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THE RELATIONSHIP BETWEEN RISK AND THE RESPONDENT'S LEVEL
OF SOCIALIZATION IN THE MILITARY

A Thesis
Presented to the
Department of Sociology
and the
Faculty of the Graduate College
University of Nebraska

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
University of Nebraska at Omaha

by
Robert E Wetzel
June 1980

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THESIS ACCEPTANCE

Accepted for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree of Master of Arts, University of Nebraska at Omaha.

Thesis Committee

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Mary Ann Kummera	Sociology
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Chairman *Greenberg, Sociology*

Date *June 11, 1980*

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PREFACE

The following thesis deals with a sensitive issue, namely the examination of risk-taking behaviors in a military context. Generally, it is agreed that certain decisions made by the military are considerably more vast and important (in terms of the social, political, and moral ramifications) than decisions reached by non-military groups. In light of this agreement, any analysis of risk-taking behavior could be interpreted as threatening to the image of the military.

Understanding the sensitivity of the central theme of the following thesis demands an understanding of the assumptions of the investigation. The two major assumptions of this work are: a) the military is not a mindless, thrill-seeking entity lacking in rational restraint, but the military socialization process does seem to elicit risky behaviors from its members; and b) the military risk ethic is not necessarily any more dramatic than the civilian risk ethic, even though this relationship has not been tested in the literature of group behaviors. I am not, in other words, launching an attack on the rationality of military decision-making.

With the above mentioned assumptions in mind, the analysis of socialization and risk in a military context will be developed throughout the following thesis.

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CHAPTER I

INTRODUCTION

Statement of Purpose

The primary focus of this thesis is to examine the results obtained from the Choice Dilemma Questionnaire (CDQ) applied to a sample with a variable amount of military service in two primary categories: commissioned officers and enlisted individuals. Specifically, I used Marquis and Reitz's (1969) Enhancement model of the shift to risk to explain the results of the CDQ using a Solomon four-group research design.¹ I examined, in this investigation, four hypotheses which dealt with the amount of socialization, the CDQ score, the impact of group discussion on the respondent's CDQ score, and the use of the respondent's self-assessed risk for comparison with the CDQ scores.

Literature Review

Are groups more or less conservative than individuals in the decisions they make? Common sense suggests, rather strongly, that in general, groups are much more conservative. Decisions reached by a group must, in most cases, represent a compromise between the views and recommendations of several different sources. As a result, most decisions represent a rather cautious selection of alternatives.

The belief that groups are more conservative than individuals shared wide-spread notoriety until that assumption was called into question in a

1. The Solomon four-group design is detailed in Campbell and Stanley's Experimental and Quasi-Experimental Designs (1963). It involves the combination of pre-post test design, and post-test only design. The combination of both experimental designs provided a more adequate check for validity and reliability than either design independently.

series of empirical findings directed by Ziller (1957), and later by Stoner (1961). These research findings suggest rather clearly that individuals, as compared to groups, may make considerably more conservative choices in situations involving uncertainty. Since that time, the study of risk-taking behavior has gained considerable empirical attention and great popularity. "In recent years, the biggest surge of research on group processes (has focused) on group decision making and risk taking." (Dion, et al, 1970:306) The evidence gathered in relevant research has indicated in many cases the decisions reached by groups are actually much less conservative than individual recommendations involving risk.

The phenomenon of group risk taking behaviors has been called the risky-shift, and essentially hypothesizes a difference in the mean score of the individual's and the group's score in a risk assessing task. Stoner (1961) was originally credited with the use of the CDQ, even though, in actuality, the instrument was designed by Kogan and Wallach (1967).

The procedure for assessing risk using the CDQ included a three-staged process. Initially, subjects were directed to read twelve stories depicting "real life" dilemmas. They were then instructed to choose the lowest probability of success for each one of the dilemmas that they would accept before recommending that the person in the story take the riskier alternative. Each story involved a clearly defined situation, and two clearly defined paths: one risky, and the other conservative. The first stage of the experimental process was conducted in a group setting, but without any group interaction.

The second stage of the experiment involved the interaction phase of the group which had completed the individual task. The group discussion

was held without the group members having any prior expectation that they would be required to discuss their individual choices of risk. In the second phase of the experiment, the group was given a second questionnaire, identical to the first, and instructed to reach a unanimous group decision on an acceptable level of risk. The last major phase of the experimental situation involved the subjects' return to individual work to again make choices from the alternatives offered on the CDQ.

The CDQ is designed to provide an objective way of assessing how much risk that an individual is willing to take. The stories mentioned earlier can be illustrated with the following example from the original CDQ (Kogan and Wallach, 1967).

Mr. A., an electrical engineer, who is married and has one child, has been working for a large electronics firm since graduating from college 5 years ago. He is assured of a lifetime job with a modest but adequate salary and liberal pension benefits upon retirement. On the other hand, it is very unlikely that his salary will increase much before retirement. While attending a convention, Mr. A. is offered a new job with a small, newly founded company which has a highly uncertain future. The new job would pay more to start and would offer the possibility of a share in the ownership if the company survived the competition of the larger firms.

Imagine you are advising Mr. A.

The respondents are then asked to choose from among six alternatives which indicate differing probabilities of the company proving financially sound. The choices range from high risk (recommendation that Mr. A. take the job even if there is only a 10% chance of financial success for the new company) to low risk (recommending that Mr. A. reject the offer of the new company even if there is a 90% chance of success for the new company).

The CDQ has dominated the research on the issue of risk and conservatism. Dion, Baron, and Miller (1970) have noted that 80% of the

empirical research on risk assessment has been conducted using the CDQ. From considerable empirical work, three major theoretical positions emerged. These will be discussed in turn.

Whyte (1956) and Barnlund (1959) posited that team work or group interaction always leads to a conservative shift. Schacter (1957), on the other hand, believes that an averaging effect occurs during group interaction in which the extreme views of the group are compromised in order to maintain group cohesion. These first two views comprise the intuitive positions of early theoretical work on the subject of risk. Later, a counterintuitive position was advanced by the work of Stoner (1961), Wallach (1967), Bateson (1966), Flanders and Thistlewaite (1967). This position, known as the risky-shift, gave rise to four emergent explanations, which will be the subject of the next portion of this report.

The interrelationship among variables in the risky-shift seems to be quite complex. In attempting to isolate salient variables, the early studies found that greater familiarization with the testing device, even in the absence of group discussion, led to the risky-shift. Bateson (1966), Flanders and Thistlewaite (1967) proposed the explanation of the familiarity hypothesis. These theorists asserted the shift to risk as a pseudo-group effect, namely one that can occur without an actual group. Despite severe empirical criticism by Pruitt and Teger (1967) and Miller and Dion (1970), the familiarization hypothesis still retains popularity in empirical research on the shift to risk.

Kogan and Wallach (1967:51) believe that "failure of a risky course is easier to bear when others are implicated in the decision...(People)

might be especially willing to diffuse responsibility in an effort to relieve the burden of possible fear of failure." This position has been called the responsibility-diffusion explanation. According to the responsibility-diffusion explanation, the risky-shift represents a true group effect, namely one that cannot occur in isolated individuals (Secord and Backman, 1964). A major component of the responsibility-diffusion hypothesis is an aspect known as affective bonds. The basis of the affective bonds explanation is that stronger affective bonds presumably increases the feelings of shared responsibility. The basis of the responsibility-diffusion hypothesis has been empirically challenged (Pruitt and Teger, 1967), but has had considerable influence in current theoretical perspectives.

Marquis' (1962) position, known as the leadership or persuasion hypothesis, proposes that groups make riskier decision because the influence of the leader is risk-oriented. The leadership hypothesis is one of the major components of Burn's (1967) enhancement model of the risky-shift, which will be explained later.

