The Risky Shift Among Friends and in Arbitrarily Formed Groups

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THE RISKY SHIFT AMONG FRIENDS AND
IN ARBITRARILY FORMED GROUPS

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THE RISKY SHIFT AMONG FRIENDS AND
IN ARBITRARILY FORMED GROUPS

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Director of Thesis

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Dean of the Graduate School

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INTRODUCTION

Definition and History

Michael Wallach and Nathan Kogan (1959) devised the Choice Dilemmas Questionnaire (Appendix A) for scaling the propensity of individuals to take risks. The Choice Dilemmas Questionnaire (CDQ) requires the respondent to indicate the lowest probability of success he would accept before he would advise the central figure in each of 12 hypothetical decision situations to choose the riskier--but more attractive--of two options. Accepting slimmer chances of success (higher risks of failure) yields a lower (riskier) score. The score on a given item can range from a risky low of one chance in ten to a conservative high--in most experiments--of ten in ten, indicating refusal to take any risk at all.

Stoner (1961) arranged for subjects to discuss the 12 issues in groups and discovered that unanimous decisions were usually riskier than the mean of previous individual scores. Furthermore, after discussing the issues, individuals by themselves tended to register riskier averages than they had on the pretests. This tendency for group or individual scores to reflect increased riskiness after a discussion has been termed the "risky shift", and it has been the subject of extensive subsequent investigation. For two of the 12 hypothetical
situations, however, scores have frequently reflected less riskiness following discussion, an effect referred to as "cautious shift".

The Generality of the Group-Induced Choice

Shift on a Risk Dimension

How widespread is the risky shift phenomenon? Persons of both sexes, several nationalities, varying ages, and many vocations have shown increased riskiness after they have participated in discussions of several sorts, all of which were related to their subsequent decisions (Pruitt, 1971a, 1971b). Furthermore, simply telling people the CDQ odds others have chosen usually increases their willingness to assume risks (Bell and Jamieson, 1970; Clark, Crockett, and Archer, 1971; Murdock, Myers, and Smith, 1970; St. Jean, 1970; Stokes, 1971; Teger and Pruitt, 1967; Wallach and Kogan, 1965) and so does observing discussions of the issues or listening to recordings of them (Bell and Jamieson, 1970; Kogan and Wallach, 1967; Lamm, 1967; St. Jean, 1970). In addition, shifts have occasionally appeared on risk-oriented items other than the ones discussed (Alker and Kogan, 1968; Graham and Harris, 1969). Experimenters have gained support for the generality of the shift effect from observed increases in tangible (actual and believed) risks of pain, intellectual failure and failure in skilled performances (Wallach, Kogan, and Bem, 1964). Clausen (1965), Kogan and Zaleska (1969), Lonergan and McClintock (1961), and Pruitt and Teger
produced risky shifts by having subjects gamble in groups. With respect to subjects and treatments, then, the shift phenomenon appears to be fairly widespread.

The present study extends the generality of risky shift inquiry. Among other assumptions, theorists have questioned whether choice shifts actually occur in natural groups and in natural settings (Cartwright, 1971). It is neither feasible to manipulate nor feasible to claim to simulate group experiences, but while conditions must be contrived, associations need not be. For this reason, the present study investigates the phenomenon of the risky shift among groups of friends. Cartwright remarks that the groups examined so far "... have certain 'unnatural' properties," that they "... are created for experimental purposes and, consequently, have no history, future, established structure, or significant enduring relationships with a surrounding social system [p. 373]." He also notes: "The experimental conditions employed in research on choice dilemmas cannot be conceived as simulating any typical natural setting ... The only feasible way ..." he sees to generalize from laboratory settings to natural ones "... would seem to be through the use of theory [p. 374]." A theory will be posited here which may be unique in predicting stronger shifts in groups of friends (who have presumably made decisions together in the past) than among randomly assembled subjects who are unpracticed at making choices together. The present experiment tests that hypothesis.
A Militant Enthusiasm Theory of the Risky Shift

The present study proposes to interpret risky shift as a special case of naturalist Konrad Lorenz' (1963) concept of "militant enthusiasm." Militant enthusiasm is the "communal aggression" which groups of primates display in the face of danger or competition. It is a phylogenetically programmed response which appears to bear a clear resemblance to the enhancement of risk taking in groups. Militant enthusiasm, according to Lorenz, heightens the readiness of humans to espouse causes or values just as it mobilizes "team spirit" among troops of apes.

A group incites its members to defend or advance the group by virtue of regular roles and routines. For instance, ethologists have observed that chimpanzees whoop, leap about, wave their arms, and beat the ground in a manner reminiscent of human cheerleaders to urge the troop's dominant males into action against an enemy. Baboon leaders encourage each other by making progressively closer thrusts at an enemy. The chief baboon attacks first, followed by successive subordinates. The observation that baboons have killed large cats by concerted attacks, sacrificing one or more of their number to protect the group testifies to the risk-taking character of "prehuman chauvinism". Apparently, species perpetrate this mechanism by which groups enhance their members' readiness to take risks in the face of adversity.
1. Extending ethological concepts to verbal behavior.

How can this mechanism be applied to the risky shift paradigm? Pretending to advise the hypothetical person in one of these dilemmas is reasoned to generate (through projection) processes similar to those generated by actual risks. After all, most measures of typical performance rely on the subject's putting himself in imaginary situations, and Kogan and Wallach (1964) did intend for their CDQ dilemmas to represent "situations which are likely to occur in everyday life [p. 256]." Each discussant puts himself in the place of the hypothetical central figure so that the group acts in the behalf of the imaginary person and vests him with its strength of numbers and organization. This collective projection even applies to subjects who only observe discussions or receive reports of others' choices. They act as constituents of a remote or hypothetical communion. Pruitt (1971a) remarks that it is just as possible for people to imagine unheard arguments when told of decisions as it is for others to surmise fellow subjects' undisclosed positions from their arguments.

How is a CDQ decision like facing actual risks? Although responses to a CDQ item spread rather evenly across the possible risk levels (Cecil, 1967), the majority of subjects do elect to take the riskier course of action if given even a small chance of success. Only a minority advises the hypothetical person to refuse to try to gain the advantage no
matter how small the risk. The question is seldom whether to take a chance; it is usually a question of what odds to accept. This situation parallels the dilemma of a chimpanzee troop when it meets a threat. There is an implicit resolve in many instances to meet the challenge—to take the risk. The task of the group is to ensure that its members dare to act. Risks which are actually voluntarily assumed seem to impose themselves on the group, and their undertaking seems to be for the sake of the group, one of its members, or even its advisee.

