By 1977, five years after the Consumer Product Safety Commission was formed, there had been 450,000 product recalls, excluding those initiated by the Food and Drug Administration and the Transportation Department. Today the number of recall programs initiated and the total number of units recalled continues to increase.

The cost of recalling a product is staggering. The four U. S. automakers alone spent \$150 million in 1977 on product recalls. Thus, there appears to be ample justification for investigating the product recall phenomenon.

Most of the academic effort devoted to product recalls has been aimed at increasing the effectiveness of the recall program and the organization in handling the recall (3; 6; 8; 17). Thus far, the main thrust of the recall literature has been a "how to do it" approach.

A second perspective, the one that will be assumed in this paper, has received far less attention. It is concerned with individuals' reactions to news of a company's recall, and the effect of that

information on attitudes and feelings toward the company. While the cost of recalling a product alone would justify attention to this topic, the current perspective is clearly important because it concerns the future profitability and survival of the firm. That is, if a consumer loses faith in a company and develops negative feelings toward the firm as a result of a product recall, his purchase of a different brand may influence the firm's revenues and profitability in both the long and short run.

### Literature Review

#### Product Recall

There is a dearth of scholarly literature investigating consumer perceptions of product recalls, although there has been journalistic attention given to the general area and to news of new recalls. The extent of the scholarly literature is referenced in two studies performed by Mowen (11; 12). In the first experiment, severity of the injury resulting from the defective product, the length of time it took the company to decide to make the recall, and the number of previous recalls made by the company were found to influence perceptions of the company and their intentions to purchase a replacement product (a product developed by the company to replace the recalled one [e.g., the Firestone 721 in place of the Firestone 500]) (11). In a second experiment conducted by Mowen, the name of the company (known or unknown), Consumer Product Safety Commission (CPSC) directives given or not given prior to the recall, and information concerning recalls for a similar defect by other companies, were manipulated. Two effects were obtained that indicated company familiarity and CPSC action

influenced how responsible people felt the company was for the defect. A well known company appears to be perceived as less responsible for a defect than an unknown company. Unexpectedly, it was found that when subjects were given information that the CPSC was still undecided on a course of action, they rated the company as more responsible for the defect than if the CPSC had decided a recall was required. The explanation given was that when the CPSC had taken a stand, the responsibility seemed to be shared by both the company and the CPSC.

Following the studies that indicated the importance of several variables with an experimental methodology, Mowen chose a survey methodology to determine if those variables retained their importance without the help of the experimental manipulation. In the survey, responses were obtained on four different companies that had recalled products. A stepwise regression was employed on each company separately. The perceived danger of the defect, the company's social responsibility, the consumers' knowledge of the recall, and the company's responsibility for the defect as perceived by the consumer seemed to be the best predictors of favorability toward the company, the dependent variable. The survey results partially supported Mowen's earlier work, as one company failed to gain a single significant predictor variable. The Mowen and Mowen et al. research is the extent of the theoretical and empirical findings related to consumer perceptions of product recalls.

Other attribution research provides some useful insights for explaining how consumers will perceive a company after it has made a recall. Mizerski (10) found that subjects tended to attribute favorable information about a product to external causes ("That person just likes

products like that"), and unfavorable product information to internal causes ("It's the company's fault it makes a poor product"). The reason this occurs is that people tend to weigh negative information more heavily than positive information. These studies in marketing generally follow those found in psychology. For instance, Kanouse and Hanson propose that people are cost oriented in their evaluations and place greater weight on negative information than on positive content. They state that people generally expect positive results, so that when negative information is present it is weighted more heavily.

Related studies in attribution theory have found that poor performance coupled with high effort produced positive attributions. Weiner and Kukla found that low ability was rewarded more and punished less than high ability. In cases where lack of effort accompanies failure, especially in high ability situations, punishment is most severe. However, when success follows effort, the person is highly rewarded regardless of his ability.

These results found by Mowen and Mizerski and other psychological researchers hold important implications for companies recalling products. Since news of a product recall is certainly unfavorable information, consumers might weigh this negative information far more heavily than advertising revealing product strengths. However, if the company made a rapid recall, it may be able to take advantage of the effort vs. ability attribution (poor performance requiring a recall, but high effort to correct the problem). If such an effort could be found, companies might turn an unfavorable event into positive, or at least neutral, feelings on the part of consumers.