Hind's (1962) major contribution to the risky-shift literature is the cultural-value hypothesis. The position described by the cultural-value hypothesis suggests that our culture values riskiness and encourages daring, and that this value overrides our conservative value system. Later empirical evidence recognized the existence of cultural values for caution (Nordhøy's, 1962), even though the predominant value is risk-oriented. Two major components of the cultural value explanation are the value hypothesis and the relevant information hypothesis. Pilkonis and Zanna (1969) have found, in support of the value hypothesis, that individ-

uals typically select odds riskier than their own when they are asked to indicate that level of risk-taking which they most admire. Secondly, Brown (1965) indicated that group discussion increases the salience of the values elicited in initial decision-making. The logical conclusion to the relevant information hypothesis states that items initially eliciting tendencies towards risk produce even riskier decisions following discussion or exposure to information about the values that others hold with regard to risk.

Thus, four explanations have been prominent in the risky-shift literature: familiarization, diffusion of responsibility, persuasion, and risk as a cultural value. Currently, investigators are more concerned with the direction of the shift, rather than the presence of the shift. Current theoretical perspectives combine several different explanations in order to deal with the complexity of influences which effect the basis of changes in risk-taking.

Methodological Problems

To this point, I have outlined the basic explanatory mechanisms which were influential in the thought about the risky-shift. A further area of importance in explaining the risky-shift is the manner in which early research was conducted. It is hoped that exposing the weaknesses of early empirical investigations will provide the insight necessary for understanding the modifications of the research design which will be discussed later in this report.

Dion's (1970) work has gained exceptional popularity in the analysis of the risky-shift. One of his major contributions was a comprehensive critique of early methodologies. In his work, he outlines four basic

areas of theoretical and methodological concerns: theoretical chauvinism, single testing site, oblique experimentation, and myopic scholarship.

Theoretical chauvinism is a term used to describe the process whereby early theorists have found tenable and acceptable explanations and stopped looking for better explanations. Since early theorists were rather simplistic in their explanations, a more sophisticated theoretical approach seems necessary to address the complexity of the risky-shift.

Earlier in this report, mention was given to the frequency with which the CDQ is used to test the risky-shift (see page 3). This fact is the basis of Dion's objections which he called the single testing site. A related issue is the use of the pre-post test design as the exclusive design for testing the risky-shift. The use of the post-test only design has been suggested by Dion, Miller and Baron (1970). The advantage of an alteration in design is that generalizability would be enhanced because the respondent would not have been sensitized to the material, and the score would reflect a truer risk measurement.

Clark and Willems (1969) have criticized the design of the CDQ believing it to measure unimportant social events in which the respondent does not have an opportunity to get involved. Further criticism within the risky-shift literature has been leveled against the difficulty which the potential respondent has in selecting adequate responses that reflect their risk level. In the CDQ, a high score indicates low risk and a low score indicates high risk.

A third criticism leveled against the risky-shift methodologies is that researchers tend to operationalize their variables weakly, or in error. The example of the affective bonds hypothesis as part of the

responsibility-diffusion explanation illustrates ineffective operationalization. The assumption of the hypothesis is that strong affective bonds have been formed in arbitrarily assigned groups. In reality, a more effective measure of the affective bonds proposition might have been tested in groups with a high degree of solidarity.

Methodologists have long been aware of the problem of testing logico-deductive hypotheses. Blalock (1967), for instance, believes that it is impossible to test a deductive hypothesis. In attempting to operationalize and test hypotheses, salient factors are frequently omitted from consideration for the sake of producing a statistically logical account of relationships. These criticisms are the component part of what Dion has called myopic scholarship. The basic premise of the criticism is that the phenomenon is too complexed to be reduced to a simple paper and pencil test (i.e., the CDQ).

Enhancement models

In attempting to deal with the major theoretical propositions outlined earlier, as well as the methodological concerns outlined above, two current and major camps have emerged to address the issue of the risky-shift: the social comparison model, and the enhancement model. The social comparison model directly extends the cultural value explanation and incorporates the relevant information hypothesis. The treatment of the cultural value hypothesis and especially the affective bonds hypothesis is the major strength of this perspective. Its weaknesses, and consequently, the basis for rejecting the model, are the failure to consider salient features such as the initial tendencies of the group, the effects of the leadership on the group, and the effects of familiarization.

The social comparison model literature (see Madaras and Bem, 1968) is methodologically strong, but theoretically inadequate.

The second model, or the enhancement model has two major contributors: J. F. Burns, and Marquis and Reitz. Burns' (1967) model asserts that groups behave more extremely (more decisively) than do individuals. The notion of the enhancement model is like the notion of the leadership or persuasion hypotheses (see page 5 of this report): it assumes that those who hold a more extreme view tend to exert greater amounts of influence on the group. Burns is also careful to include the possibility of cautious shifts in his theoretical approach.

Marquis and Reitz (1969) stress the enhancing function of group discussion; however, their position is closer to the familiarization hypothesis. Specifically, Marquis and Reitz suggest that group discussion has two effects. First, it enhances prior expected values of various possible outcomes. Secondly, they hypothesize that where there is initial uncertainty, subsequent discussion increases risk taking behavior. The two assumptions that underlie the second hypothesis also underlie the familiarization hypothesis and the responsibility-diffusion hypothesis: (1) risk-taking is generally inhibited in situations of uncertainty, and (2) group discussion reduces uncertainty. Their final premise is that the enhancement of expected values and the function of uncertainty-reduction act independently of each other. Therefore, Marquis and Reitz's model explicitly specifies two independent parameters of group risk-taking, both of which require consideration before generating a prediction or explanation.

Marquis and Reitz used gambling behaviors to test their predictions.

Their data suggests that uncertainty reduces the willingness of individuals to take risks. They further found that with initial certainty in risk, the direction of the shift after discussion will depend on the expected outcome. A positive expected value will produce a shift to risk, where a zero expected value will produce no change. A negative expected value will produce a shift to conservatism. With initial uncertainty, group discussion will produce a shift to risk when the outcome has either a positive or zero potential. A negative outcome potential will depend on which force is stronger: the decrease of uncertainty, or the salience of the negative expected value (Dion, 1970:360).

The particular appeal of the Marquis and Reitz model is that it can account for risk obtained in CDQ experiments as well as gambling behavior experiments since one can argue that the items of the CDQ are uncertain risk problems, which do not specify the exact value of success or failure (Hubbard, 1963).

The model of Marquis and Reitz has been used as a springboard for further research by Moscovici and Zavalloni (1969). This research added the increase in involvement in decision making. The increase in involvement presumably causes a polarization of initial risk taking tendencies. This position is made more tenable by the attitude change research of Sherif and Hovland (1961). The attitude change research shows that persons who are more involved with their positions on an issue take a more extreme stand in reporting their positions.

The basis, therefore, of the enhancement model is the belief that groups behave more extremely than do individuals. The enhancement model as represented by Burns, Marquis and Reitz, and Moscovici and Zavalloni

represents the position that the conditions which have produced a shift to risk have one thing in common: they involve subjects in situations in which they are embedded, and increase the importance of the common judgmental object--the problem requiring a decision.

It is from this position which I conducted the research explained in this report. I will use one further element which has not been used to this point in the literature: self-assessed risk. Self-assessed risk is defined as the composite analysis of behavior and choices which indicate how the individual perceives themselves in terms of risk. I will further use a mixed (sexually) group in an entirely military context, and will be using the Solomon four-group design to conduct the experiment. These features of the current investigation make it unique.

The enhancement model provides an interesting theoretical perspective from which the observe choice shifts. I formed two hypotheses directly from the literature on the enhancement model. These hypotheses are listed below (2,3) and will be discussed later in this thesis.

The remaining two hypotheses are not clearly related to the theoretical literature as presented in this report. I chose, for instance, to examine the first hypothesis (socialization influences risk) on the basis of its social significance in a military subculture. There is little theoretical substantiation for the assertion of hypothesis one, with the possible exception of Janis' (1971) Groupthink, and the uncertainty reduction principle mentioned as part of the enhancement model. The last hypothesis (self assessed risk) was based on the assumption that there is no correlation between what people say about their propensity toward risk and how they perform on an objective assessment of risk-taking. The

basis of this hypothesis follows the possible cultural conflict surrounding the language of risk. In other words, the fourth hypothesis suggests that different situations will elicit differing expectations for risk behavior, and that this will be reflected in an insignificant correlation between self-assessed risk and objective risk.