Furthermore, as Festinger's (1957) cognitive dissonance theory postulates, once people set on a course of action, it attracts them more strongly than alternate courses do. "All obstacles in its path become unimportant," says Lorenz. "Rational arguments against the behavior dictated by militant enthusiasm are silenced...[p. 260]." Moscovici and Zavalloni (1969) contend that the risky-shifting subject also "...binds himself to the choice and thus commits himself...[p. 127]." This contention is compatible with the evidence that hypothetical situations in the CDQ which yield initially riskier scores also provoke more radical shifts (Teger and Pruitt, 1967).

2. The parallel between militant enthusiasm and the value theories of the risky shift.

Lorenz identified several conditions which are prerequisite to the triggering of militant enthusiasm. Parallel conditions surround the
occurrence of the risky shift effect. "First of all," Lorenz stipulates, "a social unit with which the subject identifies himself must appear to be threatened by some danger from outside [p. 263]." It has already been argued that CDQ discussants tend to regard a risky course of action as an unavoidable challenge or threat. The most commonly accepted explanations of the risky shift, the "value theories," suggest that what is threatened in the course of a CDQ discussion is failure to achieve the goal contingent upon choosing the riskier alternate. CDQ goals have hedonistic values for the imaginary central figure, and these values are described by both the value theorists (Nordhøy, 1962) and by Lorenz as being widely held in the culture of the group--victory in chess and football, a happy marriage, sound financial investment, personal health, etc. Brown (1965) postulates that among the values threatened in the CDQ situation is the taking of risk itself, a notion which has enjoyed considerable support. Lamm, Schause, and Trommsdorf (1971), for example, found that subjects admired CDQ positions which were riskier than their own and believed their peers were more cautious than themselves. Jellison and Riskind (1970) found that people see riskiness as a sign of ability and that riskier persons are more eager to show their ability than cautious ones. As in Festinger's (1954) social-comparison theory, everyone wants to be somewhat more able than the people around him. Able people succeed.
They are rewarded. They appear confident. A person must try in order to succeed, and his attempts entail risks. Therefore, confident, competent people take risks and are rewarded by success, sustaining Brown's assertion that people value risk for its own sake as well as for its consequences.

Besides being associated with competence, many risks pay off often enough to sustain their emission, while people seldom perceive the avoidance of failure as equally gratifying. Consequently, people are more likely to take risks than risks are likely to succeed. The respondent seems to bet that he will "beat" the odds he chooses by virtue of his own luck or--again--ability. If he were truly rational in setting the probability of the success of the risky alternate, that probability would actually register the "subjective expected utilities" of the status quo and the potential gain and loss (Burnstein, Miller, Vinokur, Katz, and Crowley, 1971). Statistical decision strategies balance values and probabilities according to a logical formula, and Kogan and Wallach (1964), in their study showing CDQ correlations with other measures of risk taking and other organismic variables, found that people who are not anxious or defensive optimize their risk taking according to contextual cues. Most people, however, evidently expect to succeed more often than the odds predict.

As in militant enthusiasm, CDQ discussion groups are thought to enhance their members' propensity toward risk taking. Brown (1965)
demonstrated that each member of a group tries to maintain a stance which is slightly riskier than the group average, and Pruitt (1969) presented evidence that persons are released from cautious sanctions by their surprising discovery that others sanction riskier (more ideal) positions. Just as dominant apes pass closer and closer to a threatening agent, CDQ discussants risk riskier and riskier opinions. Venturing a riskier stance in the group--it is theorized--constitutes a claim for status (dominant apes attack first) at the risk of rebuff. Consensual validation reciprocally reinforces risk taking and could account for the almost significant increases in self-esteem following risky shifts reported by Lamm, Schaude, and Trommsdorf (1971). In parallel, Lorenz (1963) says that militant enthusiasm "engenders a specific feeling of intense satisfaction [p. 262]." Reciprocal reinforcement may arise from arguments supporting "...values commonly accepted in the culture...[p. 4]" (Nordhøy, 1962) and provide the "affective interdependences" which Wallach and Kogan (1965) believe "...leads individuals to feel linked, to at least some extent, in a common fate. Such a sense of connectedness seems to depend crucially on the element of discussion [p. 17]." It seems possible that by imitation of others' self-presentations of confidence, a cooperative effect is generated through competition. People dare each other to act bravely and encourage each other by incrementally assuming riskier and riskier stances.
3. **Leadership in militant enthusiasm**

and the **risky shift**.

A second prerequisite for triggering militant enthusiasm is "an inspiring leader figure" (Lorenz, 1963), a notion which has proven parallels in the risky shift phenomenon. Burnstein (1969) found that the riskiest discussant on a particular item possesses greater confidence about his position than his middling colleagues and that he influences them through his self-assertion. Clausen (1965) sustained this finding with a gambling measure of risk. Burns (1967) was able to predict a major portion of the decisions in one study by applying the proposition that moderate risk-takers adopt positions nearer the more extreme members who are also more confident and steadfast. Burns' study complemented Vidmar's (1970) claim that the extent of differences of opinion among members of a group at the outset of a discussion, and not their average riskiness on each CDQ item, is correlated with the strength of their shifts on each item. Ellis, Spencer, and Oldfield-Box (1969), indeed, observed no shift in groups whose constituents held identical opinions on every issue. As Castore, Peterson, and Goodrich (1971) reported, stronger shifts appear to occur in those of their groups which included highly confident risk takers.
4. **Group size and the strength of militant enthusiasm and the risky shift.**

Another prerequisite for militant enthusiasm is number. As Lorenz states, "... excitation grows in proportion ... with the increasing number of individuals ... all agitated by the same emotion [p. 264]." Similarly, the magnitude of risky shifts increases with the number of participants. Although Lamm, Schaude, and Trommsdorf (1971) produced risky shifts in groups of two, Teger and Pruitt (1967) demonstrated that group size is positively related to the strength of the shift.

**Implications of the Militant Enthusiasm Theory for Natural and Random Groups**

The theory outlined above may be little more than a compendium of appealing analogies. The thesis that CDQ discussions literally constitute verbal versions of militant enthusiasm is scarcely an inexorable one. Nevertheless, the parallels between the two phenomena merge into one pertinent implication: By comparison with arbitrary groups, friends are expected to enact mutual encouragement, leadership, and reciprocal support under stress with greater cohesiveness and proficiency, since they have enacted these role relationships together in the past. All previous risky research has employed groups of
arbitrarily assembled subjects, and in some instances, researchers have even taken measures to prevent placing friends in the same groups (Johnson and Andrews, 1971). Relative to groups of friends, these groups seem likely to engender little cohesiveness and afford little opportunity for the enactment of leadership roles. Therefore, it is predicted that groups of friends will display greater shifts toward riskiness after discussing the CDQ issues than will randomly associated subjects (who are expected to display risky shifts of some magnitude).
METHOD

Design

The hypothesis was tested by means of a 2 x 2 posttest-only factorial design as depicted in Table 1.