In summary, there are a variety of influences that affect consumer



perceptions of product recalls. Several theoretical perspectives can be assumed, but thus far they have all been variations of attribution theory. Because this body of literature is so new, it is quite possible that many influences have not yet been considered.

### Source of Information

It has long been held that news sources, because of their independence and objectivity, are more credible than company sponsored advertisements. Past studies have shown that the more objective the source, the more the information is believed by subjects (2). Taken in its usual context this is almost always true. Consider, for example, the claims of a company advertisement versus the claims of a publication like Consumer Reports on the same product. Because of its independence and objectivity Consumer Reports would be viewed as a more credible source.

A product recall is not the usual situation, however. Government agencies, because of their regulatory powers, often play an integral role in product recalls. Government reports and warnings are often issued through newscasts. The source of information may no longer be news versus company advertisement, but rather government versus company advertisement. It is possible the newscast will be reduced to a communication vehicle and the government emerges as the source of the communication. If indeed this is the case, important implications can be found for companies that believe they are unfairly being forced to recall a product. The government does not have an unblemished record in this area. Some recalls such as the Ford Pinto recall gained consumer support. Other recalls such as the attempted saccharin recall met with strong public resistance.

Sandage and Barban (1970) found that, in a survey of 850 farmers, respondents felt that government was already too involved in the area of consumer protection and that its regulatory role should be lessened. Respondents also felt that "protection from government bureaucrats might become as vital as protection from unsavory business practices" (p. 151). The results of this study are particularly relevant because subjects in the current study were selected from an area with a strong agricultural base. The point of this argument is that, in the product recall setting, the government agency report ordering a recall or warning consumers of a product's hazards may bring many more feelings and stereotypes to bear than those stemming only from a product recall.

Thus, it is argued that information imparted as "news" may not be considered more objective and independent just by being disseminated on a news program. The actual content of the message may release a host of feelings that taint the message and distort its accuracy. The area of product recalls may be one of those areas.

### Media Influences

The degree to which the medium affects the message has been a topic of continuing interest in the mass communications literature. Many studies have been performed, some suggesting that the "medium is the message" (9) and others finding no difference solely on the basis of mechanical presentation.

The Roper organization published a report in the early sixties stating that television had overtaken print as the most popular and effective medium. A flurry of studies followed attacking that report on methodological grounds. More empirical evidence was published that both supported and contradicted the Roper findings.

The popularity of various media is important in making a product recall because owners must be reached. Also important, however, is the effectiveness of the medium in conveying the message. Dommermuth (1974) investigated the effect of four different media on audience perceptions of the communicator and his presentation. The three research questions explored were:

- (1) . . . will audience perceptions of the communicator and the presentation vary between media types . . . (2) will the media differ in terms of their effectiveness in converting the audience to the communicator's position . . . (3) will the media differ in terms of their teaching capacity as measured by a test on the content of the presentation (p. 441).

The 171 subjects were assigned to four experimental groups. A 20-minute film advocating that education be aimed at intellectual discipline was made and presented to the first group in television form, the second group in motion picture form, the third group in print (script only) form, and the fourth group in radio (sound track only) form. Subjects who received the presentation in print thought the presentation was "better" (on a good-bad scale) than subjects in other groups. Print was also viewed as fairer (on a fair-unfair scale) than sound and television. In terms of potency, print was viewed as "stronger" than either sound or television. A pre-test-post-test was performed on subjects' attitudes toward the topic of the presentation. The radio audience produced the greatest mean attitude change with the print audience a close second. Television produced the least amount of attitude change.

Much of the research on this topic has produced results that are almost the exact opposite of those reported in Dommermuth's study. In reconciling his results with past research Dommermuth acknowledges this fact, but explains the inconsistencies stating that:

The key differences between the results of this study and previous studies would seem to lie in the fact that, within each, all conditions other than the media were held constant. However, conditions other than media, i.e., the message and the communicator, varied between studies. In the face of contradictory results, the conclusion would seem to be that generalizations about medium effectiveness are meaningless when isolated from the total situation (p. 447).

Lee (1978) examined the dimensions of credibility in newspaper versus television news. From a student sample of 401, television was believed three times more often than newspapers when conflicting reports were given. A factor analysis performed on the data revealed four significant factors of medium credibility: trustworthiness, intimacy, expertness, and availability. The Lee study offered support for the notion that television is the most believed, most effective channel of communication.