My objectives, therefore, for this report are to integrate the unique features outlined above into the wealth of literature about the risky-shift in order to examine the following hypotheses:

- 1) There will be a relationship in military respondents between the amount of socialization (as measured by the amount of active military time), and the amount of risk that one will take on a CDQ.
- 2) There will be a relationship between the presence of discussion and the amount of shift (towards either extreme) across the levels of socialization.
- 3) Life issue stories (those stories where the consequence of risk involves the loss of life) will yield lower initial risk scores than leisure oriented stories.
- 4) There will be no significant correlation between the level of self-assessed risk, and the risk level indicated by the CDQ.²

2. Technically, one cannot assert the null hypothesis. This hypothesis is offered, however, to statistically indicate that there is no relationship, which is a counterintuitive position.

CHAPTER II

METHODOLOGY

This chapter will focus on five areas related to the methodology of the current investigation: the sample; the design; the instrument; the analysis; and the ethical considerations of this project.

Sample

From the population of all military personnel, I selected a non-random group of respondents which was composed of 36 officers and 36 enlisted military members. The sources for these respondents were: the U.N.O. Pen and Sword Society, U.N.O. students who were on campus in "Operation Bootstrap," cadets and officers from Air Force R.O.T.C. Detachment 470, individuals responding to a newspaper ad servicing Offutt Air Force Base,¹ and individuals selected from local recruiting offices. Those who were selected from recruiting efforts were typically individuals who had been to basic training in their branch of the service, and were assigned to the recruiters to assist in the recruiting effort.

Procedure

I utilized the following steps in making assignments from the sample. Each potential respondent² was asked his name, rank, marital status, education, age, years in service, and the last four numbers of his social security number. With two pieces of that information, I constructed six

1. The advertisement ran three days in the Air Pulse. A total of three individuals responded to the ad. Of those three, none met the requirements of the sample, namely military service, even though the ad clearly defined that requirement.
2. There were 66 males and 6 females (see page 30 for explanation of sexual composition of the sample.)

categories of respondents. The information which I used for this assignment was the individuals' status (commissioned officer or enlisted person) and their amount of socialization in the military, as defined by the number of years they had in service. Three of the aforementioned categories were: officers with over twelve years of service (category A); officers with less than twelve years, but more than six years of service (category B); and those officers with less than six years of service (category C). The remaining three categories (D, E, and F) had the same service requirements, but involved enlisted individuals. After the respondents were assigned to one of the six categories (A through F), I rearranged the list of respondents in the categories according to their social security number. I had 96 potential respondents. The experimental design called for 72 respondents, with 12 people in each of the six categories. As soon as I had at least 12 people per category, I used a table of random numbers to eliminate those respondents in excess of twelve in each of the six categories. This was accomplished by examining the last four digits of the respondents' social security number (SSN) and selecting a final list from the first twelve people whose SSN agreed with the random number table.

The division of socialization levels at six year intervals is based primarily on informal data that I gathered in having served in the military for six years, rather than a clearly defined principle or regulation of military service. Officers as well as enlisted people, tend to separate after one of two points in their career. Those who stay past twelve years usually spend their entire career in the military until retirement at twenty years.

Design

Terms:

The following terms will be used throughout the report to differentiate the appropriate unit of analysis.

TABLE I

Terms

Terms	Definitions
Status	Officer or Enlisted
Socialization Level	One of three ranges of service time (0-5, 6-11, 12+)
Category	Everyone sharing Status and Socialization Level
Experiment Group	Three randomly selected Individuals from a Category
Experimental Condition	Either Experimental or Control Groups One and Two, per Solomon four-group. These Conditions shall be referred to as E 1 (for Experimental One), and E 2 (Experimental Two); C 1 (for Control One), or C 2 (Control Two).

Research Design:

From within each category, I randomly assigned three respondents to one of the four experimental or control conditions described in table one. At this point, I had delineated six categories, and four experimental conditions per category. Reference to any subset, hereafter, will be made according to this system of classification.

Each experimental condition went through part or all of the following sequence as outlined in table two.

TABLE II
Experimental Activity by Experimental Condition

Read Story	Make Decision about Risk	Group Discussion	Make (or Remake) Decision
E 1	E 1	E 1	E 1
C 1	C 1		C 1
E 2		E 2	E 2
C 2			C 2

Following the presentation of the first story, the procedure, as outlined in table two, was repeated for three more stories. Discussion (E 1, E 2) groups had a maximum of 6 minutes to reach a decision. Non-Discussion groups wrote their rationale for a maximum of 6 minutes.

Randomization

A random sample of military personnel is extremely difficult to obtain due to Department of Defense regulations. The procedure for obtaining such a sample is long (over one year), and costly, as well as the risk one would take at not having cooperation from the individuals once they were selected. These problems, as well as the logistics of obtaining a reasonable sample that could be efficiently assembled, justified the non-random selection from the universe of military personnel to the sample which I obtained. The second selection process, namely from the sample to the experimental condition, was conducted in a random fashion by choosing two random numbers to indicate initial position on the list and interval of selection. The initial choice in categories with more than twelve names was conducted similarly.

Instrument

The original Wallach (1967) et al, questionnaire had twelve items which were similar to the illustration offered in chapter one (page 3). In choosing the appropriate measures for my instrument, I rejected two items which, on the Wallach instrument, produced a conservative shift. Of the remaining ten items, I chose two items which had the greatest mean difference between the pre-test and the post-test. The two items selected were recreationally-oriented, and the consequence of risk was not severe. I further chose two items which had markedly lower risk scores and which also had considerable higher consequences for taking risk. The demonstrated risk on the life-issue stories was lower.

In choosing to limit the instrument to four items, I hoped to enhance the retainability of the respondents. A larger number of items would have made the required time unacceptable for an experiment in which there was no remuneration offered.

During the pilot study phase of the experiment, it was brought to my attention that some of the questions were "sexist." The specific question at which the sexist charge was leveled was the story about the captain of the college football team. The story asks what he should do: either pursuing a risky alternative or opting for the tie score. I modified that question by using a plural pronoun in place of the masculine pronoun. Further, I modified certain stories so that they would contain the same essential information, but would be less time-consuming. The instrument used in the study is found in the appendix.

Self-Assessed Risk

The questionnaire designed to measure one's assessment of one's own

risk-taking behaviors and ideas was designed as a three part questionnaire and was administered after the CDQ so as not to clue anyone to expected responses. In the first section, I asked a question which gave the respondent an opportunity to express what circumstances needed to occur in order to justify risk-taking behaviors.

The second section asked the respondent to identify which behavioral settings are situations in which they take risks. The options for this question included: financial, occupational, relational (i.e., romance), or leisure. The option was available for the individual to respond that they did not consider themselves risky at all, and therefore would not mark any of the aforementioned options. The second part of the second question was offering to the respondent a list of eight behaviors which were either considered risky or conservative. The respondent's choice of a behavior (such as playing poker) would be scored as a risky behavior, while wearing seat belts is generally considered a conservative behavior, and was scored as such.

The last part of the questionnaire asked the respondent to assess generally, how they consider themselves in terms of risk. They are then asked to specify their assessment of risk for life and death decisions, and for leisure oriented activities. This instrument had a measured reliability of .703 (Spearman-Brown).

Analysis

The CDQ is traditionally interpreted as an interval measurement (Dion, etal, 1970; Wallach, Kogan, and Bem, 1967), and as such, the analysis offered in this report will reflect that tradition. The self-assessed level of risk is nominal, in part, and ordinal in part. The analysis

utilizing the questionnaire will be partly an ordinal level of analysis.