TABLE 1

2 x 2 FACTORIAL DESIGN COMPARING THE EFFECTS OF DISCUSSION OF THE CDQ TO NO DISCUSSION IN RANDOM TRIADS AND TRIADS OF FRIENDS

Discussion Factor

<table>
<thead>
<tr>
<th>Controls (Non-Discussants)</th>
<th>Discussants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triads of Friends</td>
<td></td>
</tr>
<tr>
<td>Triad 1</td>
<td>Triad 1</td>
</tr>
<tr>
<td>Triad 2</td>
<td>Triad 2</td>
</tr>
<tr>
<td>Triad 3</td>
<td>Triad 3</td>
</tr>
<tr>
<td>Triad 4</td>
<td>Triad 4</td>
</tr>
<tr>
<td>Triad 5</td>
<td>Triad 5</td>
</tr>
<tr>
<td>Group Composition</td>
<td></td>
</tr>
<tr>
<td>Randomly Selected Triads</td>
<td></td>
</tr>
<tr>
<td>Triad 1</td>
<td>Triad 1</td>
</tr>
<tr>
<td>Triad 2</td>
<td>Triad 2</td>
</tr>
<tr>
<td>Triad 3</td>
<td>Triad 3</td>
</tr>
<tr>
<td>Triad 4</td>
<td>Triad 4</td>
</tr>
<tr>
<td>Triad 5</td>
<td>Triad 5</td>
</tr>
</tbody>
</table>

Five triads (groups of three subjects each) were assigned to each cell.

The members of half of these triads selected their friends to be their fellow members. The experimenter randomly formed the other ten triads.
Within half of the triads of friends and within half of the random triads, the members discussed the hypothetical situations and then completed the Choice Dilemmas Questionnaire individually. The remaining subjects served as controls by merely completing the questionnaire without discussing its contents. Since there was no reason to expect any differences in riskiness between friends who did not discuss the issues and random non-discussants, the predicted relationship between the mean levels of riskiness for the subjects of the four cells were as illustrated in Figure 1.

FIGURE 1

PREDICTED CDQ-SCORE COMPARISONS BETWEEN FRIENDS AND RANDOMLY ASSOCIATED SUBJECTS FOLLOWING DISCUSSION AND CONTROL TREATMENTS

Higher Riskiness

Discussants

Non-Discussants (Control)

Lower Riskiness

Random Triads

Triads of Friends

Group Composition
Such findings would indicate that a "shift" toward greater riskiness had occurred for both the triads of friends and the random triads who had engaged in discussions, though the greater shift had occurred for the friends.

**Instrument**

This study employed the Kogan-Wallach (1964) Choice Dilemmas Procedure. The CDQ was printed in the form of a booklet (Appendix A). Each situation—with the omission of CDQ Items 5 and 12—was described on a separate page. Items 5 and 12, however, were printed on the first two pages of the CDQ booklets as examples. Answer booklets were printed separately from the booklets describing the dilemmas. A mark indicating refusal to advise the riskier course of action was counted as 11 in 10 chances of success so that the odds scale had equal intervals (1 in 10, 3 in 10, 5 in 10, 7 in 10, 9 in 10, and 11 in 10). Consequently, the lowest possible score for each subject would be 10, the highest 110, and the range 100. By subtracting every score from 110, a percentage score was obtained whereby 0 equals the most conservative possible score and 100 equals the riskiest possible score. Such a percentage score has not been employed in previous studies, but it does not alter the basic nature or the meaning of the CDQ scores. The standard CDQ instructions were replaced by those in Appendix B. These revised instructions were developed for improved clarity for
younger subjects by testing them on small subject samples prior to the experiment.

**Procedure**

The participants were 60 summer session juniors and seniors at Clarksville, Tennessee, High School. Twenty-nine were male. Thirty-one were female. All 60 volunteers assembled in a lecture hall, and each received one white card and one colored card. They printed their names in large letters on these cards, then the experimenter collected the cards and displayed the white cards on a table just outside the room so that all 60 names could be easily read. The experimenter used the colored cards to make random selections. Ten participants were drawn at random and served as nuclei for the natural (self-selected groups). The procedure for self-selection was to call a nucleus subject to the display table and ask him to choose the person still inside the lecture room whom "he knew best" to join him. The person of his choice was also to be a person whom he preferred, associated with frequently, had known for more than a short time, considered a personal friend, and who belonged to the nucleus subject's group of friends. Not all of these criteria could be met for all cases, but the best combination was required with the stress (made by repetition) on the factor of "how well" the chosen person was known. This chosen person was called out of the lecture room to join the nucleus
subject in the mutual choice of a third person by the same standard.

When a group was formed and sent away from the selection area, its members' cards were removed from the display so that their names could not be chosen in subsequent selections. When 30 subjects had formed ten "natural" groups, the remaining 30 display cards were shuffled and randomly divided into threes for forming the "random" groups. The experimenter directed every other triad to one room for the discussion treatment and the alternate triads to another room for the control conditions. One member of each discussant triad received three inconspicuously marked CDQ booklets and was asked to hold all of them for the group's later use and not to read the material until instructed. Each of the non-discussants received one CDQ booklet and one answer booklet and was asked not to look at his booklets until directed. The answer booklets also bore inconspicuous marks. These marks identified the materials according to triad membership and treatment condition.

When each group reached its assigned room, an assistant stationed there seated it at a separate table well removed from the others to obviate communication between groups. The assistant asked the subjects to place their CDQ materials face-down on their respective tables and to wait for instructions. The experimenter administered the instructions in Appendix B en masse in both rooms and left the assistant in each room to oversee their execution.
The discussion instructions charged the discussants to limit their conversations to their respective groups and to discuss only the CDQ situations—the two examples first, then the ten actual test items. At five-minute intervals, the assistant told the subjects to proceed to the next discussion item and so on until all of the situations had been discussed. Nothing was mentioned about acceptable odds or group decisions until after the discussions. The subjects were simply to give each other their reasons for choosing the safe or risky alternates.

Both the discussants and the control subjects received detailed instructions concerning the meaning of the probability choices and were urged to fill out their answer booklets independently. After all subjects had completed the task, the assistants collected all materials and the experimenter debriefed the subjects and thanked them for their participation.

