ANALYSIS OF RISK CHANGE IN CONSUMER DECISION-

MAKING THROUGH PERSONAL INFLUENCE

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APPALACHIAN STATE UNIVERSITY

COLLEGE OF BUSINESS

MASTER'S THESIS

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ABSTRACT

This study sought to determine the relationship between risk perception and the importance of information from personal sources to consumers (verbal opinion and observed attitude). Also, it was designed to determine if information from these sources might cause changes in the perception of risk. The experiment attempted to determine if those changes were a function of the type of information (favorable or unfavorable) being presented from these personal sources.

Social and economic risk perception was used to represent overall perceived risk. The study dealt with these two forms of perceived risk associated with seven product categories.

The research design was the classical before-after with experimental and control groups. It required the use of two experimental groups, one to test the effects of favorable information and one to test unfavorable. The pre-test consisted of ratings of the magnitude of social and economic risk perception and importance of information from personal sources for each of the purchase decisions. The next phase of the experiment required the use of "confederates" to emit favorable or unfavorable information during group discussions. The post-test, again, measured the magnitude of social and economic risk perception.

The sample consisted of one hundred ninety-four subjects randomly selected from the undergraduate student population in the College of Business at Appalachian State University. The subjects were enrolled in classes during spring semester 1977.

The data generated from the above sample were analyzed with canonical correlation analysis to determine if a relationship between socioeconomic risk perception and importance of information from personal sources existed. One-tailed t-tests of independent means were used to test the changes in risk perception given favorable or unfavorable information. Control group data were analyzed with two-tailed t-tests.

A statistically significant relationship between socioeconomic risk perception and importance of personal influences was found in most cases. The relationship was small, explaining no more than eighteen percent of the variation in the importance of information from personal sources. The results were not significant and the null hypotheses that favorable information would increase risk perception and that unfavorable information would decrease risk perception could not be rejected.

PREFACE

The following study sought to determine the relationship between risk perception and the importance consumers place in information from personal sources (verbal opinion and observed attitude) in purchase decisions. The study also was designed to determine if information from those sources might cause changes in the perception of risk. The experiment attempted to determine if those changes were a function of the type of information (favorable or unfavorable) being presented from those personal sources.

Social and Economic risk perception were used to represent overall perceived risk. The study dealt with these two forms of perceived risk as associated with seven product categories: Color T.V., Sports Car, Cologne, Beer, Camera, Toothpaste and Suit of Dress Clothes.

ACKNOWLEDGEMENTS

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Chapter 1

INTRODUCTION

Research has shown that the presence of perceived risk[1] can impede the acceptance of a new product,[2] can impede the sale of mail-order products,[3] and can result in lower sales in specific retail outlets.[4] On the other hand, Barbara Deering and Jacob Jacoby postulate that in some minor purchases the presence of perceived risk can stimulate sales.[5] This apparent inconsistency begs the questions, "What affects the perception of risk in purchase decisions?"

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[1]Defined as the perception of the possibility of an unfavorable occurrence after purchasing a product.

[2]Donald T. Popielarz, "An Exploration of Perceived Risk and Willingness to Try New Products," Journal of Marketing Research, November 1967, p. 371.

[3]Homer E. Spence, James F. Engel and Roger D. Blackwell, "Perceived Risk in Mail-Order and Retail Store Buying," Journal of Marketing Research, August 1970, 3, p. 368.

[4]Robert D. Hisrich, Ronald J. Dornoff and J. Kernan, "Perceived Risk in Store Selection," Journal of Marketing Research, November 1972, 9, p. 439.

[5]They suggest that in low risk purchases the consumer may attempt to increase the complexity of the purchase decision, usually as a result of boredom. See: Barbara J. Deering and Jacob Jacoby, "Risk Enhancement and Risk Reduction as Strategies for Handling Perceived Risk," in M. Venkatesan (ed.) Proceedings of the 3rd Annual Conference of the Association for Consumer Research, 1972, p. 404.

and "What is affected by the perception of risk that would impede or accelerate the acceptance of a new product?"

In this study it is hypothesized that information from personal sources, such as verbal opinion, affects the perception of risk in purchase decisions. Also, it is hypothesized that the importance of that information is a function of the amount of risk perceived prior to the receipt of any verbal opinion or the observation of anyone else's attitude.

A previous study has shown that, as perceived risk in a purchase situation increases, so does the search for information about the situation.[6] Scott M. Cunningham classified individuals as being high, medium or low in perceived risk.[7] He found that those persons high in perceived risk were more likely to be involved in product-oriented conversations. This suggests that such individuals attempt to reduce the magnitude of risk perception. Arndt found that:

> . . . compared with those low in perceived risk, the high-risk perceivers were more affected by both favorable and unfavorable word-of-mouth comments. The high-risk perceiver is more likely

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[6]Paul E. Green, "Consumer Use of Information," in Joseph W. Newman (ed.) On Knowing the Consumer (New York: Wiley, 1966), pp. 67-80.

[7]Scott M. Cunningham, "Perceived Risk as a Factor in Informal Consumer Communications," in D. F. Cox (ed.) Risk Taking and Information Handling in Consumer Behavior (Cambridge, Mass.: Harvard University Press, 1967), p. 287.

to exhibit an accelerated adoption of new products
after favorable comments and more likely to exhibit
a decelerated adoption after unfavorable comments.[8]

The above quote suggested that changes in risk perception
may have affected the actions of those high-risk perceiving
individuals.

In 1969 Michael Perry and B. Curtis Hamm found a
statistically significant relationship between the magnitude
of socioeconomic risk and the importance of information from
personal sources.[9] It is apparent from this study that the
change in the magnitude of perceived risk, which influences
the importance of information from personal sources, may be
a factor underlying the previous test results.

Arch G. Woodside found that the "risky shift phenom-
enon"[10] could be applied to purchase decisions that con-
sumers make.[11] This realization suggests that product-
oriented conversations may actually reduce the perception
of risk in the associated purchase decision.

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[8]Johan Arndt, "Perceived Risk, Sociometric Integration, and
Word of Mouth in the Adoption of a New Food Product," in D. F. Cox
(ed.) Risk Taking and Information Handling in Consumer Behavior
(Cambridge, Mass.: Harvard University Press, 1967), p. 315.

[9]Michael Perry and B. Curtis Hamm, "Canonical Analysis of
Relations between Socioeconomic Risk and Personal Influence in Pur-
chase Decisions," Journal of Marketing Research, August 1969, 6,
p. 354.

[10]The "risky-shift" is a much talked about phenomenon that
occurs when an individual deliberately chooses a riskier alternative,
after group discussion of the alternatives, than he/she did before
discussion.

[11]Arch George Woodside, "Informal Group Influence on Risk
Taking," Journal of Marketing Research, May 1972, 9, pp. 223-225.

These are the studies from which the present problem
is derived. This study examines whether the presence of a
relationship between the perception of risk and the impor-
tance of information from personal sources will explain the
above-mentioned changes in risk perception.

IMPORTANCE OF THE PROBLEM

For the academician the study was important since
it made some addition to the store of knowledge relative to
consumer behavior. Therefore, the results of this study
should provide practical insight and not just the satis-
faction of professional curiosity. Certainly, to some
degree, man's desire to know more about himself and his
world was enhanced.

For marketing management the real significance is
the contribution that the results of this study made toward
improvements in the design of a more effective marketing
strategy. A strategy may be designed to enhance or reduce
perceived risk.[12] It may be possible to increase sales by
reducing perceived risk for the advertised brand and ini-
tiating a massive risky shift (a shift toward accepting

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[12]It may be possible to increase sales for some low
risk items by actually aiding the consumer in risk enhance-
ment. This may be implied from Deering and Jacoby. See:
Barbara J. Deering and Jacob Jacoby, "Risk Enhancement and
Risk Reduction as Strategies for Handling Perceived Risk,"
in M. Venkatesan (ed.) Proceedings of the 3rd Annual Confer-
ence of the Association for Consumer Research, 1972,
pp. 404 & 405.

greater risk) in the population. With perceived risk enhancement as a strategy, the marketing manager may be able to boost sales by increasing the amount of perceived risk associated with his product, brand or corporate image (assuming that research has shown that his product falls into the category of impulse buying items).[13] Also, a positive relationship was found between perceived risk and personal influence as factors in purchase decisions, which suggests that risk enhancement may be an effective strategy with accompanying advertising directed toward the opinion leaders for the product and community.

The study was important to both the academic and business community. To the academic community, this study lended support to one of two hypotheses advanced to explain the risky shift phenomena: (1) the information exchange hypothesis,[14] or (2) the diffusion of responsibility hypothesis.[15] For the business community, this study provided an aid in the planning of future marketing strategies.

PURPOSE OF THE STUDY

The purpose of this study was to explore the relationship between perceived risk, in the form of social and

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[13]Ibid.

[14]Nathan Kogan and M. A. Wallach, "Risky Shift Phenomenon in Small Decision-Making Groups: A Test of the Information Exchange Hypothesis," Journal of Experimental Social Psychology, January 1967, 3, p. 75.

[15]Kogan and Wallach, op. cit., p. 81.

economic risk, and personal influences[16] as sources of information in purchase decisions. The study was designed to determine the effect of this relationship on consumer behavior, specifically in the form of a change in the magnitude of the perception of risk (both social and economic risk). Determination of the existence and magnitude of this effect was of prime importance. Also important was the direction (toward a perception of greater risk or lesser risk) of the change, given the type of information introduced to the consumer.

STATEMENT OF THE PROBLEM

Did the type of information (favorable or unfavorable) in product-oriented conversations result in changes in the magnitude of the perception of socioeconomic risk in purchase decisions? Were those changes the result of a relationship between socioeconomic risk and the importance of information from personal sources?

HYPOTHESES

The following hypotheses were examined in this study:

Hypothesis I

There exists a relationship between the magnitude of the perception of socioeconomic risk and the importance

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[16]Information from personal sources: verbal opinion and observed attitude.

of information from personal influences to the consumer.
This relationship exists, to some degree, in all purchase
decisions prior to the receipt of any information about
the purchase decisions.

Hypothesis II

When given favorable information from personal
sources about the product in question, the magnitude of
perceived socioeconomic risk is reduced.

Hypothesis III

When given unfavorable information from personal
sources about the product in question, the magnitude of
perceived socioeconomic risk is increased.

The null hypothesis, that favorable information
from personal sources has no effect on the perception of
socioeconomic risk, was used to test Hypothesis II. Rejec-
tion of this hypothesis allows the conclusion of the alter-
nate, that favorable information from personal sources
reduces the magnitude of socioeconomic risk perception (when
tested with a one-tailed t-test of independent means).

The null hypothesis, that unfavorable information
from personal sources has no effect on the perception of
socioeconomic risk, was used to test Hypothesis III. Rejec-
tion of this null hypothesis allows the conclusion of the
alternate, that unfavorable information from personal sources
increases socioeconomic risk perception (when tested with a
one-tailed t-test of independent means).

To test this null hypothesis, the t-test of inde-
pendent means was used. A one-tailed test was used because
the direction of changes in the magnitude of perceived risk
was anticipated. The literature suggested that favorable
information was associated with decreases in the magnitude
of the perception of socioeconomic risk. Also, the liter-
ature suggested that unfavorable information was associated
with increases in the perception of socioeconomic risk. For
instance, Arndt found that favorable word-of-mouth comments
increased the probability of purchase of a product and
unfavorable word-of-mouth comments decreased that prob-
ability.[17]

DELIMITATIONS

The present study considered only socioeconomic
risk. Other forms of perceived risk were excluded. Only
information from personal sources was considered, with
other possible sources of information available to the
consumer excluded. Moreover, the study did not deal with
any other methods of dealing with perceived risk in purchase
decisions.

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[17]Johan Arndt, "Role of Product-Related Conver-
sations in the Diffusion of a New Product," Journal of
Marketing Research, August 1967, 4, p. 295.

DEFINITIONS OF RELEVANT TERMS

Perceived Risk

Perceived risk is a two-part multiplicative identity consisting of the perception of the probability of an unfavorable occurrence resulting from the purchase of a product and the perception of the consequences of that occurrence. If either part is zero or nonexistent, there is no perception of risk. Note here that these parts are only perceptions and might not be accurate. In this study the term "risk" is to be taken as meaning "perceived risk."[18]

Socioeconomic Risk

Socioeconomic risk is a compound word consisting of two varieties of perceived risk:

Social risk. The risk that the purchase of a product may result in damage to the opinion that the individual thinks that other people have of him/her.

Economic risk. The risk that the individual may lose money as a result of purchasing a product, usually because the product does not perform as anticipated.

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[18] Raymond A. Bauer, "Consumer Behavior as Risk Taking," in R. S. Hancock (ed.) Dynamic Marketing for a Changing World. Proceedings of the 43rd National Conference of the American Marketing Association, 1950, p. 390.

Personal Influences

Personal influences are sometimes referred to as information from personal sources; they include:

1. Information from the observed attitude of other persons toward the product, information from observations of other people's facial expressions when talking about the product or merely observation of the way other people use the product.

2. Information from the verbal opinion of others toward the product.

"Confederates"

Planted subjects whose purpose was to emit favorable information or unfavorable information about the purchase of an unfamiliar brand of the products listed on the instrument are "confederates."

BASIC ASSUMPTIONS

It was assumed that social and economic risk were the only factors influencing the significance of personal influences as information sources in purchase decisions. Further, it was assumed that information from personal sources was the only factor involved in increasing or decreasing the magnitude of perceived risk.

The subjects used in the experiment were assumed to be aware of the importance that they place in information from various sources of information. It was further

assumed that the subjects were aware of the magnitude of
the perception of social and economic risk associated with
each purchase and accurately reflected that perception on
the data collection instrument. Subjects were assumed to
be able to translate those awarenesses into incremental
values so that a rating of the magnitude of the perception
of socioeconomic risk and the importance of information
from personal sources could be established.

The use of canonical correlation analysis required
that the responses on the questionnaire be intervally
scaled.[19] Also, the data were drawn from a common disper-
sion matrix whose elements were finite and the sets of vari-
ables were related by linear functions.[20]

The use of the t-test of independent means required
the assumption that the responses form an approximately
multinormal distribution.[21]

In relation to the previously discussed delimi-
tations, it is assumed that the effects of the other forms
of perceived risk are constant or negligible.