The hypothesis offered at the end of chapter one will be examined within the following framework.

TABLE III

Variables

Hypothesis	Independent Variable	Dependent Variable
1.	Socialization	Mean Initial Risk
2.	Discussion	Shift to Risk
3.	Type of Story	Mean Initial Risk
4.	Self-Assessed Risk	Mean Initial Risk

To test the first hypothesis, I will use data collected from experimental conditions E 1, C 1, and C 2. The purpose for the exclusion of experimental condition E 2 is the fact that this group of respondents had an opportunity to discuss the incidents before making any decision. I used the pretest information for E 1 and C 1, since this reflects the initial risk-taking decision for comparison with group C 2. Since I am treating socialization as interval data, and am treating mean initial risk as interval data, I used the F-test of significance of association to determine if, in fact, there is statistical evidence for rejection of the null hypothesis, suggesting that as one's time in service increases, so does the riskiness which the individual is willing to take.

The second hypothesis states that there will be a difference in the post-test score from the pre-test, in the direction of risk. In order to test this hypothesis, I took the data from E 1 and compared it to the data from C 1. I likewise made comparisons from E 2 and C 2 to test the post-test only characteristic mentioned in chapter one. Failure to

reject the null hypothesis will suggest that there is no difference in direction or degree of a shift between those groups with discussion and those groups without discussion. Since the presence of discussion is treated intervally, I will use a t-test to determine the occurrence and statistical significance of the risky-shift.

The difference between stories one and four (those in which the consequence of risk determines someone's life or death), and two and three (where the consequences for risk might be the loss of a game) is measured in this hypothesis with a t-test of significance. Rejection of the null hypothesis would suggest that there is a difference between the amount of risk that someone will take when the stakes are interpreted as being high, and the risk they will take when the stakes are not as high. The data for the independent variable in the operationalization of this hypothesis is treated nominally, while the dependent variable is, again, treated intervally.

The major factor in testing the fourth hypothesis is the accuracy of the code which is used to interpret the results of the questionnaire. For this reason, I compared the code values which I arrived at with those arrived at by several colleagues. The consistency between coding activities demonstrated adequate reliability with a score using Spearman-Brown rank correlation coefficient of .703. The code that I used awarded the following values for coding the questionnaire.

TABLE IV
Coding for the Self-Assessed Risk Questionnaire

Question	Description	Points Awarded	Responses Given
1.	Open-ended	0 1	No response Any situation explained
2.	Risky Situation	1 (per choice)	Any choice except "none"
3.	Behavior Selection	1 (per choice)	Any choice defined as risky
4.	General Risk	3 2 1 0	Answering "yes" Answering "somewhat" Answering "no" No answer
	Specific Risk	(same as General)	

A person scoring from 12-16 points was coded as a high risk-taker. A person scoring from 8-11 points was considered a medium risk-taker, and those who scored under eight points were considered low risk-takers.

I have mentioned the general reliability of the self-assessed questionnaire. The CDQ, however, has an even higher Spearman-Brown score established by prior research at scores of .80.

I analyzed the fourth hypothesis in three ways. First, I took the composite score from the questionnaire and compared it to their mean initial score on the CDQ. To test the relationship statistically, I conducted an F-test. The test is designed to see if the mean initial score is significantly variant according to their self-assessed score. Secondly, I took the score of all respondents on the question which asked if the respondent took risks in life and death situations, and compared it to the actual results of stories one and four. Thirdly, I repeated the above procedure using the leisure stories to see the relationship between

self-assessed risk and objective measures, such as the CDQ. The F-test was used for the remaining portions of the statistical analysis outlined above. In all statistical tests, I have adopted the convention of significance at the .05 level. All calculations were done by hand.

The summary of the analysis which was performed on the various hypotheses is below in table five.

TABLE V
Hypothesis Testing

Hypothesis	Groups Used	Pre (P) or Post (Po) test Scores	Statistic
1.	E 1, C 1, C 2	P	F
2.	E 1, C 1, E 2, C 2	P, Po	t
3.	E 1, C 1, E 2, C 2	P	t
4.	E 1, C 1, E 2, C 2	P	F

Ethics

Consent Form:

For each respondent, I obtained an informed consent form. The form is located in the appendix (page 48) to this report. I read the statement to each respondent, and applied no pressure to obtain the cooperation of the respondent. The research design and informed consent form was submitted to the Institutional Review Board for the University of Nebraska, and was approved.

The general information sheet (see appendix), the informed consent form, and the CDQ were kept in a locked drawer to assure confidentiality.

Debriefing:

After the interviews, I debriefed each respondent. The debriefing took the form of:

- A) explanation of hypotheses
- B) explanation of testing devices
- C) explanation of proposed analysis
- D) explanation of appreciation for participation.

After the initial debriefing, I provided an opportunity for the respondents to ask questions about their experience.

CHAPTER THREE

Results and Discussion

Four hypotheses were examined in the investigation of the shift to risk in the military. The following chapter will provide the results of that empirical investigation which was outlined in chapter two.

Hypothesis One

There is a relationship in military respondents between the amount of socialization and the amount of risk that one will take on the CDQ.

I consider the first hypothesis to be the most significant one in military socialization, both theoretically and in terms of social and cultural ramifications. This position was explained in chapter two of this report. The contention of the first hypothesis is that there will be a measurable difference in the mean initial risk score from the CDQ for grouped socialization levels within experimental conditions (i.e., officers and enlisted people over twelve years of service were combined, as were officers and enlisted people with zero to six years of service). The rationale for combining these mixed status groups was obtaining a smaller number of groups who shared similar socialization levels. The statistical rejection of the null hypothesis will lend support to the notion that the longer one is exposed to the socialization processes of the military, the greater will be their propensity to score highly on risk-assessing instruments such as the CDQ.

The statistical examination of the aforementioned principle produced an F test with a result which was nearly twice the listed critical value for that measure ($F(df=2,69), P \leq .001$). The rejection of the null hypothesis, therefore, is statistically supported.

TABLE VI
Total and Mean Score for Experimental Conditions

Condition	Total	Mean
A E 1	64	5.33
A C 1	30	2.5
A C 2	30	2.5
D E 1	52	4.33
D C 1	54	4.5
D C 2	64	5.33
B E 1	52	4.33
B C 1	32	2.67
B C 2	62	5.17
E E 1	52	4.33
E C 1	56	4.67
E C 2	62	5.17
C E 1	70	5.83
C C 1	60	5.
C C 2	62	5.17
F E 1	56	4.67
F C 1	56	4.67
F C 2	58	4.83

Table six indicates that the means are different for the comparison groups, and in the predicted direction. The contention of the hypothesis is that there is a difference between values for military people with over 12 years and those with over 6 but less than 12, etc. By observation and statistical analysis, there is reason for rejection of the null hypothesis.

The assumption of the first hypothesis follows very closely to the assumptions of the risk as a cultural value hypothesis mentioned in chapter one. Both the risk as a cultural value and the first hypothesis of this investigation assume that the processes of socialization, or the product of socialization, elicits risk from the respondent which the respondent perceives as normatively acceptable. In other words, some facet of

military socialization enhances the tendencies of military members to pursue riskier courses of action. As mentioned in the preface, one must be cautious not to infer from the aforementioned assumption that it is the position of this report that the military is a mindless group of thrill-seekers with no rational limitations on their behaviors; rather, it is the intention of this report to suggest that the military subculture elicits measureable tendencies toward risk. It is further not the intention of this investigation to suggest that the military risk "ethic" is necessarily any more risky than the analogous civilian risk "ethic." The data, in fact, may suggest the opposite to be true (see, for example, Wallach, et al., 1963), for results on a nonmilitary culture, although no direct comparisons have been made in the literature.