Analysis of Results

As described above, each subject received a single "riskiness" score on the Choice Dilemmas Questionnaire. A 2 x 2 x 5 analysis of variance was applied to these scores. In keeping with the anticipated relation between means illustrated in Figure 1, results consistent with the hypotheses would be revealed as a significant main effect on the discussion factor, and a significant interaction between the discussion and group composition factors.
RESULTS

Table 2 shows the means of the scores (higher = riskier) for the four experimental conditions representing the interaction between the composition factor and the discussion factor.

**TABLE 2**

MEAN LEVELS OF RISKINESS FOR TRIADS OF FRIENDS AND RANDOM TRIADS AS A FUNCTION OF DISCUSSION

<table>
<thead>
<tr>
<th>Group Composition</th>
<th>Non-Discussion</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triads of Friends</td>
<td>53.73</td>
<td>39.79</td>
</tr>
<tr>
<td>Random Triads</td>
<td>46.66</td>
<td>51.19</td>
</tr>
</tbody>
</table>
The analysis of variance summarized in Table 3 shows that there were no significant main effects but that the interaction between group composition and discussion was highly significant ($F = 8.35$, $df = 1/40$, $p < .01$).

**TABLE 3**

**ANALYSIS OF VARIANCE SUMMARY TABLE**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion</td>
<td>1</td>
<td>70.417</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Composition</td>
<td>4</td>
<td>331.350</td>
<td>2.42</td>
</tr>
<tr>
<td>Triads</td>
<td>1</td>
<td>73.600</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Disc. x Comp.</td>
<td>4</td>
<td>1278.816</td>
<td>8.35*</td>
</tr>
<tr>
<td>Disc. x Triads</td>
<td>4</td>
<td>70.677</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Disc. x Comp. x Triads</td>
<td>4</td>
<td>86.100</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Error</td>
<td>40</td>
<td>84.224</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>141.116</td>
<td></td>
</tr>
</tbody>
</table>

*P < .01
However, as Figure 2 indicates, the pattern of means which produced this interaction was not the predicted one.

FIGURE 2
MEAN RISKINESS OF RANDOMLY ASSIGNED SUBJECTS AND FRIENDS IN THE DISCUSSION AND CONTROL CONDITIONS
As the t-tests in Table 4 indicate, the randomly assembled discussants were not significantly riskier than the randomly assembled non-discussants but, contrary to prediction, the discussant friends were significantly more cautious than both their non-discussant counterparts and the randomly assigned discussants.

**TABLE 4**

TESTS OF SIGNIFICANCE OF THE COMPARISONS OF THE GROUP COMPOSITION AND DISCUSSION MEANS

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Difference</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussant Friends - Control Friends</td>
<td>-13.94</td>
<td>3.20*</td>
</tr>
<tr>
<td>Random Discussants - Random Controls</td>
<td>4.53</td>
<td>1.04</td>
</tr>
<tr>
<td>Random Discussants - Discussant Friends</td>
<td>11.40</td>
<td>2.62**</td>
</tr>
<tr>
<td>Control Friends - Random Controls</td>
<td>7.07</td>
<td>1.62</td>
</tr>
</tbody>
</table>

*p. < .01

**p. < .05**
DISCUSSION

Two aspects of the present study challenge the generality of the risky-shift effect. The first of these is the failure to obtain a risky shift for arbitrarily assembled subjects using a between-groups posttest-only design. Only two previous risky-shift experiments have used between-group designs instead of the standard pretest-posttest paradigm (Pruitt, 1971b). The arbitrarily assembled discussants in these two experiments (Carlson and Davis, 1971; McCauley, Teger, and Kogan, 1971) as well as those in the present experiment exceeded their control counterparts in riskiness by only a non-significant margin. The two previous posttest-only studies also interjected three additional requirements into their groups' decision-making: the achievement of group consensus, the manifest acceptance of specific levels of risk, and individual choices of odds prior to any collective consideration of the problems. The deletion of these requirements from the present study was expected to facilitate risky shifts, but these shifts still did not occur. The posttest-only design seems to more closely approximate real-life decision making.

Secondly, the cautious shift among groups of friends was not anticipated, therefore this discussion can do no better than offer a few
plausible but post hoc explanations for it. There is some evidence that group cohesiveness has at least a restraining effect on shifts toward increased risk. And it may be that the singular cohesiveness which is presumed to characterize groups of friends can, in fact, reverse the tendency to assume greater risks in groups. Dion, Miller, and Magnan (1971) found that in groups whose cohesiveness is supposed to have been enhanced by telling their members they had been combined on the basis of similar backgrounds and personalities, smaller risky shifts occurred than in groups whose members were told they were not expected to be very congenial.

One aspect of cohesiveness which might precipitate the cautious shift is the homogeneity of the opinions of group members. Friends probably hold more similar opinions and inclinations than transient associates and may be able to estimate more accurately what odds their fellows will choose. Consequently, they may furnish each other less new information than do transient groups about "where others stand"—information which is regarded by the value theories as being prerequisite to risky shifts.

Perhaps the most significant aspect of group cohesiveness as far as risky shift is concerned is that of responsibility. Quite possibly the stronger sense of responsibility within groups of friends makes these subjects more cautious. One of the earliest explanations of the risky shift—the diffusion-of-responsibility model (Wallach, et. al., 1964)—attributed the
increased riskiness in collective decisions to the attenuation of anxiety about the blame which redounds from adverse outcomes. More or less equally, every participant must answer for the consequences of a collective decision, so the responsibility for failure is transferred from the individual to the group. According to responsibility-diffusion theory, sharing the blame diminishes it for the individual, but it should be noted that sharing the consequences of a group decision does not necessarily ameliorate them. Furthermore, it would seem that among friends, potential failure threatens not only individuals but also those whom they care about and feel responsible for. Consequently, the possibility that aversive consequences will be shared augments their threatening character. The diffusion-of-responsibility model rests on the assumption that people want to spread the blame for errors of judgment. It seems likely, however, that members of continuing and cohesive groups are more concerned with protecting themselves and their fellow members from harm or hardship.

The argument that social responsibility brings about cautious shifts among friends benefits from several precedents. Dion, Miller, and Magnan (1971) conjecture that it is easier for people to let strangers than to let friends shoulder the suffering incident to risk-taking
failures. They also suggest that responsibility is incumbent upon rank and is not borne equally by all members of a group. They cite Jones and Gerard's (1967) contention that structural factors such as leadership and other organizational roles inhibit risky shifts. This presumption is supported by Wallach, Kogan, and Bem's (1964) finding that making a person responsible for others makes that person in authority more conservative. Dion, et. al., have also presented evidence that social responsibility inhibits the risky shift in groups who assume that their advice is binding compared to groups who assume that their CDQ advisees have the right to reject the recommendations of the group. It is reasonable to infer from these findings that the inhibition of risk taking is stronger if the advisee is a standing member of a natural group commissioned to counsel him.