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[19]Paul E. Green and Donald S. Tull, Research for
Marketing Decisions (3d ed.; Englewood Cliffs, N.J.:
Prentice-Hall, 1975), p. 194.

[20]Green and Tull, op. cit., p. 496.

[21]W. W. Daniel and James C. Terrell, Busines Sta-
tistics: Basic Concepts and Methodology (Boston, Mass.:
Houghton Mifflin Company, 1975), p. 130.

LIMITATIONS OF THE STUDY

The "confederates" used in the study were graduate
students at Appalachian State University. It was acknowl-
edged that any recognition of the confederates or their
purpose by the subjects may have biased the study.

Some relaxation of the data assumptions were neces-
sary. Therefore, canonical correlation analysis tended to
overestimate the relationship between the two sets of vari-
ables under study. The results of this portion of the study
were robust.

The conclusions and implications for marketing
management are not intended to extend beyond the student
population of the College of Business at Appalachian State
University and can not be generalized beyond. Only further
study will determine if further generalization is warranted.

Chapter 2

RELATED LITERATURE

EXPLORATION OF PERCEIVED RISK
AND ITS COMPONENTS

The concept of perceived risk as it related to the
study of consumer behavior was first considered by Raymond
Bauer in 1960.[1] The concept actually comes under the
heading of consumer decision-making, the process which
leads to the purchase of a particular product or brand of
product. Perceived risk should not be considered the only,
or even the major, factor in the decision-making process.
However, the effects of perceived risk can be observed in
individual consumer behavior.

Bauer explains that:

Consumer behavior involves risk in the sense
that any action of a consumer will produce conse-
quences which he can not anticipate with anything
approximating certainty, and some of which at least
are likely to be unpleasant.[2]

The above suggests the two-party identity for perceived
risk that was mentioned in the previous chapter: (1) the

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[1] Raymond A. Bauer, "Consumer Behavior as Risk
Taking," in R. S. Hancock (ed.) Dynamic Marketing for a
Changing World. Proceedings of the 43rd National Confer-
ence, American Marketing Association, 1960, pp. 390-398.

[2] Ibid., p. 390.

subjective assignment of a probability of some unfavorable
experience occurring as a result of the purchase of a pro-
duct, and (2) the perceived damage resulting from that
experience.[3] As stated in the previous chapter, these two
parts are multiplicative in nature, such that if one is
zero or non-existent, there is no perception of risk.

Note here the difference between risk and perceived
risk. Risk implies the ability to assign an accurate prob-
ability to the outcome of the purchase. Perceived risk is
a psychological phenomenon. It is, as the term implies, a
perception, which may have little or nothing to do with the
actual probabilities of an occurrence.[4]

Jacoby and Kaplan have defined several varieties
of perceived risk:

Social Risk--the risk that the purchase of a
product may result in damage to the opinion that
the individual thinks that other people have of
him/her.

Economic Risk--the risk that the individual
may lose money as a result of purchasing a pro-
duct, usually because the product does not
perform as anticipated.

Performance Risk--risk resulting from the
possibility of purchasing a faulty product.

Physical Risk--chance of damage to a
person's body resulting from the purchase

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[3] Scott M. Cunningham, "The Major Dimensions of
Perceived Risk," in D. F. Cox (ed.) Risk Taking and Infor-
mation Handling in Consumer Behavior (Cambridge, Mass.:
Harvard University Press, 1967), p. 83.

[4] Ibid., p. 84.

and use of the product (usually most associated with the purchase of drugs).

Psychological Risk--chance of damage to the opinion that a person has of himself resulting from the purchase of a product.

Time-loss Risk--chance of losing valuable time if the individual purchases a faulty product.[5]

These varieties of risk perception identify the consequences of the previously-mentioned unfavorable occurrence.

Bettman has also identified two components of perceived risk:

Inherent Risk--the latent risk a product class holds for a consumer. . . . the innate degree of conflict the product class is able to arouse.

Handled Risk--the amount of conflict the product class is able to arouse when the buyer chooses a brand from a product class in his usual buying situation.[6]

According to Bettman, ". . . handled risk includes the effects of particular brand information, whereas inherent risk deals with the riskiness a consumer feels if no information is assumed."[7] This study deals with the determination of the difference between inherent risk and handled risk after group discussion of the product categories on the data collection instrument. It is anticipated that

[5]Jacob Jacoby and Leon B. Kaplan, "The Components of Perceived Risk," in M. Venkatesan (ed.) Proceedings of the 3rd Annual Conference of the Association for Consumer Research, 1972, 2, p. 383.

[6]James R. Bettman, "Perceived Risk and Its Components: A Model and Empirical Test," Journal of Marketing Research, May 1973, 10, p. 184.

[7]Ibid.

group discussion will lead to a statistically significant difference between inherent risk and handled risk. This difference is measured for both social and economic risk. Discussion is expected to change the perception of probability of an unfavorable occurrence and the perception of the damages that are likely to ensue as a result of the above-mentioned unfavorable occurrence.

PERCEIVED RISK AS IT RELATES TO INFORMATION SEARCH

Since 1960, a great number of studies have dealt with the concept of perceived risk under varying conditions.[8] This realization suggests that coping with perceived risk is a valid description of consumer behavior. There have also been a number of studies which have sought to determine the effect on behavior of certain risk "relievers,"[9] information sources[10] or cues.[11] One "reliever" is external information search, which includes information from the two personal sources of information examined in this study.

[8]See Bibliography for citations.

[9]Ted Roselius, "Consumer Rankings of Risk Reduction Methods," Journal of Marketing, 1971, 35, pp. 56-61.

[10]Michael Perry and B. Curtis Hamm, "Canonical Analysis of Relations between Socioeconomic Risk and Personal Influence in Purchase Decisions," Journal of Marketing Research, August 1969, pp. 351-354.

[11]Donald F. Cox, "The Measurement of Information Value: A Study in Consumer Decision-Making," Proceedings Annual Conference American Marketing Association, 1962, pp. 413-421.

At the University of Pennsylvania, Paul E. Green conducted a number of experiments that support the hypothesis that the search for information about the purchase situation is related to increases in the magnitude of risk perception.[12] This finding suggests that the subjects were attempting to reduce the perception of risk in those situations. Green's findings may represent attempts to resolve the conflict produced by the subjects' perception of risk.

Scott M. Cunningham classified individuals as being high, medium or low in perceived risk.[13] He found that those persons high in perceived risk were more likely to be involved in product-oriented conversations. This finding indicates an increased external search for information and the possibility of risk reduction behavior in the form of information exchange. Further, Johan Arndt found that:

> . . . compared with those low in perceived risk, the high risk perceivers were more affected by both favorable and unfavorable word-of-mouth comments. . . . Exposure to favorable word-of-mouth was found to increase the probability of purchase; exposure to unfavorable comments decreased the probability.[14]

[12]Paul E. Green, "Consumer Use of Information," in Joseph W. Newman (ed.) On Knowing the Consumer (New York: Wiley, 1966), pp. 67-80.

[13]Scott M. Cunningham, "Perceived Risk as a Factor in the Diffusion of New Product Information," in R. M. Hass (ed.) Science, Technology and Marketing. Proceedings of the Annual Conference of the American Marketing Association, 1966, pp. 698-721.

[14]Johan Arndt, "Role of Product-Related Conversations in the Diffusion of a New Product," Journal of Marketing Research, August 1967, 4, p. 295.

Arndt's findings indicate that the high-risk perceiver is interested in the information conveyed in these word-of-mouth conversations. Also, these findings suggest that the high-risk perceiver is most vulnerable to the information because it is more important to him/her than to a low-risk perceiver.

Arndt also found that the flow of word-of-mouth information was from early adopters to late adopters and non-adopters.[15] The main flow of word-of-mouth also seemed to pass between would-be buyers looking for social support for adoption or non-adoption of new products.[16] Obviously, these exchanges were of an opinionated nature, not efforts to control purchasing behavior. For this reason, there is no attempt to control the dialogue in the discussion groups in the present study. The discussion groups, used to determine the difference between inherent and handled risk, are then a more accurate approximation of reality.

Cunningham further states that high-risk perceivers were more likely to have discussed the test product recently and more likely to have talked to more people.[17] These

[15]Johan Arndt, "Perceived Risk, Sociometric Integration and Word of Mouth in the Adoption of a New Food Product," in D. F. Cox (ed.) Risk Taking and information Handling in Consumer Behavior (Cambridge, Mass.: Harvard University Press, 1967), p. 315.

[16]Johan Arndt, "Role of Product-Related Conversations in the Diffusion of a New Product," Journal of Marketing Research, August 1967, 4, p. 295.

[17]Scott M. Cunningham, "Perceived Risk as a Factor in Informal Consumer Communications," in D. F. Cox (ed.) Risk Taking and Information Handling in Consumer Behavior (Cambridge, Mass.: Harvard University Press, 1967), p. 287.

findings suggest that high-risk perceivers may be using communication to reduce risk perception. Also, the high-risk perceiver was found to be more likely to initiate communication and ask for information, again, suggesting that the high-risk perceiver is reducing risk perception through information seeking.[18] Cunningham suggests that the high-risk perceiver may become an expert in information seeking and is, therefore, sought out by others for information relative to the particular purchase situation.[19] This finding is in direct conflict with the statement by Arndt that the flow of information is from the low-risk perceiver to the high-risk perceiver.[20]

The foregoing evidence tends to suggest that there is a flow of communication which does affect the purchase behavior of consumers. The effect may take the shape of a change in the magnitude of risk perception.

Robertson, while dealing with group innovation and group communication, found that:

> . . . the extent of new product communication in and of itself apparently does not lead to high group innovativeness nor to similarity in innovative behavior patterns. This may be due to the facts that both

[18]Ibid.

[19]Ibid., p. 288.

[20]Johan Arndt, "Perceived Risk, Sociometric Integration, and Word of Mouth in the Adoption of a New Food Product," in D. F. Cox (ed.) Risk Taking and Information Handling in Consumer Behavior (Cambridge, Mass.: Harvard University Press, 1967), p. 315.

positive and negative information is transferred and that group agreement does not exist on the topic of new product adoption.[21]

This finding may suggest that risk perception is not reduced merely by communication, but by the nature of the communication. This could suggest that conflicting information may result in the increase of risk perception that might stifle innovation and new product adoption. Since the discussion that the experimental groups experienced was not controlled, the possibility of information conflict was greater than if the discussion were controlled.

In 1969, Perry and Hamm found a positive relationship between the magnitude of risk perception and the importance of information from personal sources in certain purchase situations.[22] In most cases, they found this relationship to be a statistically significant relationship. The present study also explores this relationship as a factor in the difference between inherent and handled risk perception.

If it is assumed that risk perception arises from uncertainty, Lanzetta and Driscoll made a significant discovery. They concluded that the importance of a decision

[21]Thomas S. Robertson, "The Effect of the Informal Group Upon Member Innovative Behavior," Proceedings of the Fall Conference of the American Marketing Association, 1968, p. 338.

[22]Michael Perry and B. Curtis Hamm, "Canonical Analysis of Relations between Socioeconomic Risk and Personal Influence in Purchase Decisions," Journal of Marketing Research, August 1969, 6, pp. 351-354.

increases the uncertainty associated with that decision.[23]
They determined that as importance, and consequently uncer-
tainty, increased, the individual makes a greater search
effort in order to make a correct purchase decision. This
finding suggests that the importance of a purchase decision
is one factor in determining the degree of risk perception.
Also, as importance of the decision increases, thus
increasing risk perception, the information search increases
as well.

Barach characterized two types of risk-handling
styles, those persons who prefer Type I errors, or errors
of inclusion, and those persons who prefer Type II errors,
or errors of omission.[24] Barach called the Type I error
tolerance a positive risk style because it indicates a
person who risks making poor purchase decisions in order
to make the greatest number of successful decisions. The
Type II error tolerance he called a negative risk style
because it indicated a person who preferred to miss some
successful purchases in order not to risk poor purchase
decisions. Barach hypothesized:

. . . that risk style is related to a person's
tendency to experiment in the market place and,

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[23]John T. Lanzetta and James M. Driscoll, "Effects
of Uncertainty and Importance of Information Search in
Decision-Making," Journal of Personality and Social Psychol-
ogy, December 1968, 10, p. 485.

[24]Jeffery A. Barach, "Advertising Effectiveness and
Risk in the Consumer Decision Process," Journal of Marketing
Research, August 1969, 6, p. 317.

therefore, that risk style is positively related
to advertising's influence on brand choice.[25]
The evidence supported this hypothesis, but more important
to the present study, there was a tendency for the negative
risk style subjects to switch to the advertised brands of
products. Previous studies tended to support the idea that
this was the result of an information-seeking process.[26]
It is highly possible that the individual who exhibits a
negative risk style is a high-risk perceiver. Then he is
behaving as Arndt and Cunningham might have predicted.

PERCEIVED RISK AND GROUP INFLUENCE

A discussion of the "risky-cautious" shift phenomena
is included because the methodology of the present study is
similar to methodologies used by social scientists engaged
in the verification of these phenomena.[27] Also, the results
and conclusions of this experiment may impact on the concep-
tual framework of future studies of the above-mentioned
phenomena.

Wallach, Kogan and Bem first coined the phrase
"risky shift."[28] They were describing a phenomenon in

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[25]Ibid., p. 316.

[26]Ibid., p. 317.

[27]See Chapter 3--Methodology.

[28]M. A. Wallach, Nathan Kogan and Darly T. Bem,
"Group Influence on Individual Risk Taking," Journal of
Abnormal and Social Psychology, July 1962, 65(2), pp. 75-86.

social psychology evidenced by the test subjects' increased
willingness to make risky choices after group discussion of
the decision situation. In their original study they con-
cluded that:

> (1) Unanimous group decisions concerning
> matters of risk show a shift toward greater risk
> taking when compared with prediscussion individual
> decisions made by the same persons and concerning
> the same matters.

> (2) Postdiscussion individual decisions that
> follow unanimous group decisions exhibit the same
> kind of shift toward greater risk taking as appears
> in the group decisions. Covert acceptance as well
> as overt compliance, thus, is affected in the same
> manner by the discussion process.