Clarke and Ruggels (1970) attacked an even smaller segment of the problem and examined preferences for public affairs information among several news media. Using a sample of 1,250 male and female heads of households in the Seattle area, the researchers attempted to measure exposure and preferences for television, radio, news magazine and newspaper media. Preferences were obtained for public affairs information only. Personal interviews were used to collect the data. Among the results obtained, a strong correlation between education and preferences for print media emerged. For international news, broadcast media were preferred slightly less often than newspapers, but for national news there was a clear preference for newspapers. The authors conclude their report stating, "Instead of continuing the debate over whether people rely more on television or print, we suggest that researchers begin study of a person's information-seeking strategies concerning specific news topics" (p. 471).

It is worth noting that this research has taken place over a period of roughly 20 years. An "information explosion" has also taken place during that time. Satellite communications, four-color photography in newspapers, and different printings for geographic regions of the country in magazine publications are all now commonplace. In summary, the mass communications literature in terms of media preferences, does not appear to be more conclusive than certain areas of the marketing literature. For every study finding one set of results there seems to be an alternative one stating just the opposite. However, as with most behavioral science fields, the literature has progressed to the point where it is recognized that the problem is multi-dimensional and to some degree situation specific, and that no sweeping generalizations will hold.

#### Design Overview

Three main areas of emphasis were stressed in the literature review and will be points of focus in the research design as well. An experimental design will be used to examine the importance of the source of the information, the type of media used to convey the information, and the inclusion or deletion of social responsibility information. The purpose in employing an experimental design methodology is to gain an insight into factors that might be useful in effective product recall management aimed at the consumer. Thus, a 2X2X2 between subjects' factorial design will be used with type of media (radio or print), source of information (advertisement or news brief), and the inclusion or deletion of information stating the company acted in a socially responsible manner as the three factors.

The inclusion of these factors, based on the literature review, lead to the following hypotheses:

- H<sub>1</sub>: The more socially responsible a company is perceived to be, the more favorable consumers will view the company as a whole.
- H<sub>2</sub>: The news source will be perceived as more trustworthy than company advertisements.
- H<sub>3</sub>: It is felt that print will be viewed as more trustworthy than sound medium.

### Methodology

A 2X2X2 between subjects factorial design was performed. The three factors were source of information (a news program or a company advertisement), media type (radio or print), and favorable social responsibility information either presented or not presented. In considering this final factor, since a company would not place unfavorable social responsibility information in its own advertisements, either favorable social responsibility information would appear or the company would choose not to mention the subject at all. Thus, the two levels of social responsibility information are 1) presented and 2) not presented.

The reasons for including three factors center mainly around economy of design. The literature in the area of consumer reactions to product recalls is almost non-existent. The studies by Mowen have answered some questions but raised many more. The primary reason for including three factors in a single design, then, is to economically investigate several relationships.

The defective product scenario used in the study was a modification of an actual product recall case involving a hair dryer manufactured by Conair Corporation. In this actual instance the hair dryer deposited

asbestos which contained carcinogenic substances onto the heads of hair dryer users. In the experimental situation the defect was changed to an electrical short circuit that caused the user to receive an electrical shock when the unit was turned on. The rationale for changing the scenario was to allay fears that the seriousness of the actual defect would overshadow the experimental manipulations. Thus, the scenario was changed so that a "milder" defect had occurred.

A second reason for choosing a hair dryer as the defective product lies in its relevance to the students that made up the sample. Many students of both sexes own hair dryers and thus they would be able to picture themselves as owning one of these defective products. The defect needed to occur in a consumer product that had little ownership documentation associated with it, so that ownership could not be traced. It would then be reasonable to expect the recall information to be imparted via the mass media.

In previous experimental work the independent variables have been operationalized in script form. That is, participant's read a scenario about a product that had been recalled and some background information leading to the recall. One purpose of the present study is to re-operationalize the social responsibility variable so that a greater sense of realism is obtained. Fictional advertisements and newscasts were developed, with the experimental manipulations embedded within them, and presented to subjects.