It is the suggestion of this report that the situations with which the military typically deal (the transportation and use of large artillery, nuclear weaponry, and a number of very dangerous weapons) makes the consequence of risk in a military context considerably more grave. The propensity toward risk, understood in this context, has a great deal of social significance. Assuming that the longer one is socialized in the military, the greater will be their propensity towards risk, and assuming that those who have the greatest degree of socialization are also the most influential within the military subculture, one could, by extension, suggest that the most influential efforts are influenced by the most complete socialization of the risky "ethic."

The consequence, socially, of this investigation is tempered somewhat by the fact that many military decisions are made through civilian channels, or with the advice and consent of civilian authorities.

Additionally, as the military officer moves up in the rank, their roles assume a greater political influence, so at certain times in their career the military and political role are functionally inseparable (see Bletz, 1971). Nonetheless, the decisions that are solely military are influenced by risk, just as the decisions which represent consensus of political and military influences.

The second qualification of the findings described above is that the current military structure is not a total institution (ala Goffman's Asylums, 1961). With the exception of basic training, or its functional equivalent, military members are members of two cultures, as opposed to one isolated subculture. It is, therefore, inappropriate to speak of the military values as unique and totally separate from the culture at large. It is more appropriate to speak of a set of mores which are indicative of the military subculture, and of which risk is a part.

The ramifications, all qualifications aside, of risk in a military context are, nonetheless, still quite significant, in my opinion. If, for instance, a school system experienced a teacher's strike, the local economy, political environment and social structure might be temporarily rearranged. If, however, the military, or even a small part of the military, were to take that same action, the ramifications could involve international and intranational calamity.

There are a number of rival hypotheses which must be considered before attempting to draw any type of conclusion about the validation of a hypothesis via statistical examination. The possible rival explanations which will be considered in this portion of the report are: age, education, marital status, and sex. Through examining these variables, the

the relationship between socialization and risk-taking behaviors will be clarified.

As a prelude to a discussion of rival hypotheses, it should be noted that there are a number of inherent limitations which must be dealt with in dealing with a non-random initial assignment of personnel to a sample such as I used in arriving at the sample for this investigation. The results obtained in this investigation are oriented towards more-macro social trends rather than to generalization to particular cases.

As a rival explanation to the relationship between socialization and risk, one might reasonably contend that risk is related to age via the following syllogism: as socialization increases, so does one's mean CDQ score (risk); as socialization increases, so does the respondents' age; therefore, as one's age increases, so does one's risk. Certainly, it is safe to assume that, for the most part, greater socialization covaries with age, and within certain bounds, those who have been in the service longest, are the older members of the subculture. One is confronted with a difficulty in explaining that logic in reference to the proposed assertion because it is counterintuitive. It would be intuitively accurate to assert that youth covaries with risk, because the risk as a cultural value hypothesis includes the premise that our culture is looking for ways to identify with youth, one of which, they suggest, would be a risk-orientation.

The relevant information hypothesis, in rebuttal, suggests that as uncertainty decreases, risk increases. The relevant information hypothesis would suggest that as people age, they have more information about alternatives which would, in effect, reduce their uncertainty, and

increase their risk-taking propensity. Therefore, the relevant information hypothesis, which is part of the explanatory mechanisms of the Enhancement model would support the data tendencies that as one increases in amounts of exposure to a social system (and ages), their propensity towards risk would actually increase.

It might be noted, at this point, that the age range for the sample of this investigation was 29 years. The ranges of ages per category, and the mean age per category, along with information which will be used in discussing the next three rival explanations, is presented in tabular form on the next page.

TABLE VII
Demographic Characteristics
by Individual and Grouped Socialization Levels

Characteristic	Individual and Grouped Socialization Level		\bar{X}	s. d.	Range									
Age	A (officers 12+)		38.67	3.32	13(33-46)									
	D (enlisted 12+)		32.92	3.9	11(29-40)									
	A and D (12+)		35.78		17(29-46)									
	B (officers 6-12)		29.58	1.51	4(28-32)									
	E (enlisted 6-12)		25.17	3.07	9(21-30)									
	B and E (6-12)		27.38		11(21-32)									
	C (officers 0-6)		24.75	2.67	10(21-31)									
	F (enlisted 0-6)		20.5	2.61	8(17-21)									
	C and F (0-6)		22.63		14(17-31)									
	Education	A (officers 12+)		17.25	1.91	5(16-21)								
D (enlisted 12+)		15.5	2.27	6(12-18)										
A and D (12+)		16.38		9(12-21)										
B (officers 6-12)		16.33	.65	2(16-18)										
E (enlisted 6-12)		12.83	1.27	3(12-15)										
B and E (6-12)		14.52		6(12-18)										
C (officers 0-6)		16.5	.9	2(16-18)										
F (enlisted 0-6)		12.25	.45	1(12-13)										
C and F (0-6)		14.38		6(12-18)										
Category		N	%	N	%	N	%	N	%	N	%	N	%	N
	A		B		C		D		E		F		TOTAL	
Married	10	83.3	9	75.0	8	66.6	9	75.0	11	91.6	8	66.6	55	76.4
Single	2	16.6	3	25.0	4	33.3	3	25.0	1	8.3	4	33.3	17	23.6
Male	11	91.6	11	91.6	11	91.6	11	91.6	10	83.3	12	100.0	66	91.6
Female	1	8.3	1	8.3	1	8.3	1	8.3	2	16.6	0	0	6	8.3

A second rival explanation for the relationship between risk and socialization is the educational attainment of the respondent. Stoner (1961) in his original work was criticized for the use of graduate students as respondents. Dion (1971), et al., has also criticized the early risky-shift experiments for the skewedness in terms of respondents who are drawn from educational institutions, ergo are assumed to represent the upper half of the intelligence distribution. The suggestion of Dion, as well as other critics of the risky-shift methodology, is that education acts to free one from their inhibitions about risk. In the sample I am dealing with, the different educational mean attainments for the combined status groups are insignificant. The differences respectively for the first group (category A and D), the second group (category B and E), and the third group (category C and F) are 16.38, 14.52, and 14.38. This essentially indicates that the differences in the experimental design were separated educationally by the same margin as the difference between a first semester senior and a first semester sophomore in college. Thus, regardless of the plausibility of the variable, educational achievement for explaining risk, the data does not provide enough variation to effectively test the statistical significance of the relationship.

A third rival hypothesis for risk-taking may be defined in terms of marital status. The cultural justification for making a connection between marital status and risk can be seen in the case of the auto insurance agent. The business of the insurance agent is to determine the financial risk of an individual and charge them enough so that they will make a profit even if the client must take advantage of their services. Commonly, married individuals pay lower premiums because they are assumed to be less risky. Regardless of the logic of the insurance industry, in our cultural context,

marital relationship tends to bestow an image of reduced risk distinct from not being married, particularly with males. The relationship of risk to marital status cannot be measured with this data, other than to say that 76.4% of the respondents were married, and the relationship between the respondent's socialization level and risk-taking behavior provided a basis for the rejection of the null hypothesis. It is further significant to notice the distribution of married and non-married respondents in table six. Since the distribution was fairly even, it might be suggested that marital status may not be an effective rival explanation.

Lastly, sex as a variable was examined in Wallach's (1967) study. The conclusion at that time was that sex was not influential in the production of the risky-shift. Later research challenged these findings, and Marquis (1969) has even suggested that a combination of males and females tends to stalemate any group decision.

There are currently 2,220,000 members of the armed forces. Of those members, about 134,310 are female (Air Force Magazine, December, 1979). The sample I selected had 8.3% females, which exceeds the 6.6% service average. As such, it is difficult to draw any conclusions about the effect of sex on the risky-shift from the sample which I had. It is, again, noteworthy to point out the distribution of females within the sample. For the most part, the relationship was similar to the relationship of married persons to non-married persons.

Thus, the issue of age covarying with risk is theoretically accurate, even though it is counterintuitive. The experiment was not designed to discriminate differences based on age, so any suggestion that age effected risk would be unfounded. Educational attainment was examined in relation to

increasing risk, and again, the small differences in the means for grouped data provided little evidence for modifying the original relationship between risk and socialization. Since a significant proportion of the respondents were married, and the distribution of non-married to married respondents was essentially even, it is concluded that marital status in the context of this investigation had little to do with risk taken on the CDQ. The relationship of sex to risk might provide a good possibility for further research particularly as females become more influential in the military hierarchy.