> (3) This shift toward greater risk taking as a
> result of the discussion process is still main-
> tained when two to six weeks have elapsed since
> the discussion occurred.[29]

There have been several hypotheses advanced to
explain the risky shift. In another study, Bem, Wallach
and Kogan suggested that the risky shift is a result of the
diffusion of responsibility for a particular decision among
the group members.[30]

Roger W. Brown hypothesized that risk in certain
situations is culturally valued and therefore the disclo-
sure of the risk level of a decision in front of others
induces consumers to make a riskier choice (the value

[29]Ibid., p. 85.

[30]Daryl T. Bem, M. A. Wallach and Nathan Kogan,
"Group Decision Making Under Risk of Aversive Consequences,"
Journal of Personality and Social Psychology, May 1965, 1,
pp. 453-460.

hypothesis). Brown also favors the information exchange
hypothesis, that is, for the value hypothesis to occur,
there must be the exchange of initial risk perception level
between the individual members of the group.[31]

Bem, Wallach and Kogan also suggested that greater
risk taking may be the result of the anticipated presence
of the group when the consequences of the decision occur.[32]

When Bem, Wallach and Kogan tested Brown's value
theory, their evidence resulted in a cautious shift (reduc-
tion in the subjects' willingness to take risk).[33] They
also tested the anticipated-presence hypothesis with the
same result.[34] In the same study, the evidence did support
the diffusion of responsibility hypothesis.

Teger questioned the test results of the diffusion-
of-responsibility hypothesis on the basis of methodology.[35]
Instead of having the discussion groups reach a unanimous
agreement, he merely had them discuss the decision situation
without reaching consensus. He still found a statistically
significant risky shift, although less than that obtained
by Bem, Wallach and Kogan's study. Teger's results provided

[31]Roger W. Brown, Social Psychology (New York: The
Free Press, 1965).

[32]Bem, Wallach and Kogan, op. cit., p. 459.

[33]Ibid.

[34]Ibid.

[35]A. I. Teger, "Components of Group Risk Taking."
Unpublished Master's Thesis, University of Delaware, 1966.

some support for the Brown hypothesis, but clearly demonstrated that there is more to the risky phenomenon than information exchange.[36]

Brown's definition of the term "information" confines the term to the knowledge of group members' initial risk-taking level. According to Kogan and Wallach, "This is a rather restricted conception of what is implied by information exchange in context of group interaction."[37] Kogan and Wallach tested the information exchange hypothesis and concluded that "psychological processes other than 'pure' information exchange increase in importance as the impact of the interacting group upon the observers becomes more direct."[38]

This study seeks to determine if the exchange of information will affect the perception of risk, a phenomenon which may underlie the risky-cautious shift. However, the relationship between the risky-cautious shift and the changes in the magnitude of the perception of risk is not tested. It may be assumed that an increase in the magnitude of the perception of risk will result in a decrease in the innovative behavior of the consumer (which may be an

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[36]Nathan Kogan and Michael A. Wallach, "Risky-Shift in Small Decision-Making Groups: A Test of the Information-Exchange Hypothesis," Journal of Experimental Social Psychology, January 1967, 3, p. 77.

[37]Ibid.

[38]Ibid., p. 82.

indication of the occurrence of a cautious shift) and conversely a decrease in the magnitude of the perception of risk will result in an increase in the innovative behavior of the consumer (which may be an indication of the occurrence of a risky shift). This result is because of an inverse relationship between the magnitude of the perception of risk and the innovative behavior exhibited by consumers.[39]

In 1972, Arch Woodside determined that the risky shift phenomenon could be observed in consumer behavior.[40] As a result of his conclusion, the thrust of this study is to draw conclusions in relation to consumer behavior.

Since the methodology of this experiment may lend itself to the psychological "reactance" studied by Brehm, it is wise to consider "reactance" here.[41] Reactance is viewed as dissonant with compliance. According to Venkatesan, "reactance" results when ". . . acceptance of group pressure would have restricted the choices available."[42]

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[39]Leon G. Schiffman, "Perceived Risk in New Product Trial by Elderly Consumers," Journal of Marketing Research, February 1972, 9, p. 108.

[40]Arch G. Woodside, "Informal Group Influence on Risk Taking," Journal of Marketing Research, May 1972, 9, pp. 223-225.

[41]J. W. Brehm, "A Theory of Psychological Reactance," Unpublished paper, Duke University, Durham, North Carolina, 1965.

[42]M. Venkatesan, "Experimental Study of Consumer Behavior: Conformity and Independence," Journal of Marketing Research, November 1966, 3, p. 387.

Reactance causes the subject to either be indifferent or deliberately make a choice that would negate the effect of group pressure. The results and conclusions of this study may need to be discussed in light of the reactance concept.

Chapter 3

METHODOLOGY

SAMPLE DESIGN

To obtain subjects for the study, a cluster sampling technique was used.[1] The process required a listing of course sections at the undergraduate level, offered in the spring semester 1977. For practical reasons,[2] only courses from the undergraduate level of study in the College of Business were included in the sample.

Using a random number table, course sections were chosen to become the sample. Thirteen course sections were chosen, along with additional course sections to use as replacements in the event that some of the originally chosen course sections were not usable. Not usable meant that either the professor of that class did not have the class time to spare for the administration of the experiment or that a suitable time could not be agreed upon for the collection of data. The professor of each course section was

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[1]Paul E. Green and Donald S. Tull, Research for Marketing Decisions (3d ed.; Englewood Cliffs, N.J.: Prentice-Hall, 1975), p. 226.

[2]Lack of resources and professors' unwilling to devote time from graduate classes necessitated the use of undergraduate College of Business courses exclusively.

asked for permission to use the class for the experiment. In most cases, professors volunteered class time and in every case the subjects were informed that they would be taking part in a marketing experiment.

The resulting sample consisted of one hundred ninety-four subjects, with both male and female populations represented. The subjects came from the freshman, sophomore, junior and senior class levels.

RESEARCH DESIGN--PROCEDURE

The procedure and instrument for this study were adopted from Perry and Hamm,[3] Woodside[4] and, to some extent, from the other risky shift studies included in the Bibliography. These studies have established instrument reliability and validity.

The experimental design is the classical before-after with experimental and control groups. Since there were actually two studies involved (testing unfavorable information and testing favorable information), there were two experimental groups with one shared control group. These groups were chosen from the previously-mentioned

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[3]Michael Perry and B. Curtis Hamm, "Canonical Analysis of Relations between Socioeconomic Risk and Personal Influence in Purchase Decisions," Journal of Marketing Research, August 1969, 6, pp. 351-354.

[4]Arch G. Woodside, "Informal Group Influence on Risk Taking," Journal of Marketing Research, May 1972, 9, pp. 223-225.

sample. Those course sections which had small enrollments (fifteen students or less) were assigned to the control group. This process placed more course sections in the control group but maintained a relatively equal number of subjects in each of the two experimental groups and the control group. The process allowed the use of fewer course sections in the two experimental groups since the course sections had higher enrollments than the course sections in the control group. This situation is significant because more time is necessary to administer the experiment in the experimental groups than in the control group.

The experiment began as the researcher entered the sample class to collect data. It was explained to the subjects that the study was being conducted as part of someone else's doctoral dissertation at another university so that the subjects would not be biased toward the researcher. The researcher further explained that he was charged with the responsibility for completion of the study at Appalachian State University, one of many in which the study was being conducted.

At this time, the "confederates" were introduced to the class as members of another class recruited to keep the sample size large. It was also explained that these people were uninformed as to the experiment's purpose or content. This story was intended to dispel suspicion of the "confederates."

The members of the sample class were not told of the nature of the study in which they were participating until after the entire collection of data from all classes was complete. Then, in a memo to the professors of those classes, preliminary findings were discussed as well as the study itself. The professors were asked to relate this information to their class to debrief the subjects by explaining the purpose and results of the study to them.

The research design called for a pre-test and post-test to be administered to the subjects in the experimental and control groups. These tests consisted of rating scales for the important variables in the study (see Appendix A). The pre-test phase of the instrument asked the subject to rate the magnitude of the feeling of risk with respect to the opinion that his/her friends have of the subject if the subject bought an unfamiliar brand of each of the products listed on the data collection instrument. This opinion is dependent on the subject's perception of the test item and the subject's perception of his/her friends' attitude toward the test item.

The subjects were also asked to rate the magnitude of the feeling of risk that they might lose money if the unfamiliar brand of product did not work as they antici-pated. The rating was for the same products used for the test of social and economic risk.

During the pre-test, subjects were asked to rate the importance of information from several information sources

in the purchase decision for each product listed. Two of the sources were: "Observed Attitude of Others Toward the Product" and "Verbal Opinion of Others Toward the Product." These were the only two sources of information considered in the final analysis. The products listed were the same used to test social and economic risk.

After the pre-test, the subjects were then involved in group discussion utilizing the entire class. All sub-jects, with the exception of those in the control group, participated in the discussion phase of the experiment.

It was during this phase that the "confederates" were used. The "confederates," graduate assistants in the College of Business, never numbered less than two or more than four in a class. Their role was to provide either favorable or unfavorable information about buying an unfa-miliar brand of each product listed on the questionnaire. Favorable or unfavorable information depended on which experimental group was being sampled at that time. The "confederates'" role was a passive one, only suggesting information that purported to represent their feelings on that matter. Information was provided for the "confeder-ates" to use in the discussion phase of the experiment (see Appendix B); however, they were at liberty to add to the discussion in any manner that added to or enhanced the point they were to make. "Confederates" were excluded from the control group; moreover, there was no discussion in the control group.

It was suspected that the subjects' perception of the probability of an undesirable experience with the product may be altered, as well as the perception of the possible severity of the consequences of that experience. These two elements, according to Bauer,[5] are the two basic elements of perceived risk. It was also suspected that this change in perception was the cause of (or at least a factor in) the "risky-cautious" shift phenomenon.

After the discussion, the subjects were given a post-test. The post-test consisted of another rating of both social and economic risk. Upon completion of the post-test, the experiment was complete.

DATA COLLECTION INSTRUMENT

The pre-test and post-test are of a structured-nondisguised experimental design, using a seven-point semantic differential scale for estimation of the magnitude of social and economic risk, as well as the importance of information from several sources. The semantic differential, when used with bipolar adjectives, allows the assumption of interval scaled responses.[6] This assumption provides for the use of canonical analysis.

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[5]Raymond A. Bauer, "Consumer Behavior as Risk Taking," Journal of Marketing Research, May 1972, 9, pp. 390.

[6]Paul E. Green and Donald S. Tull, Research for Marketing Decisions (3d ed.; Englewood Cliffs, N.J.: Prentice-Hall, 1975), p. 194.

Those products which appear on the instrument (Color T.V., Sports Car, Cologne, Beer, Camera, Toothpaste, and Suit of Dress Clothes) were taken from several previous studies (Perry and Hamm,[7] Jacoby and Kaplan,[8] Popielarz,[9] and Bettman).[10] The products were chosen based upon the following three criteria:

. . . (1) each product must be the kind of purchase suitable for advertising promotion; (2) each purchase must represent the kind of product decision that the subject might face; and (3) the list of products must cover a significant range of potential social and economic risks.[11]

The pre-test phase of the instrument involves the rating of the importance of information from several sources. The information sources included in this portion of the pre-test were: (a) information contained in an advertisement for the brand of product; (b) information contained in an advertisement for a competing brand of the product; (c)

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[7]Michael Perry and B. Curtis Hamm, "Canonical Analysis of Relations between Socioeconomic Risk and Personal Influence in Purchase Decisions," Journal of Marketing Research, August 1969, 6, p. 352.

[8]Jacob Jacoby and Leon B. Kaplan, "The Components of Perceived Risk," in M. Venkatesan (ed.) Proceedings of the 3rd Annual Conference of the Association for Consumer Research, 1972, 2, p. 370.

[9]D. T. Popielarz, "An Exploration of Perceived Risk and Willingness to Try New Products," Journal of Marketing Research, May 1973, 10, p. 186.

[10]James R. Bettman, "Perceived Risk and Its Components: A Model and Empirical Test," Journal of Marketing Research, May 1973, 10, p. 186.

[11]Perry and Hamm, loc. cit.

information from unbiased sources (such as Consumer Report
Magazine); (d) information from observations of other
persons' attitudes toward the product (facial expressions
of other people when they talk about the product, the way
other people use the product); (e) verbal opinion of others
toward the product (what other people say about the product);
(f) information from past personal experience with the pro-
duct; and (g) information sources other than a-f.[12]

The usable responses from this portion of the pre-
test were those regarding the personal influence sources
(sources d and e). The subject was asked to rate the impor-
tance of information from each source for the decision to
purchase each of the seven products listed on the instru-
ment.

The instrument also contained questions to determine
the sex and classification (freshman, sophomore, junior,
senior) of the subject. Also, a question was used to deter-
mine if the subject had participated in the experiment
before. This response helped eliminate double counting of
responses. To identify which group the subject was involved
in, a class number (1--control, 2--favorable, 3--unfavor-
able) was used. After completion of the post-test, another
question helped to determine if the subject understood the
study. If the answer to that question were yes, the
subject was instructed to briefly explain the purpose

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[12]Ibid.

of the study. Those subjects whose questionnaires displayed
an obvious understanding of the study had their question-
naires discarded from the sample. The reason for dis-
carding those questionnaires was to reduce the possibility
that those subjects who were aware of the study might try
to bias it. In actuality, there were very few question-
naires that were discarded for this reason. The only other
reason that questionnaires were discarded was incompletion,
which meant that the questionnaire could not be coded or
interpreted.

DATA ANALYSIS

Hypothesis I can be restated as:

$$(X_1, X_2) = f(X_3, X_4)$$

where:

X_1 = Importance of Information from Observed
Attitude

X_2 = Importance of Information from Verbal
Opinion

X_3 = Magnitude of Social Risk Perception

X_4 = Magnitude of Economic Risk Perception

This notation indicates that the importance of
information from personal sources is a function of the
amount of social and economic risk perceived in the pur-
chase. The model represents a possible relationship that
could exist between perceived risk and personal influence
in purchase decisions.

Expressed in a mathematically interpretable form, Hypothesis I is:

$$A_1Y_{1t} + A_2Y_{2t} = b_1X1_t + b_2X_{2t}$$

Where:

Y_{1t} = Importance of Information from Observed Attitude for Purchase t

Y_{2t} = Importance of Information from Verbal Opinion for Purchase t

X_{1t} = Magnitude of Social Risk Perception for Purchase t

X_{2t} = Magnitude of Economic Risk Perception for purchase t

and A_i and b_i are coefficients to be estimated.