### Subjects

The subjects that participated in this study were drawn from two sources. Forty-eight of them were randomly selected from a listing of all undergraduate students enrolled in the Colleges of Business and

Arts and Sciences at a large midwestern university. The remainder of the sample was drawn from introductory management and consumer behavior classes at the same university. Two of the questionnaires were unusable, leaving a total of one hundred nineteen usable responses.

### Procedure

Subjects were asked to sit at a table and either listen to the "radio" or read the "newspaper." All subjects who received a news source were presented with the following material:

Some models of hair dryers manufactured by Conair Corporation in May 1979 are being recalled because of a possibility of electric shocks, a government spokesman for the Consumer Product Safety Commission said today.

Conair officials said they have discovered a wiring defect in the handle of the company's Warp-9 model hair dryer during additional performance tests on the Warp-9. Company officials said that anyone who had purchased a Warp-9 could return the hair dryer to the place of purchase or any store which carries Conair products. Consumers have a choice between either receiving another model hair dryer or receiving a full refund.

At this point subjects in the manipulation offering positive social responsibility information read or heard:

The CPSC spokesman said, "Conair should be commended for initiating this prompt recall as soon as the defect was discovered. Socially responsible actions such as these make our job to insure the safety of consumers a little easier."

All subjects assigned to news sources then read or heard:

The defective models can be detected by checking the serial number on the bottom of the handle. If the first number is a 6, and the last number is either a 2, 3, or 5, then the hair dryer is defective and should be returned.

Those subjects assigned to advertising conditions were presented with this similar material:



Did you just buy a hair dryer? A Conair hair dryer? If you did, Conair Corporation needs to hear from you. Conair has discovered that some of the hair dryers it made in 1979 may have developed a short in the electrical system. This problem may cause an electrical shock to the user when the unit is turned on.

How can you tell if you own one of these hair dryers? Just look at the serial number on the bottom of the handle. If the first number is a 6, and the last number is a 2, 3, or 5, then you will know you have purchased a defective hair dryer. If you own one of these hair dryers, please take it to the store where you purchased it or any store where Conair products are sold. There they will either replace the hair dryer or refund your money in full.

Subjects receiving the social responsibility material were presented with an advertisement that contained this addition:

Although the government has not yet decided if this error is serious enough to force a recall, we at Conair feel it is our responsibility to you to offer only safe, quality products, and to act quickly to correct any problems that do occur.

Filler material surrounded each advertisement or news story to add a sense of realism and make the purpose of the study less obvious to subjects. This filler material was the same for all tape conditions and for all print conditions, but it differed between media. In the tape medium the filler material consisted of an advertisement for ladies' clothing and a news brief of local and national events. The local news was concerned with a car accident and the national views related congressional response to a presidential budget request. The filler material on the print medium consisted of a story about a missionary's work in Africa and an advertisement for a political candidate.

Following the presentation of the experimental materials, each subject was given a self-report questionnaire containing multiple choice and Likert-type questions. The amount of time it took subjects to complete the experiment averaged about 10 minutes.

## Results

The findings of this study were somewhat surprising in that most of the results were influenced by the type of media used to deliver the information (e.g., radio or newspaper). Other results were more in line with the hypotheses and research expectations.

### Manipulation Check

Only one of the three factors, the inclusion or deletion of social responsibility information, required a manipulation check. The question "How socially responsible do you perceive Conair Corporation to be?" was asked of all respondents. A six point Likert scale was used with "very socially responsible" anchoring one end and "not socially responsible" anchoring the other end. The manipulation was significant at the  $p < .01$  level ( $M_{\text{included}} = 2.2$ ,  $M_{\text{deleted}} = 2.6$ ). Subjects tended to view the company as more socially responsible when they heard or read the additional social responsibility information.

The most important finding generated by this study is the main effect of social responsibility information on subject's perception of Conair. Those who had received additional information viewed Conair in a more favorable light than those who had not received the information ( $M_{\text{sr}} = 2.4$ ,  $M_{\text{no sr}} = 3.0$ ). This effect was significant at the .01 level, offering support for Hypothesis 1. The mean scores indicate neither a liking nor a disliking of Conair by those who had not received the additional information, while a slightly more positive view was exhibited by subjects in the receiving condition. Support was found for Hypothesis 1.