A similar inference can be drawn about Stokes' (1971) notion that the cautious-shifting CDQ issues (Items 5 and 12--omitted from the present study) "... carry more consequences, both beneficial and adverse, for persons other than the central character (e.g. a wife or family) than do risky items [p. 405]." If responsibility to imagined others in hypothetical circumstances can deter risk taking, then risks involving persons to whom a person is actually responsible could very well induce the person to take smaller risks that he would without the influence of such affiliations.
Again, the upshot of the present study is to question the external validity of the risky shift phenomenon. Further studies of natural groups and the manipulation of reciprocal responsibilities within discussion groups might help unravel the theoretical quandaries engendered by risky-shift research.
APPENDIX A

CHOICE DILEMMAS QUESTIONNAIRE BOOKLET AND ANSWER SHEET

Booklets were made by printing copies of 8 1/2" by 11" pages with one item on the upper section of each page and another on its lower section, then cutting across the middle of each page to produce two 8 1/2" by 5 1/2" pages as indicated by the dotted lines. The booklets were stapled together--twelve pages per booklet with two example items and ten scored items per booklet.
EXAMPLE: A

Mr. M is contemplating marriage to Miss T, a girl whom he has known for a little more than a year. Recently, however, a number of arguments have occurred between them, suggesting some sharp differences of opinion in the way each views certain matters. Indeed, they decide to seek professional advice from a marriage counselor as to whether it would be wise for them to marry. On the basis of these meetings with a marriage counselor, they realize that a happy marriage, while possible, would not be assured.

EXAMPLE: B

Mr. E is president of a light metals corporation in the United States. The corporation is quite prosperous, and has strongly considered the possibilities of business expansion by building an additional plant in a new location. The choice is between building another plant in the U.S., where there would be a moderate return on the initial investment, or building a plant in a foreign country. Lower labor costs and easy access to raw materials in that country would mean a much higher return on the initial investment. On the other hand, there is a history of political instability and revolution in the foreign country under consideration. In fact, the leader of a small minority party is committed to nationalizing, that is, taking over, all foreign investments.
Mr. A, an electrical engineer, who is married and has one child, has been working for a large electronics corporation since graduating from college five years ago. He is assured of a lifetime job with a modest, though adequate, salary, and liberal pension benefits upon retirement. On the other hand, it is very unlikely that his salary will increase much before he retires. While attending a convention, Mr. A is offered a 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.

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Mr. B, a 45-year-old accountant, has recently been informed by his physician that he has developed a severe heart ailment. The disease would be sufficiently serious to force Mr. B to change many of his strongest life habits—reducing his work load, drastically changing his diet, giving up favorite leisure-time pursuits. The physician suggests that a delicate medical operation could be attempted which, if successful, would completely relieve the heart condition. But its success could not be assured, and in fact, the operation might prove fatal.
3. Mr. C, a married man with two children, has a steady job that pays him about $6000 per year. He can easily afford the necessities of life, but few of the luxuries. Mr. C's father, who died recently, carried a $4000 life insurance policy. Mr. C would like to invest this money in stocks. He is well aware of the secure "blue-chip" stocks and bonds that would pay approximately 6% on his investment. On the other hand, Mr. C has heard that the stocks of a relatively unknown Company X might double their present value if a new product currently in production is favorably received by the buying public. However, if the product is unfavorably received, the stocks would decline in value.

4. Mr. D is the captain of College X's football team. College X is playing its traditional rival, College Y, in the final game of the season. The game is in its final seconds, and Mr. D's team, College X, is behind in the score. College X has time to run one more play. Mr. D, the captain, must decide whether it would be best to settle for a tie score with a play which would be almost certain to work or, on the other hand, should he try a more complicated and risky play which could bring victory if it succeeded, but defeat if not.
5. Mr. F is currently a college senior who is very eager to pursue graduate study in chemistry leading to the Doctor of Philosophy degree. He has been accepted by both University X and University Y. University X has a world-wide reputation for excellence in chemistry. While a degree from University X would signify outstanding training in this field, the standards are so very rigorous that only a fraction of the degree candidates actually receive the degree. University Y, on the other hand, has much less of a reputation in chemistry, but almost everyone admitted is awarded the Doctor of Philosophy degree, though the degree has much less prestige than the corresponding degree from University X.

6. Mr. G, a competent chess player, is participating in a national chess tournament. In an early match he draws the top-favored player in the tournament as his opponent. Mr. G has been given a relatively low ranking in view of his performance in previous tournaments. During the course of his play with the top-favored man, Mr. G notes the possibility of a deceptive though risky maneuver which might bring him a quick victory. At the same time, if the attempted maneuver should fail, Mr. G would be left in an exposed position and defeat would almost certainly follow.
7. Mr. H, a college senior, has studied the piano since childhood. He has won amateur prizes and given small recitals, suggesting that Mr. H has considerable musical talent. As graduation approaches, Mr. H has the choice of going to medical school to become a physician, a profession which would bring certain prestige and financial rewards; or entering a conservatory of music for advanced training with a well-known pianist. Mr. H realizes that even upon completion of his piano studies, which would take many more years and a lot of money, success as a concert pianist would not be assured.

8. Mr. J is an American captured by the enemy in World War II and placed in a prisoner-of-war camp. Conditions in the camp are quite bad, with long hours of hard physical labor and a barely sufficient diet. After spending several months in this camp, Mr. J notes the possibility of escape by concealing himself in a supply truck that shuttles in and out of the camp. Of course, there is no guarantee that the escape would prove successful. Recapture by the enemy could well mean execution.
9. Mr. K is a successful businessman who has participated in a number of civic activities of considerable value to the community. Mr. K has been approached by the leaders of his political party as a possible congressional candidate in the next election. Mr. K's party is a minority party in the district, though the party has won occasional elections in the past. Mr. K would like to hold political office, but to do so would involve a serious financial sacrifice, since the party has insufficient campaign funds. He would also have to endure the attacks of his political opponents in a hot campaign.

10. Mr. L, a married 30-year-old research physicist, has been given a five-year appointment by a major university laboratory. As he contemplates the next five years, he realizes that he might work on a difficult, long-term problem which, if a solution could be found, would resolve basic scientific issues in the field and bring high scientific honors. If no solution were found, however, Mr. L would have little to show for his five years in the laboratory, and this would make it hard for him to get a good job afterwards. On the other hand, he could, as most of his professional associates are doing, work on a series of short-term problems where solutions would be easier to find, but where the problems are of lesser scientific importance.
EXAMPLE: A

Imagine that you are advising Mr. M and Miss T. Listed below are several probabilities or odds that their marriage would prove to be a happy and successful one.