The above model was estimated with canonical correlation analysis.[13] Canonical analysis was used by Perry and Hamm and this portion of the present study is a replication of their study.[14]

Canonical correlation analysis allows the computation of the correlation between the sets of dependent (criterion) variables and independent (predictor) variables.[15] Here the criterion variables are importance of information from verbal opinion and observed attitude. The predictor variables are the magnitude of social and economic risk perception. Canonical analysis also provides for the

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[13]Paul E. Green and Donald S. Tull, Research in Marketing Decision (3d ed.; Englewood Cliffs, N.J.: Prentice-Hall, 1975), p. 495.

[14]Perry and Hamm, loc. cit.

[15]Green and Tull, op. cit., p. 490.

computation of a measure of variation explained by the model called the eigenvalue.[16] The eigenvalue is the canonical R-squared.

Assuming that Y_i are the criterion variables, A_i indicates a measure of the contribution to the between set correlations of the corresponding criterion variables. Assuming that X_i are the predictor variables, b_i indicate a measure of the contribution to the between set correlation of the corresponding predictor variable. The coefficients (A_i, b_i) are estimated from the sample data and are called canonical coefficients. These coefficients allow the identification of the dominant influences in the implied relationships between risk and the importance of information from personal sources. The sign (+ or -) of the coefficients indicates the direction of the relationship between each criterion and each predictor variable.

To produce these coefficients, two sets of weights are sought, one set for both predictor and criterion variable sets. When these weights are arranged in linear combinations for each, they produce a composite or aggregate variable--one aggregate variable representing each set of variables. These weights are sought such that the two aggregate variables are as highly correlated as possible to each other. In many cases there is more than one set

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[16]Gilbert A. Churchill, Marketing Research: Methodological Foundations (Hinsdale, Ill.: The Dryden Press, 1976), p. 513.

of weights that maximize the correlation between the two aggregate variables.[17] Such a case occurred in this study but only the most statistically significant sets of weights (canonical coefficients) were used for interpretation purposes.

Canonical correlation analysis produces the canonical correlation index by carrying the aggregate variables through a pair of two-variable linear regressions.[18] If the two aggregate variables are "A" and "B," then the graphed linear functions would resemble the following example (see Figure 1, p. 40).[19]

According to Cooley and Lohnes:

The nature of canonical correlation can be best described algebraically. Consider the two sets of N simultaneous equations, with p predictors and q criterion variables, where X_{ij} and Y_{ij} represent the two sets of measures.[20] (See Figure 2, p. 41).

See Figure 3, page 42, for the simultaneous equations for the present study.

[17]P. E. Green, M. H. Halbert and P. J. Robinson, "Canonical Analysis: An Exposition and Illustrative Application," Journal of Marketing Research, February 1966, p. 35.

[18]Ibid.; see also: Joseph F. Hair, "Understanding Canonical Correlation Analysis," in J. F. Hair, J. H. Sellers and R. F. Bush (eds.) Essays on the Theory of Multivariate Statistics and Its Application to Problems in Business Research. Bureau of Business and Economic Research, School of Business Administration, University of Mississippi, pp. 78-97.

[19]Hair, op. cit., p. 86.

[20]William W. Cooley and Paul R. Lohnes, Multivariate Procedures for the Behavioral Sciences (New York: John Wiley and Sons, Inc., 1962), p. 35.

Figure 1

Example of Canonical Function Lines
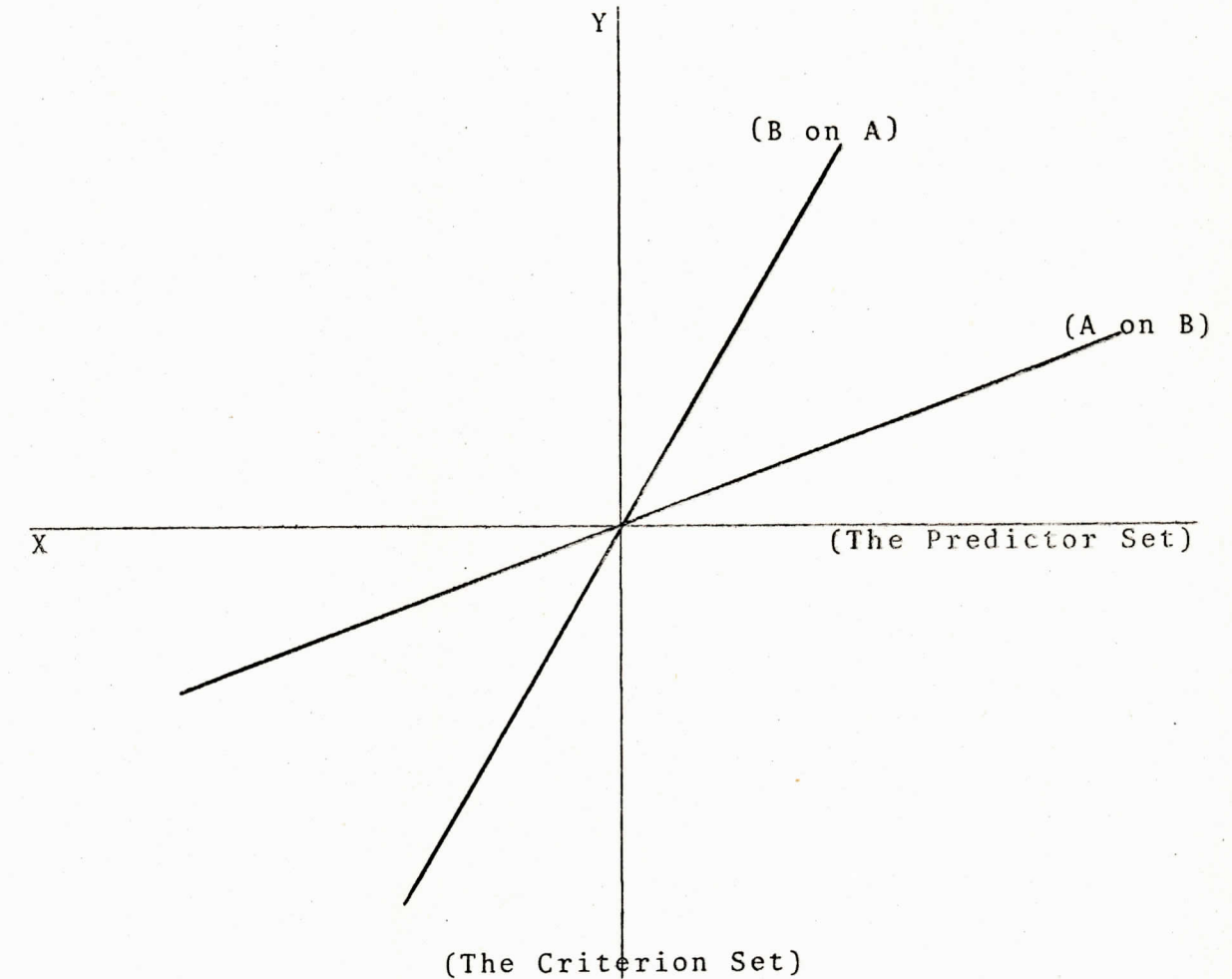
Figure 2

Algebraic Description of Canonical Analysis

$$\hat{X}_1 = a_1 X_{11} + a_2 X_{12} + \ldots + a_p X_{1p}$$

$$\hat{X}_2 = a_1 X_{21} + a_2 X_{22} + \ldots + a_p X_{2p}$$

$$\hat{X}_3 = a_1 X_{31} + a_2 X_{32} + \ldots + a_p X_{3p}$$

$$\hat{X}_n = a_1 X_{n1} + a_2 X_{n2} + \ldots + a_p X_{np}$$

$$b_1 Y_{11} + b_2 Y_{12} + \ldots + b_q Y_{1q} = \hat{Y}_1$$

$$b_1 Y_{21} + b_2 Y_{22} + \ldots + b_q Y_{2q} = \hat{Y}_2$$

$$b_1 Y_{31} + b_2 Y_{32} + \ldots + b_q Y_{3q} = \hat{Y}_3$$

$$b_1 Y_{n1} + b_2 Y_{n2} + \ldots + b_q Y_{nq} = \hat{Y}_n$$

Figure 3

Algebraic Description of the
Present Canonical Model

$$b_1 X_{11} + b_2 X_{12} = \hat{X}_1$$

$$b_1 X_{21} + b_2 X_{22} = \hat{X}_2$$

$$b_1 X_{31} + b_2 X_{32} = \hat{X}_3$$

$$b_1 X_{n1} + b_2 X_{n2} = \hat{X}_n$$

$$\hat{Y}_1 = A_1 Y_{11} + A_2 Y_{12}$$

$$\hat{Y}_2 = A_1 Y_{21} + A_2 Y_{22}$$

$$\hat{Y}_3 = A_1 Y_{31} + A_2 Y_{32}$$

$$\hat{Y}_n = A_1 Y_{n1} + A_2 Y_{n2}$$

(N = 194)

The canonical coefficients produced by canonical analysis can be interpreted as the beta coefficients in multiple regression analysis.[21] To further explain, again consider the aggregate variables "A" and "B," where A represents the set of variables describing the importance of information from personal sources and B represents the set of variables describing the magnitude of perceived socioeconomic risk. The canonical model can now be rewritten as two regression equations:

$$B = A_1 Y_{1t} + A_2 Y_{2t}$$
$$A = b_1 X_{1t} + b_2 X_{2t}$$

Where:

Y_{1t} = Importance of Information from Observed Attitude for Purchase t

Y_{2t} = Importance of Information from Verbal Opinion for Purchase t

X_{1t} = Magnitude of Social Risk Perception for Purchase t

X_{2t} = Magnitude of Economic Risk Perception for Purchase t

A = Importance of Information from Personal Sources for Purchase t

B = Magnitude of Socioeconomic Risk Perception for Purchase t

The above equations represent the canonical model, with the canonical correlation coefficient derived by computing the Pearson Product Moment Correlation Index between the two functions stated above.

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[21] Richard J. Harris, A Primer of Multivariate Statistics (New York: Academic Press, Inc., 1975), p. 140.

In interpreting the findings in the next chapter, the canonical coefficients will be treated as beta coefficients in regression analysis. The relationships that will be discussed are: between social risk and economic risk and the importance of information from personal sources (A) and between importance of information from observed attitude and verbal opinion and socioeconomic risk (B).

To determine if the data support Hypotheses II and III, t-tests were employed to see if the mean level of perceived risk in the pre-test is statistically significantly different from the mean level of perceived risk in the post-test. Forty-two individual t-tests were conducted, testing both social and economic risk for both experimental groups and the control group. There were, therefore, two tests for each product category for each of the three groups. For the experimental groups, the t-tests were one-tailed and for the control group, the t-tests were two-tailed. For the control group the t-tests were used to determine if the subjects change their perception of risk without the introduction of discussion. If there is no statistically significant difference in the mean levels of perceived risk in the control group, it can be concluded that the discussion is the only thing changing the subjects' perception of risk.

The one-tailed t-tests are used to determine if the results support the research hypotheses discussed in Chapter 1. Rejection of the null hypotheses represents support of the associated research hypotheses.

Chapter 4

RESULTS

CANONICAL CORRELATION RESULTS

To repeat a caveat from Chapter 1: ". . . the concept of perceived risk is not intended to represent the only factor in consumer behavior."[1] This fact was born out by the small canonical correlation coefficients (see Table 1, p. 46). These small coefficients and small eigenvalues indicated that only a small portion of the variation in the dependent variables (Importance of Information from Personal Sources) was associated with variation in the independent variables (Magnitude of Socioeconomic Risk Perception). There was some indication, however, that a relationship between socioeconomic risk perception and the importance of personal influences existed. In most cases, this relationship was statistically significant at the .05 level (probability of occurrence by chance). The results of the analysis are discussed for each product category in turn.

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[1]Scott M. Cunningham, "The Major Dimensions of Perceived Risk," in D. F. Cox (ed.) Risk Taking and Information Handling in Consumer Behavior (Cambridge, Mass.: Harvard University Press, 1967), pp. 82-108.

Table 1

Table of Canonical Results

Product Category	Canonical Correlation Coefficient	Eigen-value	Y_1	Y_2	X_1	X_2	Chi Squared	p
Color T.V.	.27633	.07636	.95311	.08125	.93609	.18539	16.70642	.002
Sports Car	.41459	.17188	.74556	.36052	.80609	.34407	34.72373	.001
Cologne	.20805	.04328	.80759	.26015	.36264	.78047	8.47721	.076
Beer	.34521	.11917	1.21431	-.46135	1.05016	-.15120	23.28530	.001
Camera	.35860	.12859	.89053	.18110	.98943	.02504	25.32202	.001
Toothpaste	.16971	.02880	1.28924	-.51877	.71433	.51915	5.64862	.227
Suit of Dress Clothes	.27108	.07348	.60249	.49470	1.00378	-.01602	14.00896	.007

n = 194, d.f. = 4 for all product categories

Y_1 = Importance of Information from Observed Attitude.
Y_2 = Importance of Information from Verbal Opinion.
X_1 = Magnitude of the Perception of Social Risk.
X_2 = Magnitude of the Perception of Economic Risk.

Color T.V.

The product "Color T.V." had a canonical correlation coefficient of .27633 with an associated eigenvalue of .07636. The eigenvalue indicated that approximately seven percent of the variation in the importance of information from personal sources was associated with variation in social and economic risk perception. This implied relationship was significant at $p = .002$ (probability of occurrence by chance).

Noting the canonical coefficients (weights), it was evident that social risk perception and the importance of information from observed attitude were positively related. Also, they tended to dominate the relationship implied between socioeconomic risk perception and importance of information from personal sources. That is, more variation in the magnitude of social risk perception, than of economic risk perception, was associated with variation in the importance of information from personal sources. By the same token, more variation in the importance of information from observed attitude of others, than from verbal opinion, was associated with variation in the magnitude of socioeconomic risk perception. This result indicated that the observed attitude of others became the more important source of information as perceived socioeconomic risk perception increased in magnitude, particularly as the magnitude of the perception of social risk increased.

Sports Car

In the case of "Sports Car," there seemed to be a more substantial relationship implied. The canonical correlation coefficient was .41459 with an associated eigenvalue of .17188. The eigenvalue indicated that approximately seventeen percent of the variation in the importance of information from personal sources was associated with variation in the magnitude of socioeconomic risk perception. The implied relationship in this product category was statistically significant at $p < .001$, representing a very high degree of statistical significance.