The first hypothesis, therefore, was found to have a statistical rationale for rejection of the null hypothesis. In examining rival explanations, generally the data was not suited to any clear evidence; however, age was found to be theoretically and logically related to risk, despite its counterintuitive nature.

Hypothesis Two

There will be a relationship between the presence of discussion and the amount of shift across the levels of socialization.

The second hypothesis which was operationalized similarly in earlier risky-shift research efforts suggested a difference in the mean score from pretest to post-test in two conditions: where there is group discussion, and where there is no group discussion. The first two experimental conditions (i.e., experimental one and control one) were used because the hypothesis called for a pre-post test design. In each case, I subtracted the second score from the first score (pretest) and arrived at a risk-shift score. If the score was positive, that indicated that the second score was higher in risk, and lower in numerical value. The opposite is true for negative differences. Then I duplicated the procedure for the second and third person of the group. The sum of these differences became the group shift

score. The table listed below provides a diagram of the results from the group risky-shift scores.

The next step in determining the accuracy of the predictive nature of the second hypothesis was to repeat the experimental procedure for Control and Experimental group two. In this comparison, it is understood that I am not measuring the shift to risk, rather, I am measuring for familiarization as an effect on the first comparison (E 1-C 1). In other words, I am measuring the differences between situations which have two tests, and those which have only one test to examine the influence of retest sensitivity. This procedure was conceptually derived from the work of Flanders and Thistlewaite (1967). The results of the second comparison, as well, are indicated in table eight.

TABLE VIII

A Comparison of Two Experimental Design Results

Post-test only			Pre-post Test		
Item	t	df	Item	t	df
1	-2.28*	34	1	5.08***	34
2	-2.14*	34	2	2.47*	34
3	-1.65	34	3	2.35*	34
4	-4.06***	34	4	3.21**	34
all stories	-4.62***	142	all stories	2.55*	142

*p = .05

**p = .01

***p = .001

Note: The post-test only t results are negative because they represent raw scores, rather than computations as is the case in the pre-post design. When finding the difference between E 2 and C 2, predictably, the raw score of C 2 would be higher (lower risk) than E 2, and therefore the results would be negative, causing the fraction for t-test computation to also be negative. The most direct comparison would be in terms of the absolute value of t.

The results of the first comparison clearly indicate the statistical rationale for the rejection of the null hypothesis. The suggestion of such a hypothesis is that all stories, particularly one and four, demonstrated measurable shifts in the scores that were derived from their evaluations. This finding is consistent with early research. The theoretical justification for the exhibited results indicate that group discussion polarized the initial tendencies of the groups towards risk.

Thus, the evidence seems to indicate that not only are higher socialization levels associated with risk, but that also, group discussion, when the tendency is there, tends to polarize that tendency. In this experiment, the direction was definitely toward risk.

In choosing to analyze the last two experimental conditions, it was my intention to exploit the virtues of the Solomon four group design. One of those virtues is that it provides an opportunity to examine the conditions under which the respondents did not have an opportunity to be sensitized to the instrument.

In comparing the two types of experimental designs (E 1-C 1 and E 2-C 2), I found the same tendencies, but less dramatic results. From the preceding table, the results of the second comparison can be contrasted with the first comparison.

By observation, one can see the results of test-retest sensitivity. Essentially, however, the results add support to the notion that discussion enhances or polarizes initial group tendencies. One can likewise observe that stories two and three tend to be less dramatic in terms of their shift than the stories which deal with life and death. The rationale for that phenomenon can be twofold: the leisure stories (as will be

discussed later) had higher scores to begin with; and, secondly, the willingness to express a position about which the respondents were fairly certain was greater in situation where the stakes were lower. In other words, there would be more uncertainty in situations where the stakes are higher, and there would likewise be more of an inhibition of risk where the situation is uncertain. Therefore, the shifts are less dramatic where the situation is more certain by virtue of the fact that there is less at stake.

In both designs, story three had the least dramatic shift. Story three relates the situation of a football captain. There was little shift in this story because many times the idea was expressed, "If you don't win, why play?" I informally observed several times when people who were uncertain about their initial choices were presented with the logic indicated by the above statement, and would then choose a very high risk score because they did not wish to argue with the conviction of those who believed that one should play to win.

In three of the four stories the shift was more dramatic in the pre-post test design than in the post-test only design. The sole exception was story four, which was about the POW. One of the most frequent interactions which I observed with regard to this story centered on the traditional military position compared to the more modern position. Traditionally, the position was expressed that it is a POW's duty to escape at all costs. The more modern interpretation is that a POW should only escape when there is a reasonable probability of success in the escape attempt. Since this confusion was brought up in the groups with discussion, it seems reasonable that the post-test only design would display a

more dramatic shift, which, in fact, table eight suggests.

Hypothesis Three

Life issue stories will elicit lower risk than leisure oriented stories.

The third hypothesis was operationalized by taking the mean initial score for stories one and four, as well as stories two and three, and comparing them. The results suggest the position that an increase in value of the consequence will be accompanied by a decrease in the amount of risk that will be taken. I chose two stories which represented the values of: life as an invalid compared to death; and life as an abused prisoner of war compared to death by execution if caught. Then I chose two stories which indicated another set of values: winning versus tieing, and winning versus losing. The theoretical basis for this test was the relevant information hypothesis which was mentioned earlier as part of the enhancement model. Theoretically, and intuitively, one would assume that the higher the stakes, the more uncertainty there would be, and the more uncertainty there is, the less risk is "justifiable." The results in this regard were predictable.

TABLE IX

A Comparison of Life Issue versus Leisure Issue Stories

Story	\bar{X}	df	t
1	4.5		
4	4.64		
2	3.92		
3	3.83		
1 and 4	4.56		
2 and 3	3.87	386	3.83*

* $p = .001$

Thus, as the table indicates, there is statistical rationale for the rejection of the null hypothesis. The differences, accordingly, in the level of risk elicited by each story differ significantly across the sample.

Even though the results were predictable and strong, several responses from the questionnaire which I administered after the experiment, as well as from group discussion raised some doubt in my mind about the generalizability of the hypothesis in terms of which types of issues elicits more risk from a military sample. In the questionnaires, 25% of the respondents mentioned that the only justification for risk-taking behavior was severe or extreme situations. In 17 out of 72 (23.6%) responses to the questionnaire, the comment was offered that the only justification for risk is when one's family, friends, or own life is "on the line." Also a favorite response, was the idea that risk is justified when the situations are so overwhelmingly negative that one has nothing to lose. Several people in group interviews felt this way about the chess player story.

The comment was offered, that "the low-ranked guy is going to lose anyway, why shouldn't he try some razzle-dazzle and psyche him (the opponent) out!" In other words, despite the fact that statistically people took greater risks in leisure stories, their open-ended questions and the questionnaire seemed to indicate that risk should be taken more often when the situation was either beyond hope or when the situation was extremely important.

Illustrating the point which suggests that high risk should be equated with severe circumstances, were the discussions about the heart patient and his possible surgery. I held twelve group interviews about this story, and in four cases it was directly mentioned that living as an invalid was no better than dying, and was in fact worse because of the burden to the family. Several mentioned the thought that the patient had no guarantee that he would live as an invalid, therefore suggesting that their choice of risk was motivated by worst-case planning, i.e., "What did he have to lose?".

The balance of the responses to the questionnaire offered answers which will be discussed in more detail in hypothesis four.