Please check the lowest probability that you would consider acceptable for Mr. M and Miss T to get married.

_____ Place a check here if you think Mr. M and Miss T should not marry, no matter what the probabilities.
_____ The chances are 9 in 10 that the marriage would be happy and successful.
_____ The chances are 7 in 10 that the marriage would be happy and successful.
_____ The chances are 5 in 10 that the marriage would be happy and successful.
_____ The chances are 3 in 10 that the marriage would be happy and successful.
_____ The chances are 1 in 10 that the marriage would be happy and successful.

EXAMPLE: B

Imagine that you are advising Mr. E. Listed below are several probabilities or odds of continued political stability in the foreign country under consideration.

Please check the lowest probability that you would consider acceptable for Mr. E's corporation to build a plant in that country.

_____ The chances are 1 in 10 that the foreign country will remain politically stable.
_____ The chances are 3 in 10 that the foreign country will remain politically stable.
_____ The chances are 5 in 10 that the foreign country will remain politically stable.
_____ The chances are 7 in 10 that the foreign country will remain politically stable.
_____ The chances are 9 in 10 that the foreign country will remain politically stable.
_____ Place a check here if you think Mr. E's corporation should not build a plant in the foreign country, no matter what the probabilities.
1. Imagine that you are advising Mr. A. Listed below are several probabilities or odds of the new company's proving financially sound.

Please check the lowest probability that you would consider acceptable to make it worthwhile for Mr. A to take the new job.

_______ The chances are 1 in 10 that the company will prove financially sound.
_______ The chances are 3 in 10 that the company will prove financially sound.
_______ The chances are 5 in 10 that the company will prove financially sound.
_______ The chances are 7 in 10 that the company will prove financially sound.
_______ The chances are 9 in 10 that the company will prove financially sound.
_______ Place a check here if you think Mr. A should not take the new job no matter what the probabilities.

2. Imagine that you are advising Mr. B. Listed below are several probabilities or odds that the operation will prove successful.

Please check the lowest probability that you would consider acceptable for the operation to be performed.

_______ Place a check here if you think Mr. B should not have the operation no matter what the probabilities.
_______ The chances are 9 in 10 that the operation will be a success.
_______ The chances are 7 in 10 that the operation will be a success.
_______ The chances are 5 in 10 that the operation will be a success.
_______ The chances are 3 in 10 that the operation will be a success.
_______ The chances are 1 in 10 that the operation will be a success.
3. Imagine that you are advising Mr. C. Listed below are several probabilities or odds that Company X stocks will double their value.

Please check the lowest probability that you would consider acceptable for Mr. C to invest in Company X Stocks.

- The chances are 1 in 10 that the stocks will double their value.
- The chances are 3 in 10 that the stocks will double their value.
- The chances are 5 in 10 that the stocks will double their value.
- The chances are 7 in 10 that the stocks will double their value.
- The chances are 9 in 10 that the stocks will double their value.
- Place a check here if you think Mr. C should not invest in Company X stocks, no matter what the probabilities.

4. Imagine that you are advising Mr. D. Listed below are several probabilities or odds that the risky play will work.

Please check the lowest probability that you would consider acceptable for the risky play to be attempted.

- Place a check here if you think Mr. D should not attempt the risky play no matter what the probabilities.
- The chances are 9 in 10 that the risky play will work.
- The chances are 7 in 10 that the risky play will work.
- The chances are 5 in 10 that the risky play will work.
- The chances are 3 in 10 that the risky play will work.
- The chances are 1 in 10 that the risky play will work.
5. Imagine that you are advising Mr. F. Listed below are several probabilities or odds that Mr. F would be awarded a degree at University X, the one with the greater prestige.

Please check the lowest probability that you would consider acceptable to make it worthwhile for Mr. F to enroll in University X rather than University Y.

- Place a check here if you think Mr. F should not enroll in University X, no matter what the probabilities.
- The chances are 9 in 10 that Mr. F would receive a degree from University X.
- The chances are 7 in 10 that Mr. F would receive a degree from University X.
- The chances are 5 in 10 that Mr. F would receive a degree from University X.
- The chances are 3 in 10 that Mr. F would receive a degree from University X.
- The chances are 1 in 10 that Mr. F would receive a degree from University X.

6. Imagine that you are advising Mr. G. Listed below are several probabilities or odds that Mr. G's deceptive play would succeed.

Please check the lowest probability that you would consider acceptable for the risky play in question to be attempted.

- The chances are 1 in 10 that the play would succeed.
- The chances are 3 in 10 that the play would succeed.
- The chances are 5 in 10 that the play would succeed.
- The chances are 7 in 10 that the play would succeed.
- The chances are 9 in 10 that the play would succeed.
- Place a check here if you think Mr. G should not attempt the risky play, no matter what the probabilities.
7. Imagine that you are advising Mr. H. Listed below are several probabilities or odds that Mr. H would succeed as a concert pianist.

Please check the lowest probability that you would consider acceptable for Mr. H to continue with his musical training.

_____ Place a check here if you think Mr. H should not pursue his musical training, no matter what the probabilities.
_____ The chances are 9 in 10 that Mr. H would succeed as a concert pianist.
_____ The chances are 7 in 10 that Mr. H would succeed as a concert pianist.
_____ The chances are 5 in 10 that Mr. H would succeed as a concert pianist.
_____ The chances are 3 in 10 that Mr. H would succeed as a concert pianist.
_____ The chances are 1 in 10 that Mr. H would succeed as a concert pianist.

8. Imagine that you are advising Mr. J. Listed below are several probabilities or odds of a successful escape from the prisoner-of-war camp.

Please check the lowest probability that you would consider acceptable for an escape to be attempted.

_____ The chances are 1 in 10 that the escape would succeed.
_____ The chances are 3 in 10 that the escape would succeed.
_____ The chances are 5 in 10 that the escape would succeed.
_____ The chances are 7 in 10 that the escape would succeed.
_____ The chances are 9 in 10 that the escape would succeed.
_____ Place a check here if you think Mr. J should not try to escape, no matter what the probabilities.
9. Imagine that you are advising Mr. K. Listed below are several probabilities or odds of Mr. K's winning the election in his district.

Please check the lowest probability that you would consider acceptable to make it worthwhile for Mr. K to run for political office.

- Place a check here if you think Mr. K should not run for political office no matter what the probabilities.
- The chances are 9 in 10 that Mr. K would win the election.
- The chances are 7 in 10 that Mr. K would win the election.
- The chances are 5 in 10 that Mr. K would win the election.
- The chances are 3 in 10 that Mr. K would win the election.
- The chances are 1 in 10 that Mr. K would win the election.

