Subjects' initial positions, exposure to varying opinions, and the risky shift*

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High and low risktakers listened to contrived tape-recorded discussions in which group norms supported either high-, medium-, or low-risk positions. Changes in own risk preferences and in the perception of others' risk preferences varied with information exposure and initial risk proneness. Ss who heard views similar to their own did not shift in their judgments, whereas those who heard riskier positions than their own shifted toward risk, and those who heard more cautious positions than their own shifted toward caution. The implications of these results for the risk-as-value and the reference group hypotheses are discussed.

A popular interpretation of the risky shift, the risk-as-value hypothesis, explains the phenomenon by postulating that for many situations risk has a positive value and that persons perceive themselves to be at least as willing as their peers to take risks. The risky shift is presumed to occur because the typical individual discovers in the course of group discussion that he is not as risky as his peers. In order to realize the cultural norm of relative riskiness, he shifts his judgment to a riskier position. The evidence in support of this hypothesis is considerable (Clark, in press).

Implicit in this hypothesis is the prediction that initially high risktakers should not shift as a consequence of the exchange of relevant information because the discussion should confirm their perception of relative riskiness. A recent experiment by Vidmar (1970) showed that the riskiest person on a given item either exhibited no shift (in agreement with the hypothesis) or a shift in the direction of caution (in disagreement with the hypothesis). An experiment by Wallach & Mabli (1970) provided even more powerful support for the hypothesis. These authors composed three-person groups that contained either one cautious and two risky members or two cautious and one risky member. Whether they constituted a minority or a majority of the group, after discussion of the choice dilemmas, initially cautious Ss showed strong shifts toward greater risk. In contrast, initially risky Ss showed no shift as a result of majority or minority status in the group.

Nevertheless, two recent experiments (Dion, Baron, & Miller,

1970) raise questions about the generality of these results. In both studies, Ss exhibited marked conformity to the artificially established group consensus whether or not the group norm coincided with the underlying value that was reflected in the item concerned. These results support the more simple-minded hypothesis that Ss shifted their judgments to conform to the norms of positive reference groups.

One obvious difference between the methods that were employed in the last two experiments and those that have been used in the vast majority of studies of the risky shift is the manner by which Ss acquired information about others' positions. Most Es have substantially no control over this information. Even when groups are selected so as to control for the positions Ss took in their pretest responses to the items, experimental constraints are almost never placed on the opinions that are expressed in subsequent discussions. Yet it appears that risky arguments predominate in such discussions (Brown, 1965; Madaras & Bem, 1968). If so, then the typical discussion of risky items would produce an apparent norm which is considerably riskier than the mean of the group members' privately solicited judgments. Thus, the shift of cautious Ss toward risk would depend upon conformity pressures as well as upon Ss' desires to realize the value of relative riskiness. In addition, the lack of shift by initially risky Ss would be as much a function of their own minimal discrepancy from the apparent group norm as of their objective realization of the value of relative risk. Some such processes might easily have accounted for the failure of the risky Ss to shift toward caution in the experiment by Wallach & Mabli (1970), which was discussed above; that is, cautious arguments may have been seriously underrepresented in the discussion by Ss.

The present experiment was designed to examine these alternative interpretations by having Ss listen to discussions in which the group norms concerning risk-oriented items advocated either high-risk, medium-risk, or low-risk positions. Strictly interpreted, the risk-as-value hypothesis would predict that initially risky Ss should not change their positions whatever tape they heard, while initially cautious Ss should change toward risk, except when the group norm was more cautious than their own private positions. The reference group hypothesis would predict shifts in the direction of the group norm for all Ss whenever their private positions differed markedly from that norm.

SUBJECTS

The Ss participating in the experiment were 90 male undergraduates at the University of Kansas who perceived themselves to be at least as risky as their peers (45 high risktakers and 45 low risktakers). All Ss received research credit in the introductory psychology course for participation in the experiment.