## PERCEPTION OF CONAIR

Source	F-Value	p<F
Media	1.7	.19
Social Responsibility	8.3	.005
Source	.02	.88
Media* Source	.19	.67
Media* Social Responsibility	.22	.64
Source* Social Responsibility	.08	.77
Media* Source* Social Responsibility	0.0	.96

TABLE I

The second hypothesis was not supported, as the data did not reveal statistically significant differences between government news and advertisements on the dependent variable trust. The data suggested that the news and advertisement sources of information were viewed similarly in terms of trustworthiness.

The third hypothesis was supported by the data. The print medium "outperformed" the tape medium in two instances. First, a main effect was obtained on the dependent variable "social responsibility," in which the tape medium produced less positive responses toward Conair than did the print medium ( $M_{\text{print}}=2.2$ ,  $M_{\text{tape}}=2.6$ ) at the .1 level. Secondly, the print medium was perceived as more objective than the tape medium. When the question "Did you feel the information was presented in an objective manner?" was asked, respondents in the print condition responded more favorably than those in the tape condition ( $M_{\text{print}}=2.1$ ,  $M_{\text{tape}}=2.5$ ,  $p<.05$ ). Thus two of the three stated hypotheses found support from the data.

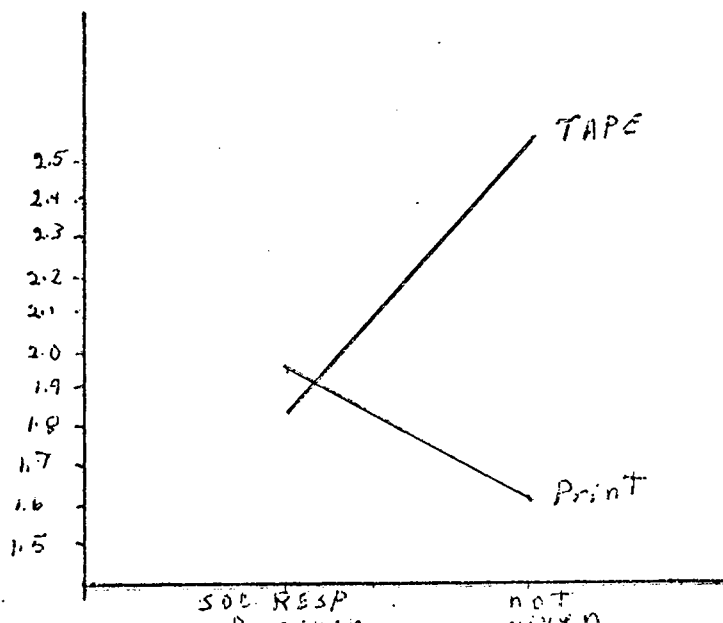
## TRUST

Source	F-Value	p<F
Media	.41	.04
Social Responsibility	.89	.21
Source	1.6	.35
Media* Source	.26	.61
Media* Social Responsibility	5.6	.02
Social Responsibility* Source	1.5	.22
Media* Source* Social Responsibility	.88	.35

TABLE II

Interactions

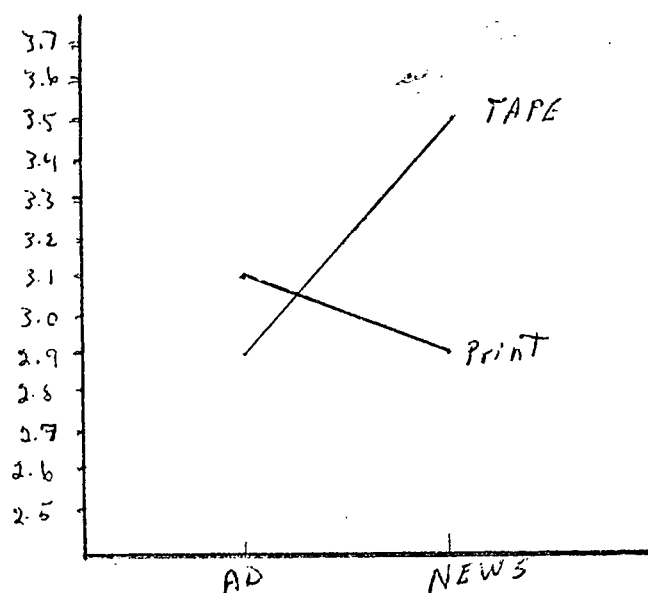
Several interactions occurred which suggest the importance of media type in the product recall setting. An interaction occurred between social responsibility and the medium used to present the information on the dependent variable trust ("When you learned about the recall, did you believe the source of the message was trustworthy?"). The interaction was significant at the .05 level. A Neumann-Keuls test for the difference between means indicated that the cell receiving the tape-no social responsibility condition was different from all other cells. Subjects perceived Conair as less trustworthy when they received this condition.