Noting the canonical coefficients, it seemed that social risk and importance of information from observed attitude tended to dominate the relationship implied above. Economic risk and importance of information from verbal opinion, however, seemed to be contributing more to the implied relationship, in this case, than in the case of "Color T.V." The canonical coefficients for "Sports Car" indicated that, as social risk perception increased, so did the importance of information from personal sources, particularly information from observations of others' attitude toward the unfamiliar brand of "Sports Car."

Cologne

"Cologne" presented a different situation in that the relationship that was implied by the model was more tenuous than in previous cases. The canonical correlation

coefficient, .20805, was associated with an eigenvalue of .04328. The eigenvalue suggested that approximately four percent of the variation in importance of information from personal sources was associated with variation in the magnitude of the perception of socioeconomic risk. For "Cologne" the implied relationship had a $p = .076$, which was not statistically significant at the .05 level.

Even though not statistically significant, it was of interest to look at the canonical coefficients which showed that economic risk was one of the dominant variables in the implied relationship. On the other side of the equation, importance of information from observed attitude was the dominant variable. These results suggested that variation in economic risk was most associated with variation in the information from personal sources, in particular, importance of information from observations of other persons' attitudes toward the unfamiliar brand of "Cologne."

Beer

For "Beer" the relationship that was implied by the model was much more substantial, with a canonical correlation coefficient of .34521 and an associated eigenvalue of .11917. These results suggested that approximately twelve percent of the variation in the importance of information from personal sources was associated with variation in the magnitude of perceived socioeconomic risk. This implied relationship was statistically significant, with $p < .001$.

The canonical coefficients provided a slightly different picture, in that there was a negative coefficient in both dependent and independent variable sets. These coefficients suggested that the perception of economic risk was positively related with the importance of information from verbal opinion and inversely related with the importance of information from observed attitude. Also, the canonical coefficients suggested that social risk perception was inversely related with importance of information from verbal opinion and positively related with the importance of information from observed attitude. The dominant contributions, to the overall implied relationship, were made by social risk perception and importance of information from observed attitude. That is, the absolute value of the canonical coefficients for these two variables was greater than the absolute value of the canonical coefficients for the other two variables included in the implied relationship. The above correlations suggested that, as social risk perception increased in magnitude, information from verbal opinion decreased in importance and information from observed attitude increased in importance. Also, these correlations indicated that, as economic risk increased in magnitude of perception, there were associated increases in importance of information from verbal opinion and decreases in importance of information from observed attitude. Individually, the canonical coefficients indicated that increases in the magnitude of social risk perception were associated with

increases in the importance of information from personal sources. <u>Decreases</u> in the magnitude of economic risk perception were associated with increases in the importance of information from personal sources and conversely. On the other side of the equation, the canonical coefficients indidated that, as the magnitude of the perception of socioeconomic risk increases, increases in the importance of information from observed attitude and <u>decreases</u> in the importance of information from verbal opinion were implied. The converse of the above statement was also true. The magnitude of the association was indicated by the absolute value of the coefficients.

Camera

"Camera," the next product category, presented a more conventional implied relationship, since all of the canonical coefficients were positive. The canonical correlation coefficient, .35860, was associated with an eigenvalue of .12859. The eigenvalue indicated that almost thirteen percent of the variation in the importance of information from personal sources was associated with variation in the magnitude of the perception of socioeconomic risk. The relationship implied was statistically significicant at p <.001.

Noting the canonical coefficients, it was evident that social risk perception and importance of information from observed attitude were the two dominant variables in

the relationship implied between personal influence and perceived risk. These results suggested that an increase in the magnitude of the perception of socioeconomic risk, particularly social risk perception, was associated with an increase in the importance of information from personal sources, particularly information from observed attitude.

Toothpaste

"Toothpaste" showed the weakest evidence of a relationship. The canonical correlation coefficient, .16971, was the smallest of the seven product categories tested. The associated eigenvalue, .02880, indicated that three percent of the variation in the importance of information from personal sources was associated with variation in the magnitude of the perception of socioeconomic risk. The implied relationship was not statistically significant with p = .227.

Although not statistically significant, it was of interest to look at the canonical coefficients. These coefficients suggested that the importance of information from the observation of others was the most dominant variable in the implied relationship. Social risk perception, having a slightly larger canonical coefficient, was the dominant form of perceived risk. These coefficients suggested that an increase in the importance of information from observations of other persons was associated with increases in the magnitude of perceived socioeconomic risk. The negative

canonical coefficient for importance of information from verbal opinion suggested that _decreases_ in the magnitude of the perception of socioeconomic risk were associated with increases in the importance of information from verbal opinion. In other words, as either social or economic risk perception increased in magnitude, or as both increased in magnitude, the importance of verbal opinion as an information source, in the decision to purchase the unfamiliar brand of "Toothpaste," decreased. Also, the importance of information from observations of others increased. This was only the implied relationship and was extremely tenuous at best.

Suit of Dress Clothes

For "Suit of Dress Clothes," the relationship, though statistically significant (p = .007), was weak. The canonical correlation coefficient, .27108, was associated with an eigenvalue of .07348. These results suggest that approximately seven percent of the variation in the importance of information from personal sources was associated with variation in the magnitude of the perception of socioeconomic risk. This, as in the case of "Toothpaste," represented a small amount of associated variation.

The canonical coefficients suggested that increases in economic risk perception were associated with decreases in the importance of information from personal sources. Social risk perception, which was one of the dominant

variables in the implied relationship, was positively associated with importance of information from personal sources. On the other side of the equation, the importance of information from both verbal opinion and observed attitude had almost equal coefficients. This result suggested that the importance of information from either of the two information sources shared approximately equal amounts of variation with the magnitude of perceived socioeconomic risk.

General Observations

In every case, the importance of information from observed attitude represented the dominant information source in the relationship implied by the canonical model. In all cases but one ("Cologne"), social risk perception represented the dominant form of perceived socioeconomic risk. All product categories, except "Cologne" and "Toothpaste," were statistically significant at p <.05. Yet, even though statistically significant, none of the models exhibited an explanatory power (eigenvalue) greater than eighteen percent.

It is important to mention that canonical analysis is an associative technique designed to determine correlations between variables. It was important also to look at the mean score of each variable for each case and the associated standard deviation (see Table 2, p. 55), since a variable which does not vary to any great extent would not appear to contribute greatly to the implied relationships

Table 2

Table of Mean Scores

Product Category	$\bar{Y}_1$	s_{Y_1}	$\bar{Y}_2$	s_{Y_2}	$\bar{X}_1$	s_{X_1}	$\bar{X}_2$	s_{X_2}
Color T.V.	4.1290	1.4684	4.6882	1.4255	2.6882	1.6273	4.5753	1.5656
Sports Car	4.6129	1.6409	4.9032	1.5108	3.7957	1.8805	5.2581	1.6630
Cologne	3.8333	1.7673	3.8280	1.8519	2.6828	1.7832	2.4892	1.5605
Beer	3.5269	1.7342	3.4946	1.7250	2.8280	1.8106	2.4409	1.6601
Camera	4.0054	1.5956	4.4516	1.4779	2.6237	1.6102	4.1559	1.5395
Toothpaste	2.8280	1.5708	3.0161	1.7226	1.8602	1.4489	2.0968	1.5144
Suit of Dress Clothes	4.4570	1.7056	4.6022	1.6317	3.5376	1.7801	3.9731	1.6779

n = 194 for all product categories

Y_1 = Importance of Information from Observed Attitude.
Y_2 = Importance of Information from Verbal Opinion.
X_1 = Magnitude of the Perception of Social Risk (pre-test scores only)
X_2 = Magnitude of the Perception of Economic Risk (pre-test scores only)

described by the canonical correlation equations. For example, suppose information from a particular source were consistently important, but showing little variation, then the importance of that source of information would tend to be underestimated. In this case, the information from that source would be consistently important and there would appear to be no relationship (indeed, there would be no statistical relationship). The reason for considering this possibility is because, to derive conclusions and implications for marketing management, one should not overlook a variable simply because it does not contribute to the implied relationship between socioeconomic risk perception and importance of information from personal sources. Any information source, whether or not it remains constant over time, must be considered in marketing strategies.

In light of the above statement, for the cases of "Color T.V.," "Sports Car," and "Camera," the mean score for economic risk perception was greater than for social risk perception. Economic risk perception, however, did not contribute greatly to the implied relationships, because the variation of economic risk perception was not associated with the variation in the importance of information from personal sources. Also, in the case of "Cologne," social risk perception was slightly greater, in amount, than economic risk perception. Economic risk perception, however, exhibited variation that was more associated with importance of information from personal sources than was

variation in social risk perception. These observations must be considered when deriving conclusions and marketing strategies based upon the results related here.

RESULTS OF THE t-TESTS

Restating the null hypotheses being tested:

H_o: Favorable information about buying an unfamiliar brand of each product listed on the instrument should result in no change in the magnitude of the perception of social and economic risk.

H_o: Unfavorable information about buying an unfamiliar brand of each product listed on the instrument should result in no change in the magnitude of the perception of social and economic risk.

None of the t-tests were statistically significant and, therefore, it was not possible to reject the null hypotheses. Either the change in the magnitude of perceived risk was not statistically significant for rejection of the null hypotheses or the change occurred in the opposite direction than hypothesized.

It should be remembered that the one-tailed t-tests of independent means were chosen because the results are interpreted in relation to the direction of possible shifts in perceived socioeconomic risk perception. The literature in Chapter 2 suggested that favorable product information may reduce the magnitude of the perception of risk associated with that product. Also, the literature suggested

that unfavorable product information may result in an increased or heightened perception of risk. It was Johan Arndt that concluded that exposure to favorable word-of-mouth comments increased the probability of purchase and exposure to unfavorable comments decreased that probability.[2] On the assumption that those results may have been due to a change in perceived risk, the one-tailed tests of independent means were conducted.

Color T.V.

Examining each product category separately, the results for "Color T.V." suggest that social risk perception increases with the introduction of favorable information (see Table 3, p. 59). The "t" score for social risk perception was -5.876 when given favorable information, which did not represent a shift in the hypothesized direction and the null hypothesis for social risk perception could not be rejected. For economic risk perception, the results produced a "t" score of -3.068, which did not represent a shift in the hypothesized direction. Therefore, the null hypothesis for economic risk perception could not be rejected (see Table 4, p. 60).

When unfavorable information was introduced, the results produced a "t" score of -1.279 for social risk

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[2] Johan Arndt, "Role of Product-Related Conversations in the Diffusion of a New Product," Journal of Marketing Research, August 1967, 4, p. 295.

Table 3

Table of t-Test Results--Social Risk

Favorable Information

Product Category	$\bar{X}_1$	s_{X_1}	$\bar{X}_2$	s_{X_2}	df	t	p
Color T.V.	2.8036	1.76	4.6250	1.51	107	-5.876	.0000
Sports Car	3.7857	1.72	5.1429	1.57	108	-4.361	.0000
Cologne	2.2679	1.60	2.3750	1.51	109	-0.365	.3581
Beer	2.6607	1.71	2.3750	1.45	107	0.955	.1709
Camera	2.8214	1.74	4.5000	1.36	104	-5.688	.0000
Toothpaste	1.7857	1.37	.18750	1.15	106	-0.374	.3546
Suit of Dress Clothes	3.6250	1.69	3.6786	1.56	109	-0.174	.4310

n = 56 for all product categories

X_1 = Magnitude of the Perception of Social Risk, Pre-Test.

X_2 = Magnitude of the Perception of Social Risk, Post-Test.

The Null Hypothesis: $\bar{X}_1 < \bar{X}_2$

Table 4

Table of t-Test Results--Economic Risk

Favorable Information

Product Category	$\bar{X}_1$	s_{X_1}	$\bar{X}_2$	s_{X_2}	df	t	p
Color T.V.	3.5893	1.81	4.6071	1.70	109	-3.068	.0014
Sports Car	4.2857	1.59	5.4464	1.51	109	-3.955	.0001
Cologne	2.4107	1.41	2.2857	1.30	109	0.487	.3136
Beer	2.4643	1.64	2.1429	1.26	103	1.164	.1235
Camera	3.3929	1.74	4.3036	1.54	108	-2.932	.0021
Toothpaste	1.9464	1.38	2.0536	1.24	108	-0.432	.3334
Suit of Dress Clothes	3.4643	1.61	3.7857	1.33	106	-1.153	.1257

n = 56 for all product categories

X_1 = Magnitude of the Perception of Economic Risk, Pre-Test.

X_2 = Magnitude of the Perception of Economic Risk, Post-Test.

The Null Hypothesis: $\bar{X}_1 < \bar{X}_2$

(see Table 5, p. 62). This shift was in the hypothesized direction but was not statistically significant (p = .1014). The change in economic risk perception was represented by the "t" score of -1.026 (see Table 6, p. 63). This shift was in the hypothesized direction but was not statistically significant (p = .1534). The null hypotheses could not be rejected for either social or economic risk perception.

<u>Sports Car</u>

For the product category "Sports Car," when given favorable information the results produced a "t" score of -4.361 for the change in the magnitude of social risk perception (refer back to Table 3). This result did not represent a shift in the hypothesized direction and the null hypothesis could not be rejected. For economic risk perception, the results produced a "t" score of -3.955 for the change in the magnitude of the perception (refer back to Table 4). Again, the null hypothesis could not be rejected because the change did not occur in the hypoth- esized direction.

Given unfavorable information about buying an unfa- miliar brand of "Sports Car," the results produced a "t" score of -0.495 for the change in the perception of social risk (refer back to Table 5). This result represented a shift in the hypothesized direction but was not statistically significant. Therefore, the null hypothesis could not be rejected. For economic risk, the change in the magnitude

Table 5

Table of t-Test Results--Social Risk

Unfavorable Information

Product Category	$\bar{X}_1$	s_{X_1}	$\bar{X}_2$	s_{X_1}	df	t	p
Color T.V.	2.8219	1.56	3.1644	1.68	143	-1.279	.1014
Sports Car	3.9863	2.02	4.1507	1.99	143	-0.495	.3108
Cologne	2.6986	1.75	2.5342	1.50	140	0.610	.2714
Beer	3.3151	1.94	2.7671	1.80	143	1.768	.0396
Camera	2.8082	1.66	3.1096	1.59	143	-1.117	.1329
Toothpaste	1.8904	1.48	1.9315	1.31	141	-0.178	.4294
Suit of Dress Clothes	3.5205	1.72	3.4795	1.59	143	0.150	.4405

n = 73 for all product categories

X_1 = Magnitude of the Perception of Social Risk, Pre-Test.