10. Imagine that you are advising Mr. L. Listed below are several probabilities or odds that a solution would be found to the difficult, long-term problem that Mr. L has in mind.

Please check the lowest probability that you would consider acceptable to make it worthwhile for Mr. L to work on the more difficult long-term problem.

- The chances are 1 in 10 that Mr. L would solve the long-term problem.
- The chances are 3 in 10 that Mr. L would solve the long-term problem.
- The chances are 5 in 10 that Mr. L would solve the long-term problem.
- The chances are 7 in 10 that Mr. L would solve the long-term problem.
- The chances are 9 in 10 that Mr. L would solve the long-term problem.
- Place a check here if you think Mr. L should not choose the long-term, difficult problem, no matter what the probabilities.
DISCUSSION AND QUESTIONNAIRE INSTRUCTIONS

The following instructions were read to the non-discussants:

We have seated you in groups, but before we do anything else, we need to get some opinions from each one of you as individuals. It's very important to do this part on your own, so please don't talk to your fellow group members or anyone else during this work on the opinion questionnaire. While I'm telling you how to do this work, though, feel free to ask me any questions you have about it.

The booklets we gave you describe several problem situations people might run into in everyday life. In each problem, the main person in the situation has to make a decision. On the first two pages of your booklets there are a couple of examples of the kind of problems you'll be doing. In the first one, "Mr. M is contemplating marriage to Miss T, a girl whom he has known for a little more than a year. Recently, however, a number of arguments have occurred between them suggesting
some sharp differences of opinion in the way each views certain matters. Indeed, they decide to seek professional advice from a marriage counselor as to whether it would be wise for them to marry. On the basis of these meetings with a marriage counselor, they realize that a happy marriage, while possible, would not be assured."

In each one of the situations you'll be reading about, the main person--like Mr. M--has two choices. First of all, in each case there's something he can do--like getting married--that could get him something he wants that he doesn't have--like a happy marriage. That's the risky choice, because if it doesn't work--if the marriage fails, for example--he loses. Then, he also has a safer choice--like staying single in our example. It's almost sure not to fail, but it leaves him just where he was in the first place. He doesn't gain, but he doesn't lose either. So should the person play it safe and hang on to what he already has or take his chances and try to gain something? There are four things to think about: how things are now, what the person could gain, what he could lose, and what his chances are.
We don't want you to try to figure out how good his chances really might be. What we want you to do is decide how good his chances ought to be before he should try the risky course of action—like getting married. How sure would you have to be that things would work out before you'd tell the person to take a chance and shoot for the advantage? We want your opinions about how big a risk the person in each problem should take. In other words, choose the lowest odds or probability of success you'd have to have before you'd advise the main person in each situation to take the risk and try to improve his situation. Now we want to get your opinions about what the main person in each decision problem should do. We gave you answer booklets for you to mark your opinions in.

If you'd be willing for him to try it even though there's a strong chance the action he'd have to take—getting married, for instance—would fail, then you'd be willing to settle for low odds like one out of ten of improving his situation. The bigger the chance you're willing to take, the lower the odds or probability you'll insist on. The surer you have to be, the higher the odds you'll require. If one chance of succeeding out of ten isn't safe enough for you, three in ten gives you better
odds. If three in ten is the lowest you'll go—the riskiest you'll be—you wouldn't take a chance if the odds were just one in ten. If you want to gain something you have to take a chance. If you want more guarantee of succeeding before you'll take the chance, you'll have to settle for just keeping what you've got.

If you need at least fifty-fifty odds, choose "five in ten." On some problems, you may feel the person shouldn't risk doing anything unless he has a seven in ten probability of success. Nine in ten is getting close to asking for a guarantee that things will turn out to the person's advantage. There may be situations you would never take a chance on, no matter how good the odds are that the person would gain by taking the risky action. So besides odds of one, three, five, seven, and nine in ten, you can also choose to refuse to take any chance at all. Remember, choose the lowest odds you would take for each decision problem and not the odds you think the person actually has of succeeding. There aren't any right answers and each decision is different. The odds you choose—or your refusal to take a risk—are your own opinions. Sometimes you'll think the person should take more chances, sometimes less. If you accept low odds,
you're saying the person should take more risks. Higher odds mean you're playing it safer and recommending taking fewer chances.

Now let's try Example A--the one about marriage that I read you. On the first page of your answer booklet, you'll find places to mark your opinions about the marriage decision. The instructions say, "Imagine that you are advising Mr. M and Miss T. Listed below are several probabilities or odds that their marriage would prove to be a happy and successful one." Then it says, "Please check the lowest probability that you would consider acceptable for Mr. M and Miss T to get married."

There are six choices for each decision. You can mark odds of one in ten, three in ten, five in ten, seven in ten, nine in ten, or the choice that says, "Don't try it no matter what the odds are." That last choice means you won't take any risk and "one in ten" means you'll take a really big risk with the others in between. The lower you mark, the bigger the risk. The higher you mark, the more careful you want the person to be. The choices in the answer booklet say, "Place a check here if you think Mr. M and Miss T should not marry no matter
what the probabilities. The chances are nine in ten that the marriage would be happy and successful. The chances are seven in ten that the marriage would be happy and successful." The chances are five in ten, are three in ten, and the chances are one in ten that the risky action--getting married--would get Mr. M and Miss T what they want--a happy marriage which is an improvement over things as they are. Now everybody--on your own--check off your advice to the couple. If you don't understand how to give your opinion or if you have trouble as you work, raise your hand for help.

After the subjects practiced the first example, the experimenter asked if there were any questions, then he read the following instructions:

Now read Example B on the next page and answer it.

Ask me if you want anything explained.

After questions had been answered about the procedure during the second practice example, the experimenter read the following instructions:

O.K. Now we're ready to do the ten numbered problems in the booklet. They're the same kind of problems you just did, and you'll find places to check your opinions about them after the examples in the answer booklet. We want every one of you to put down your own opinion. Don't talk to anybody until everybody's done. We
don't want names on the booklets. We're just interested in true individual opinions. There aren't any right or wrong choices--just your own beliefs or feelings. Any questions? O.K. Everybody on your own. No need to hurry. Don't leave out any problems. When you finish, stay in your seats and remain quiet until we tell you what to do next.

The following instructions were read to the discussants:

We have seated you in groups so you can carry on discussions with the other two people in your own group without hearing or disturbing people in other groups. What we want you to discuss are some situations or problems people might run into in everyday life. On the first two pages of the booklets we gave you there are two examples of the kind of situations we want you to discuss. In the first one, "Mr. M is contemplating marriage to Miss T, a girl whom he has known for a little more than a year. Recently, however, a number of arguments have occurred between them suggesting some sharp differences of opinion in the way each views certain matters.
Indeed, they decide to seek professional advice from a marriage counselor as to whether it would be wise for them to marry. On the basis of these meetings with a marriage counselor, they realize that a happy marriage, while possible, would not be assured."