Thus, hypothesis three yields several seeming contradictory pieces of information: first that the CDQ scores for leisure demonstrated higher risk than the life issue stories; and secondly, that the questionnaire and discussion technique for assessing risk frequently demonstrated that risk is most justified and taken in situations where the stakes are very high. The resolution of the seeming contradiction of evidence may be found in the idea that term risk takes on differing meanings when the stakes are high. In other words, when the stakes are low, then it is culturally acceptable to be risky, and to identify one's actions as such. On the

other hand, when the stakes are high it is less acceptable to be risky, even though those are the situations in which risk occurs, and even though the actions are risky, they are more justified out of desperation and lack of plausible alternatives.

Finally, one interesting point was mentioned in group discussion which I feel noteworthy. In situations involving leisure, the justification for risk was not lack of alternative, or fatalism, as in certain life issue stories, rather it was incentive to improve the chances for success. Specifically I am referring to comments made by several people in group discussion which indicated that taking the risk at, say, 10% would provide incentive for the players of the football team in story two to play even harder to increase their chance of winning to over ten per cent. Thus, the risk was used, in these cases, to stimulate the risk takers to play harder.

Hypothesis Four

There will be no significant correlation between the level of self-assessed risk and the CDQ score.

The assertion of this hypothesis is that there is no relationship between a person's self-assessed risk score, and the objective risk score as measured by the CDQ. The null hypothesis suggests that, for the most part, the semantics of risk are ambivalent culturally, and that, in fact, people are not aware that their behaviors have any real value in terms of risk. To test the relationship, I measured three specific aspects of the relationship between one's image of their riskiness, and their actual riskiness. This procedure is outlined in chapter two (page 21).

The first comparison, as suggested, supported the notion that there is no statistical basis for rejection of the null hypothesis. With an

F score of .38 ($cv = 4.92$, $p \leq .05$), there were 26 who scored themselves as high risk takers and who had a mean risk of slightly over 4. This score was riskier than those who had self-assessed totals of eight to eleven risky behaviors (medium self-risk), but the relationship, as delimited by the F test was not significant. The mean risk score for those whose self-assessed score was medium was 4.25, and for those whose self-assessed score was low, the mean response was 4.31. The distribution of respondents across the limits of high, medium, or low self-assessed risk was 26, 20, and 26 respectively.

The majority of the answers which were found of the questionnaire, discussed earlier in this report, made some reference to a balance of cost and benefits. Some responses gave actual quantitative measurements defining when risk was specifically justified (i.e., when the chances of success are 70% or better).

The major point to be understood in the analysis of the first comparison is that there were no measureable differences between those respondents who marked many behaviors which are considered risky on their questionnaire, and those who marked a few. All the responses were fairly close, and the statistical variation could reasonably be attributed to chance.

The second part of the analysis compares responses on the question, "Do you consider yourself risky in situations involving life and death?" with their objective scores on the CDQ, stories one and four. The responses are most efficiently presented in tabular form on the following page.

TABLE X

Comparison of Self-Assessed Risk, and CDQ Stories One and Four

Response	\bar{X}	F
Yes	5.15	3.02 ¹
Somewhat	4.57	
No	3.72	

These results are interesting to me, in that those who said they did consider themselves to be risky in life and death issues, actually scored lower in terms of risk (higher mean value) than did those who responded the opposite way. This suggests that even though the null hypothesis is still rejected (as predicted), there is possible some confusion as to the ability of the respondent to understand the question; or else, the measurement indicated how the respondent felt they would react, rather than did react. Many people simply do not know how they will react in situations of great stress or danger, and predictions about that behavior are notoriously inaccurate. The major issue to be considered is that there is still statistical evidence for the predicted rejection of the null hypothesis, even though the responses tend to indicate rather dramatically that those who believe themselves to be the most risky, were not the most risky in terms of their CDQ score, while those who did not believe themselves to be risky were almost 1.5 points riskier than others. The distribution for this hypothesis was 20, 30, and 27 for high, medium, and low respondents respectively.

¹Scheffé' test results of $+5.23 > \theta_1 > +4.93$, $+10.6 > \theta_2 > +8.39$.

Finally, the procedure was repeated for the leisure issue stories compared to stories two and three on the CDQ. The third comparison suggests a great deal more accuracy on the part of the respondents in terms of their ability to assess risk, even though the results were statistically insignificant. With a distribution of 27, 31, and 14 respectively, the last test yielded .95 ($p \leq .05$) for the F test. The mean values, for this comparison, differed predictably according to the category the respondent was in (i.e., self-scored high risk-taker scored highly, etc.).

The final comparison indicated that the respondents predictably chose risk levels that were consistent with their self-assessed risk, but that the differences were predictably insignificant.

In sum, I have offered statistical substantiation for the rejection of three null hypotheses: one, two, and three. The fourth hypothesis asserted the null hypothesis, that is, I believed no relationship to exist, and this, in fact was not rejected statistically.

CHAPTER IV

Summary and Conclusions

This report has been an addition to the literature which addresses the risky-shift phenomenon. Chapter one dealt specifically with the theoretical development of the risky-shift literature. In chapter one, the Enhancement Model was proposed as a viable explanation for the counterintuitive phenomenon called risky-shift. Lastly, in chapter one, a set of four hypotheses were offered which were derived from the Enhancement Model, primarily of Marquis and Reitz (1969). Chapter two defined the methodological procedures used to conduct the investigation on a non-random sample of military individuals, as well as explaining the choice of instrument and questions from the CDQ. Chapter three provided a summary of relevant results from the investigation, as well as the theoretical relevance of those results.

One of the major assumptions of this work was the gravity of military decisions, and subsequently, the importance of military decision-making. Given that assumption, the significance of an empirical investigation which seeks to evaluate the processes and decisions made in a military context is, in my opinion, clear. If one is given to the Millsian¹ interpretation of the role of the military, the significance of this investigation becomes even more clearly defined.

In pursuit of an investigation of the phenomenon of military decision making, I tested four hypotheses which dealt with a number of variables

¹ See C. Wright Mills, The Power Elite (1956). In this work, Mills posits a total integration and unquestionable network of the elite members of the military, political and economic communities, further suggesting, like Eisenhower, that America was threatened by a military-industrial complex.

such as: the mean CDQ score (initial test), the person's years in service, the influence of working in groups to arrive at a decision, the effect of familiarization with the test instrument on the score of a CDQ, the person's perception of their own risk-taking level, and the shift that occurred towards conservatism or toward risk, after having been exposed to a group discussion.

In every case, with one exception, the rejection of the null hypothesis was statistically substantiated. The sole exception followed the theoretical prediction of this report, in that hypothesis four predicted that no relationship would exist between the person's self-assessed risk score and their CDQ score. This, in fact, was generally the case. There was, however, a negative correlation between the self-assessed risk level and the person's life issue stories examined as part of the last hypothesis.

The first hypothesis was essentially derived from the cultural-value explanation and the relevant information hypothesis, as was the fourth. The second hypothesis contributed to the understanding of the enhancement principle known as polarization and the familiarization hypothesis, while the third hypothesis supported the relevant information and uncertainty reduction hypothesis.

Thus, from the Enhancement Model and its component hypotheses: familiarization, expected value-outcome, uncertainty reduction, relevant information, and cultural values, this empirical investigation was developed.

It should be noted that one major issue in the Enhancement Model literature is the explanation of leadership or persuasion influences. I chose not to deal with leadership because the intergroup structure was almost never conducive to anonymity. In other words, it would be hard for

a low-ranking person in a group to be chosen as the most influential when all group members are in uniform. Additionally, this aspect of the Enhancement Model has received considerable attention and support. For this investigation to add significantly to the knowledge about the influence of leadership, I would have needed to expand the scope of the investigation to a point where I believed I would have endangered the effectiveness of the hypotheses that I had chosen to deal with.

The risky-shift has gone through considerable modification in the past two decades since Stoner's (1961) original endeavor. Currently there is evidence to support conservative shifts for certain items, as well as a wealth of empirical information delimiting explanations for risky behaviors. It has been the objective of this report to expose some of those limits in support of a clearer investigation of military decision-making.