X_2 = Magnitude of the Perception of Social Risk, Post-Test.

The Null Hypothesis: $\bar{X}_1 > \bar{X}_2$

Table 6

Table of t-Test Results--Economic Risk

Unfavorable Information

Product Category	$\bar{X}_1$	S_{X_1}	$\bar{X}_2$	S_{X_2}	df	t	p
Color T.V.	4.7397	1.61	5.0137	1.62	143	-1.026	.1534
Sports Car	5.5479	1.66	5.7534	1.61	143	-0.759	.2247
Cologne	2.4384	1.49	2.4247	1.29	141	0.059	.4764
Beer	2.5342	1.73	2.5342	1.39	137	0.000	.5000
Camera	4.2877	1.65	4.5068	1.63	143	-0.810	.2098
Toothpaste	1.9726	1.44	2.0822	1.27	141	-0.488	.3133
Suit of Dress Clothes	4.0274	1.70	4.1781	1.61	143	-0.549	.2921

n = 73 for all product categories

X_1 = Magnitude of the Perception of Economic Risk, Pre-Test.

X_2 = Magnitude of the Perception of Economic Risk, Post-Test.

The Null Hypothesis: $\bar{X}_1 > \bar{X}_2$

of the perception was in the hypothesized direction (t-score of -0.759) but is not statistically significant to reject the null hypothesis (refer back to Table 6). The change in economic risk perception is significant at p = .2247.

Cologne

When given favorable information about buying an unfamiliar brand of "cologne," the results produced a "t" score of -0.365 for the change in social risk perception (refer back to Table 3). This result did not represent a shift in the amount of risk in the hypothesized direction. Therefore, the null hypothesis could not be rejected. For economic risk perception, the change in the perception was in the hypothesized direction (t-score of 0.487) but was not statistically significant to reject the null hypothesis (refer back to Table 4).

Given unfavorable product information, the results produced a "t" score of 0.610 for the change in the magnitude of the perception of social risk (refer back to Table 5). This did not represent a change in the hypothesized direction. Therefore, the null hypothesis could not be rejected. For economic risk perception, the "t" score of 0.059 did not represent a change in the hypothesized direction (refer back to Table 6). Therefore, the null hypothesis could not be rejected.

Beer

In the case of "Beer," given favorable information about buying an unfamiliar brand, the change in social risk perception resulted in a "t" score of 0.955 (refer back to Table 3). This change was in the hypothesized direction but, with p = .1709, was not significant and, therefore, the null hypothesis could not be rejected. For economic risk perception, the change produced a "t" score of 1.164, which was not statistically significant (p = .1235) and, therefore, the null hypothesis could not be rejected (refer back to Table 4). The change in economic risk perception did represent a shift in the hypothesized direction.

Given unfavorable information, the change in the perception of social risk produced a "t" score of 1.768 (refer back to Table 5). This shift was not in the hypothesized direction and, therefore, the null hypothesis could not be rejected. For economic risk perception, the results produced a "t" score of 0.000, which suggested no change in economic risk perception at all (refer back to Table 6). The previous result may mean that the pre-tested mean economic risk perception for "Beer" was no different from the post-tested mean. That may suggest that the discussion, with unfavorable comments, had no effect at all on the subjects' perception of economic risk associated with buying an unfamiliar brand of "Beer." The null hypothesis could not be rejected.

Camera

Given favorable information, the results produced a "t" score of -5.688 for the change in perceived social risk (refer back to Table 3). This result did not represent a change in the hypothesized direction. Consequently, the null hypothesis could not be rejected. For economic risk perception, the results produced a "t" score of -2.932, which did not represent a change in the direction hypothesized (refer back to Table 4). Again, the null hypothesis could not be rejected.

Given unfavorable information, the results produced a "t" score of -1.117 for the change in social risk perception (refer back to Table 5). The previous result represented a shift in the hypothesized direction, however, at p = .1329; the shift was not significant to reject the null hypothesis. For economic risk perception, the results produced a "t" score of -0.810, which represented a shift in the hypothesized direction (refer back to Table 6). The result was not statistically significant (p = .2098) and, therefore, the null hypothesis could not be rejected.

Toothpaste

For "Toothpaste," the results produced a "t" score of -0.374 when given favorable information (refer back to Table 3). This result did not represent a shift in the hypothesized direction and, therefore, the null hypothesis could not be rejected. For economic risk perception, the

results produced a "t" score of -0.432, which did not repre-
sent a shift in the hypothesized direction (refer back to
Table 4). Consequently, the null hypothesis could not be
rejected.

Given unfavorable product information, the results
for social risk perception produced a "t" score of -0.178
(refer back to Table 5). The previous result did repre-
sent a shift in the hypothesized direction, with p = .4294;
the shift was not statistically significant. Therefore,
the null hypothesis could not be rejected. For economic
risk perception, the results produced a "t" score of
-0.488, which did represent a shift in the hypothesized
direction (refer back to Table 6). Statistically, however,
the shift was not significant (p = .3133). Therefore, the
null hypothesis could not be rejected.

Suit of Dress Clothes

Given favorable information about buying an unfa-
miliar brand of "Dress Clothes," the results for social risk
perception produced a "t" score of -0.174 (refer back to
Table 3). This score represented a change in the percep-
tion of social risk in the opposite direction from that
hypothesized and, therefore, the null hypothesis could not
be rejected. For economic risk perception, the results
produced a "t" score of -1.153, which was not representative
of a shift in the hypothesized direction (refer back to Table
4). Therefore, the null hypothesis could not be rejected.

Given unfavorable product information, the results
for social risk perception produced a "t" score of 0.150
(refer back to Table 5). This score did not represent a
shift in the hypothesized direction and, therefore, the
null hypothesis could not be rejected. For economic risk
perception, the results produced a "t" score of -0.549,
which represented a change in the perception of risk in
the hypothesized direction (refer back to Table 6). Due
to lack of statistical significance (p = .2921), the null
hypothesis could not be rejected.

CONTROL GROUP RESULTS

It was expected that there would be no change in
the magnitude of the perception of social and economic
risk without product-oriented discussion. This hypothesis
was tested with two-tailed t-tests of independent means to
determine if there were changes in risk perception exhibited.

Color T.V.

Examining each product category separately, the
results for "Color T.V." produced a "t" score of 3.352 for
social risk perception (see Table 7, p. 67). This score
implied that a change in the perception of social risk may
have occurred. For economic risk perception, the results
produced a "t" score of 0.795, which did not imply a statis-
tically significant difference in the perception of risk
between pre-test and post-test measurements (see Table 8,
p. 68).

Table 7

Table of t-Test Results--Social Risk

Control Group

Product Category	$\bar{X}_1$	s_{X_1}	$\bar{X}_2$	s_{X_2}	t	p
Color T.V.	2.4462	1.57	3.0154	1.62	3.352	.0013
Sports Car	3.6462	1.84	3.8000	1.69	0.944	.3487
Cologne	2.9845	1.86	2.4923	1.48	-2.493	.0153
Beer	2.5077	1.70	2.7077	1.72	1.157	.2518
Camera	2.3692	1.45	2.7692	1.55	2.464	.0164
Toothpaste	1.8464	1.46	1.9846	1.30	0.868	.3884
Suit of Dress Clothes	3.5538	1.95	3.5692	1.74	0.084	.9337

n = 65 for all product categories

X_1 = Magnitude of the Perception of Social Risk, Pre-Test.

X_2 = Magnitude of the Perception of Social Risk, Post-Test

The Null Hypothesis: $\bar{X}_1 = \bar{X}_2$

Table 8

Table of t-Test Results--Economic Risk

Control Group

Product Category	$\bar{X}_1$	s_{X_1}	$\bar{X}_2$	s_{X_1}	t	p
Color T.V.	4.3692	1.58	4.4769	1.56	0.795	.4293
Sports Car	5.0923	1.69	4.9846	1.56	-1.000	.3211
Cologne	2.6462	1.64	2.8000	1.31	0.962	.3398
Beer	2.4000	1.73	2.7231	1.58	2.041	.0454
Camera	3.8154	1.49	4.0154	1.54	1.157	.2518
Toothpaste	2.3692	1.78	2.4154	1.54	0.302	.7633
Suit of Dress Clothes	4.1231	1.80	4.1385	1.75	0.075	.9408

n = 65 for all product categories

X_1 = Magnitude of the Perception of Economic Risk, Pre-Test.

X_2 = Magnitude of the Perception of Economic Risk, Post-Test.

The Null Hypothesis: $\bar{X}_1 = \bar{X}_2$

Sports Car

Considering the product category "Sports Car," the results for social risk perception produced a "t" score of 0.944. This score did not represent a statistically significant difference in the pre-test and post-test measurements of social risk perception in the case of "Sports Car" (refer back to Table 7). The results for economic risk perception produced a "t" score of -1.000 (refer back to Table 8). This score did not represent a statistically significant difference from zero, suggesting that there may have been no change in the perception of economic risk between pretest and post-test measurements.

Cologne

The results for social risk perception produced a "t" score of -2.493 (refer back to Table 7). This score represented a statistically significant difference from zero, suggesting that there may have been a change in the perception of social risk between the pre-test and posttest measurements. For economic risk perception, the results produced a "t" score of 0.962, which did not represent a statistically significant difference from zero (refer back to Table 8). This score suggested that there may not have been a change in the perception of economic risk between pre-test and post-test measurements.

Beer

The results for social risk perception produced a "t" score of 1.157 (refer back to Table 7). The score did not represent a statistically significant difference from zero, which suggested that there may have been no change in the perception of social risk between pre-test and post-test measurements. For economic risk perception, the results produced a "t" score of 2.041, which did represent a statistically significant difference from zero (refer back to Table 8). This score suggested that there may have been a change in the magnitude of the perception of economic risk between pre-test and post-test measurements.

Camera

The results for social risk perception produced a "t" score of 2.464 (refer back to Table 7). This score represented a statistically significant difference from zero, suggesting that there may have been a change in the perception of social risk between pre-test and post-test measurements. For economic risk perception, the results produced a "t" score of 1.157 (refer back to Table 8). This score did not represent a statistically significant difference from zero, suggesting that there may have been no change in the magnitude of the perception of economic risk between pre-test and post-test measurements.

Toothpaste

The results for social risk perception produced a "t" score of 0.868 (refer back to Table 7). This score did not represent a statistically significant difference from zero, suggesting that there may have been no change in the perception of social risk between pre-test and post-test measurements. For economic risk perception, the results produced a "t" score of 0.302 (refer back to Table 8). This score did not represent a statistically significant difference from zero, suggesting that there may not have been any change in the magnitude of the perception of economic risk between pre-test and post-test measurements.

Suit of Dress Clothes

The results for social risk perception produced a "t" score of 0.084 (refer back to Table 7). This score was not statistically significantly different from zero, which suggested that there may have been no change in the magnitude of the perception of social risk between pre-test and post-test measurements. For economic risk perception, the results produced a "t" score of 0.075 (refer back to Table 8). This score did not represent a statistically significant difference from zero, suggesting that there may not have been any change in the perception of economic risk between pre-test and post-test measurements.

Color T.V.

Considering each product category separately again, the results for each category are combined to produce a summary. For "Color T.V." the canonical model explained approximately seven percent of the variation in the importance of information from personal sources. Social risk and importance of information from observed attitude represented the dominant variables in the implied relationship. When a product-oriented discussion was introduced into the experiment, with favorable information presented, the change in perceived socioeconomic risk suggested that the magnitude of perception had increased. When unfavorable information was presented in those discussions, the change in the perception of socioeconomic risk suggested that the magnitude of the perception had increased.

Sports Car

The canonical model explained approximately seventeen percent of the variation in the importance of information from personal sources. Social risk perception and the importance of information from observed attitude, again, seemed to be the dominant variables in the implied relationship. When a product-oriented discussion was introduced into the experiment, with favorable information presented, the change in socioeconomic risk perception

indicated that the magnitude of the perception had increased. When unfavorable information was presented in those discussions, the change in socioeconomic risk perception indicated that the magnitude of the perception had increased.

Cologne

The canonical model for "Cologne" explained approximately four percent of the variation in the importance of information from personal sources. Economic risk perception and the importance of information from observed attitude were the dominant variables in the implied relationship. When product-oriented discussions were introduced into the experiment, with favorable information presented, the change in social risk indicated that perceived social risk had increased in magnitude. The results for economic risk perception suggested that the magnitude of economic risk perception had decreased. When unfavorable information was presented in those discussions, the results for the change in both social and economic risk perception indicated that the magnitude of perceived risk had decreased.

Beer

The canonical model for "Beer" explained approximately twelve percent of the variation in the importance of information from personal sources. The dominant variables in the implied relationship were social risk perception and importance of information from observed attitude. When product-oriented discussions were introduced into the

experiment, with favorable information presented, the change in the perception of socioeconomic risk indicated that the magnitude of perceived risk had decreased. This decrease was the change in perceived socioeconomic risk hypothesized in Chapter 1. When unfavorable information was introduced into those discussions, the change in the perception of social risk indicated that the magnitude of the perception of social risk had decreased. For economic risk perception, the results indicated that there may have been no change in the magnitude of the perception at all.

Camera

For "camera," the canonical model explained approximately thirteen percent of the variation in the importance of information from personal sources. The dominant variables in the implied relationship were social risk and the importance of information from observed attitude. When favorable product-oriented discussion was introduced into the experiment, the results for both social and economic risk perception indicated that the magnitude of the perception had increased. This was not as hypothesized. When unfavorable product-oriented discussion was introduced into the experiment, the results for social and economic risk perception indicated that the magnitude of the perception had increased.

Toothpaste

The canonical model explained approximately three percent of the variation in the importance of information from personal sources. The dominant variable in the implied relationship was importance of information from observed attitude. Neither social risk nor economic risk could be called the more dominant risk variable, as the canonical coefficients for the variables were approximately equal (refer back to Table 1). The implied relationship, however, was not statistically significant (p = .227). When product-oriented discussions were introduced into the experiment, with favorable information presented, the results for both social and economic risk perception indicated an increase in the magnitude of the perception. When unfavorable product-oriented discussions were introduced into the experiment, the results for social and economic risk perception indicated that an increase had occurred in the magnitude of the perception.