In each one of the situations inside the booklets--the main person (like Mr. M) has two choices. First of all, in each case there's something he can do--like getting married--that could get him something he wants that he doesn't have--like a happy marriage. That's the risky choice, because if it doesn't work--if the marriage fails, for example--he loses. Then, he also has a safer choice--like staying single in our example. It's almost sure not to fail, but it leaves him just where he was in the first place. He doesn't gain, but he doesn't lose, either. So should the person play it safe and hang on to what he already has or take his chances and try to gain something?

There are four things to think about: how things are now, what the person could gain,
what he could lose, and what his chances are. That's what we want each group to talk about. Tell your fellow members what you think and why you think it. Don't talk to anybody who isn't in your group. It's up to you how you handle the discussion and what you say about the problems. It'll be easy to find things to talk about in these problems, so stick to the subject--the decision and what you'd advise the main person to do and why. We want you to read each problem and discuss it with the other two members of your group--not anybody else--for about five minutes. I'll tell you when to start and when to go on to the next problem. Now let's try the one about marriage, and on this example you can ask me to explain anything you need to know about what you're supposed to do. Any questions before we start? O.K. Read the example again and start discussing it.

After five minutes the following instructions were read:

O.K. Stop discussing the first example and read Example B and discuss it. Again, call on me for help, and I'll stop you in five minutes.
Any questions? No talking between groups--just talk to the people in your group. Ready? Read and discuss the second example.

After five more minutes the following instructions were read:

I'm sure you have the idea now. From now on, you won't even talk to me. When I say start, discuss Number 1 inside the booklet until I stop you, then I'll tell you to start Number 2, and so on. Don't talk about anything but the problem you're supposed to be discussing--not even other problems. Don't skip any of them or go back to any of them. And absolutely no talking outside your group. Any questions? O.K. Ready for Number 1? Go ahead. Begin.

After the subjects had discussed all ten items, the experimenter handed out the answer booklets and read the following instructions:

Now each one of you has an answer booklet to give us your individual opinions about the problem situations you've been discussing. Remember, the main person in each situation has to make a decision. He has two choices--to do something (like getting married) or leaving things alone (like staying single). One choice is risky but could gain the person something--like a
happy marriage. The other choice is safer. It doesn't improve his circumstances or make them worse. Again the question is whether to play it safe and hang on to what he already has or take his chances and try to gain an advantage.

But in the answer booklet we want you to tell us more than just whether to gamble or not. What we want you to tell us in the answer booklet is how good his chances ought to be before he should try the risky course of action. Don't try to figure out how good his chances really might be. Tell us in your opinion how good they should be. How sure would you have to be that things would work out before you'd tell the person to take a chance and shoot for the advantage? We want your opinions about how big a risk the person in each problem should take. In other words, choose the lowest odds or probability of success you'd have to have before you'd advise the main person in each situation to take the risk and try to improve his situation.

If you'd be willing for him to try it even though there's a strong chance the action he'd have to take--
getting married, for instance—would fail, then you'd be willing to settle for low odds like one out of ten of improving his situation. The bigger the chance you're willing to take, the lower the odds or probability you'll insist on. The surer you have to be, the higher the odds you'll require.

If one chance of succeeding out of ten isn't safe enough for you, three in ten gives you better odds. If the lowest you'll go—the riskiest you'll be—is three in ten, you wouldn't take a chance if the odds were just one in ten. If you want to gain something you have to take a chance. If you want more guarantee of succeeding before you'll take the chance, you'll have to settle for just keeping what you've got more of the time.

If you need at least fifty-fifty odds, choose "five in ten." On some problems, you may feel the person shouldn't risk doing anything unless he has a seven in ten probability of success. Nine in ten is getting close to asking for a guarantee that things will turn out to the person's advantage. There may be situations you would never take a chance on, no matter how good the odds are that
the person would gain by taking the risky action. So besides odds of one, three, five, seven, and nine in ten, you can also choose to refuse to take any chance at all. Remember, choose the lowest odds you would take for each decision, not the odds you think the person actually has of succeeding. There aren't any right answers, and each decision is different. The odds you choose—or your refusal to take a risk—are your own opinions. Sometimes you'll feel the person should take more risks. Higher odds mean you're playing it safer and recommending taking fewer chances.

Now let's try the marriage example. On the first page of the answer booklets we gave you, you'll find places to mark your opinions about the marriage decision. The instructions say, "Imagine that you are advising Mr. M and Miss T. Listed below are several probabilities or odds that their marriage would prove to be a happy and successful one." Then it says, "Please check the lowest probability that you would consider acceptable for Mr. M and Miss T to get married."
There are six choices for each decision. You can mark odds of one in ten, three in ten, five in ten, seven in ten, nine in ten, or the choice that says, "Don't try it no matter what the odds are." That last choice means you won't take any risk and "one in ten" means you'll take a really big risk with the others in between. The lower you mark, the bigger the risk. The higher you mark, the more careful you want the person to be. The choices on the answer booklet say, "Place a check here if you think Mr. M and Miss T should not marry no matter what the probabilities. The chances are nine in ten that the marriage would be happy and successful. The chances are seven in ten that the marriage would be happy and successful." The chances are five in ten, are three in ten, and the chances are one in ten that the risky action--getting married--would get Mr. M and Miss T what they want--a happy marriage which is an improvement over things as they are.

Before you start marking your opinions on the marriage problem, let me remind you that now we're interested in strictly private opinions. So--everybody on your own--check your individual advice to the couple.
If you don't understand how to give your opinion
or if you have trouble as you work, raise your hand
for help.

After practice on the first example, the experimenter asked if there
were any questions, then he read the following instructions:

Now read Example B on the next page and
answer it. Ask me if you want anything explained.

After questions had been answered about the procedure during the
second practice example, the following instructions were read.

O.K. Now we're ready to do the ten numbered
problems inside the booklet. They're the same kind
of problems you just did, and you'll find places to
check your opinions about them after the examples
on the answer booklet. You've already discussed
these items in your groups, but don't forget that
now we want individual opinions. Don't talk to
anybody—including your fellow group members—
until everybody has finished all of the problems.
We don't want names on the booklets. We're
just interested in true individual opinions. There
aren't any right or wrong choices—just your own
beliefs or feelings. Any questions? O.K. Every-
boby on your own. No need to hurry. Don't leave
out any problems. When you finish, just wait in your seats quietly until we tell you what to do next.
REFERENCES


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