## DANGER

Source	F-Value	p<F
Media	1.5	.22
Social Responsibility	0.0	.41
Source	.68	.98
Media* Source	2.8	.09
Media* Social Responsibility	.01	.93
Social Responsibility* Source	.44	.51
Media* Source* Social Responsibility	2.3	.13

TABLE III



An interaction between source of information and type of media on the dependent variable danger ("How dangerous do you perceive Conair to be?") was also revealed by the data. Although this interaction was not strong ( $p < .1$ ), it follows the same pattern as the previous interaction in that tape news condition seemed to be viewed less favorably than other cells.

## CERTAINTY

Source	F-Value	p<F
Media	0.0	.98
Social Responsibility	.35	.30
Source	1.1	.56
Media* Source	7.9	.006
Media* Social Responsibility	.16	.69
Social Responsibility* Source	4.9	.03
Media* Source* Social Responsibility	4.1	.04

TABLE IV

In summary two of the three stated hypotheses found support in the data. In addition three unexpected interactions occurred where a cell containing the tape medium was viewed differently from all other cells.

## Discussion

Several observations can be made about the data. First, each independent variable influenced at least one dependent variable, suggesting the variety of factors operating in the product recall setting. A second observation pertains to the tendency of the tape medium to be viewed differently than the print medium. The media factor was very active and crossed with other independent variables on several occasions. When the tape medium combined with a news source, subjects viewed the

product as less dangerous. When the tape condition was combined with the no-social-responsibility information condition subjects perceived the message as less trustworthy. In the tape-news-no social responsibility condition, subjects were less certain about their feelings toward Conair. There seems to be a certain amount of consistency in the way the data behaves. There was some worry that inconsistencies in treatments could have occurred to cause such results, but because of the care taken in the production of the experimental materials and the random assignment of subjects to conditions, those fears were mitigated. Further, the results occur across a variety of dependent variables. If main effects were obtained showing tape conditions consistently inferior to print conditions, more suspicion would be present. It is felt the results stem from experimental manipulations rather than random effects.

The present results were fairly consistent with existing literature. When the company was perceived to be socially responsible, more favorable feelings were held toward the company. This result supports the link between beliefs about a company's consumeristic position and a person's perception of the company as a whole, as suggested by the Mowen experimental work and strengthened by the Mowen et al. survey research.

The second hypothesis suggested the government news source would be viewed as more trustworthy than the advertisement. The results were the reverse of the expectation. Respondents felt the news source was less objective. This finding is clearly contrary to the existing literature. Two explanations are possible. First, it could be a random effect. Secondly, several government agencies have had bad reputations in Oklahoma, and the distrust held against them may have been generalized to this instance. The concern about this possibility was mentioned

earlier and may have occurred.

The third hypothesis found some support in that the print medium was perceived as more objective than the tape medium. The tape-no social responsibility information condition gave lower trustworthiness ratings. Both of these suggest superiority of print over sound in terms of effectiveness in the present context.

Two other interactions occurred. The tape-news treatment produced ratings that indicated subjects viewed the defect as less dangerous than other conditions. The tape-news-no social responsibility information condition interaction indicated subjects in this cell were less certain of their feelings toward Conair. The general conclusion here seems to be that the tape conditions were simply liked less and had less effect on subjects than did the print medium. This coupled with either a news or a no-social responsibility information treatment produced even lower ratings that caused interactions. In this instance, the print medium seemed to be more effective than the tape medium, a finding which does have support in the mass communications literature.

### Conclusions

The results of this study were somewhat surprising in that the media used to convey the recall message seemed to play such an important role. At the beginning of the study the principle focus was on the operationalization of the social responsibility variable and the results that would accrue from its successful manipulation. The manipulation was successful, and the hypothesis was supported. However, the importance of the channel of communication soon became evident. Future research should consider this phenomenon and its implications to companies facing a product recall.



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