Suit of Dress Clothes

The canonical model explained approximately seven percent of the variation in the importance of information from personal sources. The dominant variables in the implied relationship were social risk perception and the importance of information from observed attitude. When favorable product-oriented discussions were introduced into the experiment, the results for social and economic

risk perception indicated that there had been an increase in the perception. When unfavorable information was presented in those discussions, the results for social risk perception indicated a decrease in social risk perception. The results for economic risk perception indicated that an increase in the perception had occurred.

General Observations

The only statistically significant results in the canonical model are for "Color T.V.," "Sports Car," "Beer," "Camera," and "Suit of Dress Clothes." None of the t-tests were statistically significant to reject the null hypotheses (p = .05). The t-tests showed that there was a slight tendency, however, for greater risk to be perceived after product-oriented discussion, with either favorable or unfavorable product information.

Generally, social risk seemed to be the dominant risk variable in the canonical models. This result indicated that more variation in the importance of information from personal sources was associated with variation in the magnitude of perceived social risk. Also, the importance of information from observed attitude of others toward the product seemed to be the dominant information source of the two information sources associated with personal influence. This result indicated that more variation in the magnitude of the perception of socioeconomic risk was associated with variation in the importance of information from

observations of other persons' attitudes toward the unfa-
miliar brand of product.

Chapter 5

FINDINGS

CONCLUSIONS

The conclusions drawn in relation to the hypoth-
eses advanced in Chapter 1 are:

1. In most cases studied, there was a statis-
tically significant relationship between the magnitude of
socioeconomic risk perception and the importance of infor-
mation from personal sources to the subjects. It could be
concluded that such a relationship existed, though, with
eigenvalues of .03 to .17, it was weak. Accepting this
weakness, it was found that the dominant influences in
that relationship were the magnitude of social risk percep-
tion and the importance of observed attitude as an infor-
mation source. This meant that these two variables shared
more variation than the magnitude of economic risk percep-
tion and the importance of verbal opinion.

2. In relation to Hypothesis II, the null hypoth-
esis could not be rejected in any of the seven cases
studied. Therefore, it could not be concluded that the
perception of socioeconomic risk is reduced by the intro-
duction of favorable product information in group discus-
sions.

3. The null hypotheses related to Hypothesis III could not be rejected. Yet, there was a tendency in most cases to perceive greater socioeconomic risk after the introduction of unfavorable product information into group discussions. This tendency was not statistically significant and, therefore, the null hypotheses could not be rejected. It could not be concluded that the introduction of unfavorable information into product-oriented discussions was associated with increases in the perception of socioeconomic risk.

Conclusions in Relation to the Problem

In relation to the problem as it was stated in Chapter 1, the following conclusions were warranted:

1. It could not be concluded that the content (favorable or unfavorable product information) of product-oriented group discussions resulted in changes in the magnitude of the perception of socioeconomic risk.

2. In most cases, there existed a statistically significant relationship between the magnitude of socioeconomic risk perception and the importance of information from personal sources. Since the model used to estimate the relationship mentioned above explained so little variation in the importance of information from personal sources (eighteen percent), it may be concluded that the lack of a major relationship resulted in the lack of statistically significant changes in socioeconomic risk perception

in the hypothesized directions. It is possible that the magnitude of the perception of socioeconomic risk was not great enough to significantly affect the importance of information from personal sources. If this were the case, then the subjects may not have preceived the information in the product-oriented discussions as important.

IMPLICATIONS

Advanced here are some possible explanations of the lack of statistical significance of the shifts in socioeconomic risk perception. Also stated here are possible implications of the results of the tests conducted on the raw data.

One possible explanation of the lack of statistical significance in the t-test results is the lower mean scores for the pre-tested social risk perception. These lower scores might have resulted in less importance being placed in information from personal sources because, in all but one case, social risk perception is the dominant correlate to importance of information from personal sources. Had economic risk perception been the dominant correlate or had social risk been perceived in greater magnitude, then the information from personal sources may have been more important to the test subjects.

Another possible explanation may be the previously-mentioned dominance of importance of information from observed attitude of others. As was mentioned, this

dominance implied that variation in importance of information from observed attitude was more associated with variation in perceived socioeconomic risk than was variation in importance of information from verbal opinion. In the product-oriented discussions, there was much more verbal opinion expressed than attitude to be observed by the subjects. Associate this possibility with the dominance of social risk and it is evident that the verbal opinion expressed was not important information and possibly had little effect on the subjects' perception of socioeconomic risk.

It must also be remembered that there was no overt effort made to control the discussion in the group discussion phase of the experiment. All expression was encouraged and the "confederates" only suggested the points that they were to make. The fact that both favorable and unfavorable information was presented in those discussions may have resulted in a heightened perception of ambiguity and a greater perception of social and economic risk. This implication may be related to a conclusion resulting from a study conducted by Blake, Zenhausern, Perloff and Hesslin.[1] They concluded that those persons that display an intolerance of ambiguity were less likely to purchase a product

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[1] Brian F. Blake and others, "The Effect of Intolerance of Ambiguity upon Product Perceptions," Journal of Applied Psychology, October 1973, 58 (2), pp. 239-245.

that they perceived as new.[2] Possibly this is the result of a greater perception of risk associated with the product. It may also be possible that the shift toward greater risk perception was a factor in Stoner's cautious shift phenomenon.[3] The shift toward greater risk perception can be seen in Tables 3-6 in Chapter 4.

Implications of the t-Tests

The results of the t-tests also suggest the possibility of psychological reactance.[4] As stated in Chapter 3, reactance results from the subjects' unwillingness to comply with group pressure when that pressure reduces the number of responses available to the subjects. It may be that enough of the subjects in this experiment perceived pressure in the group discussion and, reacting in the manner described, affected the results of the study. There is the possibility that both psychological reactance and increased ambiguity existed simultaneously to yield the previously-mentioned results.

There is also the possibility that the results are the product of a variable that was not included in the

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[2] Ibid., p. 242.

[3] James A. F. Stoner, "Risky and Cautious Shifts in Group Decisions: The Influence of Widely Held Values," Journal of Experimental Social Psychology, December 1968, 4, pp. 442-459.

[4] J. W. Brehm, "A Theory of Psychological Reactance," Unpublished paper, Duke University, Durham, North Carolina, 1965.

study, besides psychological reactance and ambiguity. If this possibility is correct then, most likely, the inclusion of the other forms of perceived risk may have yielded more interpretable results.[5] Also, the introduction of specific and general self-confidence may have provided some insight into the reason for these results.[6]

SUGGESTED STRATEGIES FOR MARKETING MANAGEMENT

Since there does exist a relationship between socio-economic risk perception and the importance of information from personal sources, management should make itself aware of the degree of risk perceived in the product being marketed. Also, since social risk perception and importance of information from observed attitude of others are the dominant variables, advertising should attempt to recreate a comfortable, pleasurable, "satisfied customer" atmosphere. The consumer should be allowed to observe others who have achieved satisfaction with the brand of product being marketed. Verbal opinion, since it is less

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[5] The other forms of perceived risk include: Psychological, Performance, Physical and Time-Loss Risk, as well as Social and Economic Risk (which are included in the present study). See: Jacob Jacoby and Leon B. Kaplan, "The Components of Perceived Risk," in M. Venkatesan (ed.) Proceedings of the 3rd Annual Conference of the Association for Consumer Research, 1972, 2, pp. 382-393.

[6] Gerald D. Bell, "Self-Confidence and Persuasion in Car Buying," Journal of Marketing Research, February 1967, 4, pp. 46-52.

associated with socioeconomic risk perception, is less important in high-risk products and, therefore, should have less time and space devoted to it in the advertising for such a product. The observation of satisfaction is much more important.

It is also recommended that the marketed product be of the highest quality and that continued customer satisfaction be secured through customer service. This tactic will provide the best advertisement for the marketed brand of product: namely, a satisfied customer.

The results do not support Hypotheses II and III. It is possible that these results were the product of increased ambiguity of information, in which case marketing management is well advised to reduce all conflict in the information that the public receives concerning the brand of product being marketed. Advertising may be aimed at decreasing the ambiguity associated with the marketed brand of product and aimed at increasing the ambiguity associated with the competing brands of that product. This strategy may be seen in present advertising. The most obvious case of such advertising is the advertising for aspirin and non-aspirin pain relievers.

SUGGESTIONS FOR FURTHER RESEARCH

There are several important areas for additional research. First, there should be replication using subjects that are not college students. Second, the introduction of

specific and general self-confidence as predictor variables in the canonical correlation equation relating perceived risk and importance of information from personal sources may provide a more revealing relationship than before.[7] This addition may also provide greater insight into the results obtained for Hypotheses II and III in the present study. Also, the inclusion of all forms of risk perception may provide the necessary insight to interpret those results for the t-tests.[8]

Research should also be directed toward the investigation of the relationship between information ambiguity and the magnitude of risk perception in consumer behavior. This type of study may provide the information required to interpret the results for Hypotheses II and III.

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[7]Ibid.

[8]Jacoby and Kaplan, loc. cit.

Chapter 6

SUMMARY AND CONCLUSION

STATEMENT OF THE PROBLEM

This study sought to determine if the content (favorable or unfavorable product information) of product-oriented conversations resulted in changes in the magnitude of the perception of socioeconomic risk. It also sought to determine if the changes were the result of a relationship between the magnitude of risk perception and importance of information from personal sources.

The following hypotheses were examined:

Hypothesis I

There exists a relationship between the magnitude of the perception of socioeconomic risk and the importance of information from personal influences to the consumer. This relationship exists, to some degree, in all purchase decisions prior to the receipt of any information about the purchase decisions.

Hypothesis II

When given favorable information from personal sources about the product in question, the magnitude of perceived socioeconomic risk is reduced.

Hypothesis III

When given unfavorable information from personal sources about the product in question, the magnitude of perceived socioeconomic risk is increased.

RESEARCH METHODOLOGY

The sample was selected from undergraduate course offerings in the College of Business at Appalachian State University. The selection procedure involved a randomized cluster sampling technique which selected course section numbers.

A pre-test and post-test with experimental variable administration between them was used. There were two experimental groups and one control group. One experimental group received favorable information as the experimental variable; the other experimental group received unfavorable information.

Seven product categories were involved in the study: Color T.V., Sports Car, Cologne, Beer, Camera, Toothpaste and Suit of Dress Clothes. During the pre-test, an initial rating of social and economic risk perception was taken as well as a rating of the importance of information from two personal sources of information, the observed attitude of others and verbal opinion of others toward the particular product category. These ratings were taken on a seven-point semantic differential scale with bipolar adjectives.

During the next phase of the experiment, group discussion ensued with the entire class comprising the group. Discussion was directed toward revealing individual risk perception levels for each product category as suggested by Brown in his value theory of risky-shift.[1] During this discussion, the "confederates" emitted favorable or unfavorable information about each product category. Favorable or unfavorable information was determined by which experimental group the class represented. Control group members did not participate in discussion.

Following the class discussion, a post-test asked the subjects to again rate the magnitude of social and economic risk perception.

The data were analyzed through the use of canonical correlation analysis to determine if there existed a relationship between the pre-tested magnitude of socioeconomic risk perception and the importance of information from personal sources. To determine if Hypotheses II and III were supported, t-tests of independent means were used. The pre-tested and post-tested means for both social and economic risk perception were tested for differences for each product category and for all groups (experimental and control).

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[1] Roger W. Brown, Social Psychology (New York: The Free Press, 1965).

SUMMARY OF RESULTS

Color T.V.

For "Color T.V.," the canonical model explained approximately seven percent of the variation in the importance of information from personal sources. Social risk perception and importance of information from observed attitude of others were the dominant variables in the implied relationship. When a product-oriented discussion, with favorable product information was presented, the change in the perceived socioeconomic risk suggested that the magnitude of the perception had increased. When unfavorable information was presented in those discussions, the change in the perception had increased.

Sports Car

The canonical model explained approximately seventeen percent of the variation in the importance of information from personal sources. Social risk perception and the importance of information from observed attitude, again, seemed to be the dominant variables in the implied relationship. When a product-oriented discussion was introduced into the experiment, with favorable information presented, the change in socioeconomic risk perception indicated that the magnitude of the perception had increased. When unfavorable information was presented in those discussions, the change in socioeconomic risk perception indicated that the magnitude of the perception had increased.

Cologne

The canonical model for "Cologne" explained approximately four percent of the variation in the importance of information from personal sources. Economic risk perception and the importance of information from observed attitude were the dominant variables in the implied relationship. When product-oriented discussions were introduced into the experiment, with favorable information presented, the change in social risk indicated that perceived social risk had increased in magnitude. The results for economic risk perception suggested that the magnitude of economic risk perception had decreased. When unfavorable information was presented in those discussions, the results for the change in both social and economic risk perception indicated that the magnitude of perceived risk had decreased.

Beer

The canonical model for "Beer" explained approximately twelve percent of the variation in the importance of information from personal sources. The dominant variables in the implied relationship were social risk perception and importance of information from observed attitude. When product-oriented discussions were introduced into the experiment, with favorable information presented, the change in the perception of socioeconomic risk indicated that the magnitude of perceived risk had decreased. This decrease was the change in perceived socioeconomic risk hypothesized

in Chapter 1. When unfavorable information was introduced into those discussions, the change in the perception of social risk indicated that the magnitude of the perception of social risk had decreased. For economic risk perception, the results indicated that there may have been no change in the magnitude of the perception at all (see Table 6 in Chapter 4).

Camera

For "Camera," the canonical model explained approximately thirteen percent of the variation in the importance of information from personal sources. The dominant variables in the implied relationship were social risk perception and the importance of information from observed attitude. When favorable product-oriented discussion was introduced into the experiment, the results for both social and economic risk perception indicated that the magnitude of the perception had increased. This change was not as hypothesized. When unfavorable product-oriented discussion was introduced into the experiment, the results for social and economic risk perception indicated that the magnitude of the perception had increased.