Further Research

A great deal of empirical research could be developed from the themes established in this report. One could certainly specify the scope of an investigation, that is, to evaluate just fighter pilots, or just infantry volunteers, for example. One could further attempt a longitudinal assessment of individuals pre- and post-service. In other words, a researcher could administer the CDQ to a pre-service volunteer at time one, administer the CDQ to the military member (during service) at time two, and administer the CDQ to the individual upon retirement or separation from the armed services. By comparing those who stayed in four years with those who stayed in longer, essentially the same types of measurements as outlined in this report could be explored.

Further, one could (possibly) obtain information on the actual

decision-making committees, and compare the results with decisions which were made by the committee. Janis' (1971) study of Groupthink could provide the theoretical basis for evaluating behaviors observed in a study of the actual decision makers. Adjustments would need to be made in interpreting the results, just as in moving from inferential to descriptive statistical analysis.

Empirical data could also be obtained from examining issues which have been assessed as eliciting conservative responses. By evaluating issues which were conservatively oriented, one would be able to gain a broader perspective on the component parts of the military risk ethic. Additionally, by sampling civilian populations, and comparing the results with military sample, a direct comparison of cultural values might be obtained.

Another variation of the themes established in this report is the comparison of real life behavior in terms of risk, and those indications of risky behavior obtained in a laboratory situation.

Lastly, a longitudinal study could be designed to test the relationship to risk in periods when the respondent was institutionalized (i.e., basic training) and in a very secure environment, and periods when the respondent was in a situation where less stringent institutional requirements could be offered.

In sum, there are a host of variables which could be tested in ways, some of which are mentioned above. Among the variables which could be investigated, and which show theoretical and cultural relevance are: type of job performed, the specific time in the person's career, and actual examinations of decision-making committees.

APPENDIX

INFORMED CONSENT FORM

The purpose of this experiment is the observation and evaluation of decision-making activities in various categories of military participants. During the study, you will be asked to listen to several stories and record your decisions in the answer booklet provided.

If you decide to participate, you will be making decisions about several situations by filling in from your own experience those details which were omitted from the original story. The total experiment should not exceed $\frac{1}{2}$ hour.

The risks to you as a participant are negligible. Any information obtained in this project will remain confidential. Your name will not be on the answer booklet, and I nor anyone else will not be able to identify your information.

Your decision to participate, or not to participate, will not prejudice your future relations with the University of Nebraska. If you decide to participate, you may feel free to withdraw your consent at any time. Finally, you should be aware that even if you have complete the exercise and should decide that you do not wish to have that data released, your request will be granted.

If you have any questions concerning this experiment, you may feel free to ask. Further, if any questions should arise after the completion of the experiment, you may contact the University of Nebraska at Omaha, Department of Sociology and Anthropology, at 554-2626, and a response will be attempted to your question.

YOU ARE MAKING A DECISION TO PARTICIPATE. YOUR SIGNATURE BELOW INDICATES THAT YOU HAVE DECIDED TO PARTICIPATE, HAVING READ THE ABOVE INFORMATION.

(Date)

Robert Wetzal
(Participant)
(Investigator)

STORY ONE:

A MAN WITH A SERIOUS HEART CONDITION MUST CURTAIL HIS USUAL ACTIVITIES SIGNIFICANTLY IF HE DOES NOT UNDERGO A DELICATE HEART OPERATION. THE OPERATION WOULD CURE HIM IF SUCCESSFUL, OR KILL HIM IF UNSUCCESSFUL.

INSTRUCTIONS: Evaluate this story on the basis of the probability of success that you would demand for yourself. On that basis, assign a probability of success for the operation for the person you are consulting, and indicate your choice according to the following scale:

mark one if you would accept a 10% chance of success.

mark three if you would accept a 30% chance of success.

mark five if you would accept a 50% chance of success.

mark seven if you would accept a 70% chance of success.

mark nine if you would accept a 90% chance of success.

mark ten if there is no way that you would recommend the operation to your client.

Circle your answer.

1 3 5 7 9 10

STORY TWO:

THE CAPTAIN OF A FOOTBALL TEAM, IN THE FINAL SECONDS OF THE GAME WITH THEIR TRADITIONAL RIVAL, MUST CHOOSE BETWEEN A PLAY THAT IS CERTAIN TO PRODUCE A TIE SCORE, OR A MORE RISKY PLAY THAT WILL LEAD TO A SURE VICTORY IF SUCCESSFUL, A SURE DEFEAT IF NOT.

INSTRUCTIONS: Evaluate this story on the basis of the probability of success that you would require before taking the risky play. Do not worry about what your last answer was, simply mark this sheet on the basis of this story. You may not look at your first story sheet.

mark 1 if you would accept a 10% chance of success.

mark 3 if you would accept a 30% chance of success.

mark 5 if you would accept a 50% chance of success.

mark 7 if you would accept a 70% chance of success.

mark 9 if you would accept a 90% chance of success.

mark 10 if there is no way you would recommend taking the riskier play.

Circle your answer:

1 3 5 7 9 10

Await further instructions, and remember, DON'T LOOK BACK, PLEASE.

STORY THREE:

A LOW-RANKED PARTICIPANT IN A NATIONAL CHESS TOURNAMENT PLAYING AN EARLY MATCH WITH A TOP-FAVORED MAN HAS A CHOICE OF TRYING A RISKY MOVE WHICH, IF SUCCESSFUL WILL LEAD TO A SURE VICTORY. IF THE MOVE IS UNSUCCESSFUL, IT WILL LEAD TO DEFEAT FOR THE LOW-RANKED PARTICIPANT.

INSTRUCTIONS: Evaluate this story on the basis of what you feel is the lowest probability that you would accept before recommending that the low-ranked participant try the risky move. REMEMBER, mark this sheet without looking at either of the previous stories.

mark 1 if you would accept a 10% chance of success.

mark 3 if you would accept a 30% chance of success.

mark 5 if you would accept a 50% chance of success.

mark 7 if you would accept a 70% chance of success.

mark 9 if you would accept a 90% chance of success.

mark 10 if you would not recommend that the player try a risky move at all.

Circle your answer:

1 3 5 7 9 10

Await further instructions.

STORY FOUR:

AN AMERICAN P.O.W. MUST CHOOSE BETWEEN POSSIBLE ESCAPE WITH THE RISK OF EXECUTION IF CAUGHT, OR REMAINING IN THE ENCAMPMENT WHERE CONDITIONS ARE VERY POOR.

INSTRUCTIONS: Evaluate this story as if you were giving advice to the P.O.W. Calculate what the lowest probability of success that you would accept would be, and make your recommendation accordingly.

mark 1 if you would accept a 10% chance of success.

mark 3 if you would accept a 30% chance of success.

mark 5 if you would accept a 50% chance of success.

mark 7 if you would accept a 70% chance of success.

mark 9 if you would accept a 90% chance of success.

mark 10 if you would not recommend the escape under any conditions.

Circle your answer:

1 3 5 7 9 10

QUESTIONNAIRE

INSTRUCTIONS:

Please answer each question according to HOW YOU FEEL ABOUT YOURSELF. There are no wrong answers. Please answer honestly and openly. Thank you!

1. Under which conditions would you feel justified in taking a risk? In other words, what does it take for you to take a risk?

2. In which situations, if any, are you the most risky? (Mark as many as apply.)

- Financial
- Occupational
- Relational
- Recreational or Leisure
- NONE

3. Identify the characteristic from the list below which you now do, or which you consider to be consistent with your personality (i.e., you would do them if you could). Mark as many as apply.

- Picking up hitchhikers
- Betting on horses
- Playing poker for money
- Motorcycling without a helmet
- Playing the stockmarket
- Smoking cigarettes, cigars, or pipes
- Wearing seat belts
- Loaning money to a business associate

4. Do you consider yourself to be a GENERALLY risky person?

YES SOMEWHAT NO

....When dealing with very important issues?

YES SOMEWHAT NO

....When dealing with leisure oriented activities?

YES SOMEWHAT NO

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