Toothpaste

The canonical model explained approximately three percent of the variation in the importance of information from personal sources. The dominant variable in the implied relationship was importance of information from observed

attitude. Neither social risk nor economic risk could be called the more dominant risk variable, as the canonical coefficients for the variables were approximately equal (see Table 1 in Chapter 4). The implied relationship, however, was not statistically significant ($p = .227$). When product-oriented discussions were introduced into the experiment, with favorable information presented, the results for both social and economic risk perception indicated an increase in the magnitude of the perception. When unfavorable product-oriented discussions were introduced into the experiment, the results for social and economic risk perception indicated that an increase had occurred in the magnitude of the perception of both.

Suit of Dress Clothes

The canonical model explained approximately seven percent of the variation in the importance of information from personal sources. The dominant variables in the implied relationship were social risk perception and the importance of information from observed attitude. When favorable product-oriented discussions were introduced into the experiment, the results for social and economic risk perception indicated that there had been an increase in the perception of both. When unfavorable information was presented in those discussions, the results for social risk perception indicated a decrease in social risk perception.

The results for economic risk perception indicated that an increase in the perception had occurred.

General Observations

The statistically significant results in the canonical model were for "Color T.V.," "Sports Car," "Beer," "Camera," and "Suit of Dress Clothes." None of the t-tests were statistically significant to reject the null hypotheses (p = .05). However, the t-tests showed that there was a slight tendency for greater risk to be perceived after product-oriented discussions, with either favorable or unfavorable product information.

Generally, social risk perception seemed to be the dominant risk variable in the canonical models. This result indicated that more variation in the importance of information from personal sources was associated with variation in the magnitude of perceived social risk. Also, the importance of information from observed attitude of others toward the product seemed to be the dominant information source of the two information sources associated with personal influence. This result indicated that more variation in the magnitude of the perception of socioeconomic risk was associated with variation in the importance of information from observations of other persons' attitudes toward the unfamiliar brand of product.

CONCLUSIONS

The conclusions drawn in relation to the hypotheses advanced are:

1. There was, in most cases studied, a statistically significant relationship between the magnitude of socioeconomic risk perception and the importance of information from personal sources to the subjects. It could be concluded that such a relationship exists, though with eigenvalues of .03 to .17, it was weak. It was found that the dominant influences in that relationship were the magnitude of social risk perception and the importance of information from observed attitude. This concept meant that these two variables shared more variation than the magnitude of economic risk perception and the importance of verbal opinion.

2. In relation to Hypothesis II, the null hypothesis could not be rejected in any of the seven cases studied. There was no tendency that might have implied rejection, either. Therefore, it could not be concluded that the perception of socioeconomic risk is reduced by the introduction of favorable product information in group discussions.

3. The null hypotheses related to Hypothesis III could not be rejected. There was, however, a tendency, in most cases, to perceive greater socioeconomic risk after the introduction of unfavorable product information into group

discussions. This tendency was not statistically signifi-
cant and, therefore, the null hypotheses could not be
rejected. It could not be concluded that the introduction
of unfavorable information into product-oriented discus-
sions was associated with increases in the perception of
socioeconomic risk.

Conclusions in Relation
   to the Problem

In relation to the problem, as it was stated, the
following conclusions were warranted:

1. It could not be concluded that the content
(favorable or unfavorable product information) of product-
oriented group discussions resulted in changes in the magni-
tude of the perception of socioeconomic risk.

2. In most cases, there existed a statistically
significant relationship between the magnitude of socio-
economic risk perception and the importance of information
from personal sources. Since the model used to estimate
the relationship mentioned above explained so little vari-
ation in the importance of information from personal sources
(eighteen percent), it may be concluded that the lack of a
major relationship resulted in the lack of statistically
significant changes in socioeconomic risk perception in
the hypothesized directions. It is possible that the
magnitude of the perception of socioeconomic risk was not
great enough to significantly affect the importance of
information from personal sources. If this were the case,

then the subjects may not have preceived the information in
the product-oriented discussions as important.

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APPENDIX A

DATA COLLECTION INSTRUMENT

Q U E S T I O N N A I R E

Be sure to read the directions for each part of this questionnaire as carefully as possible. DO NOT RUSH through any portion, but do not waste time. Give yourself enough time to think about each answer that you give. Someone will be available to help you if you have any questions.

Have you completed this questionnaire before _____ Yes _____ No. If you have, please complete it again.

Sex: _____ Male _____ Female

Class: _____ Fres _____ Soph _____ Jun _____ Sen _____ Grad _____ Other

CONTINUE TO NEXT PAGE.

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READ THESE DIRECTIONS CAREFULLY!

For part (a), imagine yourself buying an unfamiliar brand of each of these products. For each product listed, estimate (using the seven-point scale indicated below) the magnitude of the feeling that your friends may change their opinion of you because you bought the unfamiliar brand of the product. This is that risky feeling that you get, that feeling that your friends may disapprove of the purchase or shun you because you bought the product. Circle the number, opposite the product, that best represents the magnitude or strength of this feeling in you.

For part (b), again imagine that you are buying an unfamiliar brand of each of these products listed below. For each product, estimate (using the seven-point scale indicated below) the magnitude of the feeling that you will lose money because the product does not work or do what you expect it to do. Circle the number which best represents the magnitude or strength of that feeling in you for each of the products listed below. As with part (a), be sure that the number you circle for part (b) is in the column for part (b) and opposite the product in question.

Very Low Magnitude 1 2 3 4 5 6 7 Very High Magnitude

Product		
1. Color T.V.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2. Sports Car	1 2 3 4 5 6 7	1 2 3 4 5 6 7
3. Cologne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
4. Beer	1 2 3 4 5 6 7	1 2 3 4 5 6 7
5. Camera	1 2 3 4 5 6 7	1 2 3 4 5 6 7
6. Toothpaste	1 2 3 4 5 6 7	1 2 3 4 5 6 7
7. Suit of Dress Clothes . .	1 2 3 4 5 6 7	1 2 3 4 5 6 7

Continue to next page.

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Part (c)   READ THESE DIRECTIONS CAREFULLY!   Page 2

Estimate (using the seven point scale indicated below) the importance that you place on the information received from each of the following sources of information. In other words, how important would the information received from these sources be to you in making the decision about purchasing each of the products listed below. Circle the number, in the column corresponding to the number of the information source and opposite the product in question, that best represents the amount of importance you place on the information received from these sources:

1. Information from an advertisement for the product.
2. Information from an advertisement for a competitor.
3. Unbiased information sources (such as Consumer Report Magazine)
4. Observed Attitude of others toward the product (the expressions on your friends' faces when talking about the product).
5. Verbal Opinion of others toward the product (what others have to say about the product).
6. Past personal experience with the product.
7. Information from sources other than 1-6.

SCALE: Very Low Importance 1 2 3 4 5 6 7 Very High Importance

Product	(1)	(2)	(3)	(4)
1. Color T.V.	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2. Sports Car	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
3. Cologne	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
4. Beer	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
5. Camera	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
6. Toothpaste	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
7. Suit of Dress Clothes	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

NOTE: The number above each column corresponds to the number of the information source.

Continue to next page.

Part (c)   Page 3

1. Information from an advertisement for the product.
2. Information from an advertisement for a competitor.
3. Unbiased information sources (such as Consumer Report Magazine).
4. Observed attitude of others toward the product (the expressions on your friends' faces when talking about the product).
5. Verbal opinion of others toward the product (what others have to say about the product).
6. Past personal experience with the product
7. Information from sources other than 1-6.

SCALE: Very Low Importance 1 2 3 4 5 6 7 Very High Importance

Product	(5)	(6)	(7)
1. Color T.V.	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2. Sports Car	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
3. Cologne	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
4. Beer	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
5. Camera	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
6. Toothpaste	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
7. Suit of Dress Clothes	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7

PLEASE STOP HERE.

PLEASE STOP HERE and go no further until you are told to do so. Check your answers for parts (a), (b) and (c), but go no further in the questionnaire. When you are through with this section and the preceding sections, close the booklet and wait for instructions.

PLEASE DO NOT TURN THIS PAGE.

Part (d)   READ THESE DIRECTIONS CAREFULLY!   Page 4

For part (1), imagine yourself buying an unfamiliar brand of each of the products listed below. For each product listed, estimate (using the seven-point scale indicated below) the magnitude or strength of the feeling that your friends may change their opinion of you because you bought the product. This is that risky feeling that you get, that feeling that your friends may disapprove of the purchase or shun you because you bought the product. Circle the number, opposite the product, that best represents the magnitude or strength of this feeling in you.

For part (2), imagine again that you are buying an unfamiliar brand of each of the products listed below. For each product, estimate (using the seven-point scale indicated below) the magnitude or strength of the feeling that you will loose money because the product does not work or do what you expect it to do. Circle the number which best represents the magnitude or strength of that feeling in you for each of the products listed below. As with part (1), be sure that the number you circle for part (2) is in the column for part (2) and opposite the product in question.

SCALE: Very Low Magnitude 1 2 3 4 5 6 7 Very High Magnitude

Product	(1)	(2)
1. Color T.V.	1 2 3 4 5 6 7	1 2 3 4 5 6 7
2. Sports Car	1 2 3 4 5 6 7	1 2 3 4 5 6 7
3. Cologne	1 2 3 4 5 6 7	1 2 3 4 5 6 7
4. Beer	1 2 3 4 5 6 7	1 2 3 4 5 6 7
5. Camera	1 2 3 4 5 6 7	1 2 3 4 5 6 7
6. Toothpaste	1 2 3 4 5 6 7	1 2 3 4 5 6 7
7. Suit of Dress Clothes . . .	1 2 3 4 5 6 7	1 2 3 4 5 6 7

Part (d) continued   Page 5

Do you understand the study which is being conducted?   _____ Yes   _____ No

If yes, briefly what is the purpose of this experiment?

Stop here. The questionnaire is complete. Check your answers for part (d) if you need to, but do not go back to any other part of the questionnaire. When you are finished, close the booklet and return it.

APPENDIX B

SUGGESTED IDEAS SHEETS

SUGGESTED IDEAS TO CONVEY WHEN FAVORABLE INFORMATION
ABOUT BUYING AN UNFAMILIAR BRAND OF EACH
PRODUCT LISTED IS REQUIRED

1. Color T.V.

   a. Technology in the area of T.V. is so advanced that
      you could buy a T.V. with little chance of getting
      a bad one.

   b. Most dealers and manufacturers offer fine warran-
      ties.

2. Sports Car

   a. Sports cars are the finest cars on the road. Any
      purchase of a sports car could not be a bad one
      because there is such an emphasis on performance
      when these cars are designed and built.

   b. Sports cars also have fine warranties.

   c. Sports cars benefit from more research (both
      engineering and marketing research).

3. Cologne

   a. Since cologne evaporates quickly, it makes little
      difference what brand you buy.

4. Beer

   a. Since all beer is manufactured to appeal to the
      average taste (in order to capture the largest
      market share possible), all beers essentially taste
      the same. There is no reason not to buy an unfa-
      miliar brand.

5. Camera

   a. Cameras in the same price range offer about the
      same quality level with the only differences being
      in the accessories offered.

   b. Many times buying an unfamiliar brand will get as
      "good" a camera for less money.

6. Toothpaste

   a. Toothpaste is toothpaste regardless of brand.

7. Suit of Dress Clothes

   a. Within the same price range, all brands of clothing
      are relatively equal in quality.

   b. All dealers will repair any damage to the clothing
      which was caused by the factory or store workers
      or properties.

*NOTE: These are only suggestions to consider. If you can
       think of other ideas, please bring them up in the
       discussion. The idea is to be as informal as
       possible and put on a good act, supporting these
       ideas and the other ideas in that direction, but
       do not be overbearing.

SUGGESTED IDEAS TO CONVEY WHEN UNFAVORABLE INFORMATION
ABOUT BUYING AN UNFAMILIAR BRAND OF EACH
PRODUCT LISTED IS REQUIRED

1. Color T.V.

   a. A color T.V. is a big ticket item, very technical
      in nature and repairs are often very costly.

   b. Color T.V. is not standardized in its methodology.
      This causes a great chance of getting a "lemon."

2. Sports Car

   a. Getting replacement parts is extremely difficult no
      matter what brand you buy.

   b. Different companies offer different extras, some of
      which you may need, some you may not need but get
      anyway.

   c. Some companies offer different warranties.

3. Cologne

   a. Women like certain colognes. Buying an unfamiliar
      brand can be "dangerous."

4. Beer

   a. A real beer drinker can tell the difference in good
      beer from bad beer.

   b. There are many different flavors, textures, colors,
      etc., of beer on the market. Some may or may not
      be pleasing to you.

5. Camera

   a. Accessories are extremely expensive; the wrong
      brand may make those accessories more expensive.

   b. Some manufacturers have less experience making
      really fine cameras than others. This presents a
      chance to buy a "lemon."

6. Toothpaste

   a. Some toothpastes do not have flouride in them,
      resulting in more cavities.

b. Flouride is a poison in its pure form and the tooth-
    paste industry has not arrived at a standard measure
    of flouride to be present in toothpaste that goes on
    the market.

7. Suit of Dress Clothes

    a. There is always a chance of a poor fit. This
        results in loss of time and use of the garments.

    b. There is the chance of getting a poor quality suit
        of clothes.

VITA

Harold Z. Daniel, Jr., was born in Greensboro, North Carolina, on November 2, 1953. He was graduated from Walter M. Williams High School in Burlington, North Carolina, in June 1972.

Mr. Daniel received a Bachelor of Science degree in Business Administration from Appalachian State University in May 1976. He entered graduate school at Appalachian State University in July 1976.

Mr. Daniel was employed as a Graduate Assistant at Appalachian State University from September 1976 to May 1977 and as a Research Assistant at the same institution from September 1976 to May 1977. He held the position of Instructor in Business Administration at the Watauga Division of Caldwell Community College from June 1977 to November 1977.

He is a member of Beta Gamma Sigma, the American Marketing Association and Phi Mu Alpha Sinfonia.

Mr. Daniel has published the "North Carolina Economic Report" in the Appalachian Business Review, Spring 1977. He has also published "Canonical Analysis of Relations between Socioeconomic Risk and Personal Influence in Purchase Decisions: A Replication and Extension" in the Proceedings of the 13th Annual Conference of the

Southeastern Regional Chapter of the Institute of Management Sciences, Fall 1977. It was this paper which was honored as the Most Outstanding Student Research Paper at that conference.

Mr. Daniel married the former Kathrine Fogelson in May 1976.