PROCEDURE

Risk taking was measured by a form of the choice-dilemmas questionnaire (Kogan & Wallach, 1964) which included only the six items that have produced the greatest risky shift (Clark & Willems, 1969). In an initial session, large groups of Ss gave their private recommendations to the six choice dilemmas and then recorded the recommendations they felt the majority of other Kansas University students would make.

Two groups were then established: *high risktakers*, consisting of Ss who had chosen scale odds of 1-in-10, 3-in-10, or 5-in-10 on at least four of the six items, and *low risktakers*, consisting mostly of Ss who had chosen scale odds of 3-in-10, 5-in-10, 7-in-10, or 9-in-10 on at least four of the six items (only about 10% of these responses chose 9-in-10 scale odds).¹ In order for a S to qualify for participation, he had to choose the designated scale odds for at least four items and, at the same time, perceive himself to be at least as risky as his peers on those items.

After approximately 10 days, Ss returned for the second session. Under the pretense of helping to develop case materials for a human relations course, Ss in groups of 8 to 10 were induced to listen to one of three taped discussions from a previous group of students (see Clark & Willems, 1969, and Kogan & Wallach, 1967, for further details). In fact, these discussions were constructed specifically for this study; the same four individuals participated in all

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Table 1
Pretest and Posttest Mean Scores of Riskiness*

Condition	Pretest	Posttest	Overall Mean
High Risktakers			
High-risk tape	2.88	2.55	2.72
Medium-risk tape	3.00	3.30	3.15
Low-risk tape	2.71	3.51	3.11
Combined, high risktakers	2.86	3.12	2.99
Low Risktakers			
High-risk tape	5.41	4.12	4.77
Medium-risk tape	5.04	4.72	4.88
Low-risk tape	5.43	5.46	5.45
Combined, low risktakers	5.29	4.77	5.03
Overall Mean	4.08	3.95	4.01

*Scores are averaged across items; lower scores indicate greater riskiness.

Table 2
Pretest and Posttest Mean Scores of Ss' Perception of the Risk Preferences of Typical University Students*

Condition	Pretest	Posttest	Overall Mean
High Risktakers			
High-risk tape	5.60	4.26	4.93
Medium-risk tape	6.23	5.11	5.67
Low-risk tape	5.87	6.47	6.17
Combined, high risktakers	5.90	5.28	5.59
Low Risktakers			
High-risk tape	6.70	4.22	5.46
Medium-risk tape	6.70	5.34	6.02
Low-risk tape	6.57	6.75	6.66
Combined, low risktakers	6.66	5.44	6.05
Overall Mean	6.28	5.36	

*Scores are averaged across items; lower scores indicate greater attributed riskiness.

three discussions. In the *high-risk tape*, on each item two people argued for the 3-in-10 position, one argued for the 1-in-10 position, and one argued for the 5-in-10 position, with the discussants taking different positions across the six items. The content of the discussions emphasized only the positive aspects of the risky alternatives, with particular attention given to the rewarding consequences of the risky alternatives in case of success. In the *medium-risk tape*, on each item two people argued for the 5-in-10 position, while one advocated the 3-in-10 position and one the 7-in-10 position. Again, discussants took different positions across the six items. The content of the discussion emphasized the negative consequences of success as well as the positive consequences of failure, given that the risky alternatives were chosen. In the *low-risk tape*, on each item two of the four persons advocated the 7-in-10 scale position, while one espoused the 5-in-10 position and one the 9-in-10 position. Again, discussants took different positions across the six items. The content of these discussions emphasized particularly the negative consequences of the risky alternatives in case of failure. High and low risktakers were assigned randomly to one of the three listening conditions.

After listening to the discussions of the six items, Ss were requested to respond privately a second time to the choice-dilemmas questionnaire, taking account of or ignoring the preceding discussion, as they chose. Finally, Ss were again asked to indicate the recommendation they felt the majority of other Kansas University students would make on each item.

RESULTS

The data were analyzed in a 2 by 3 by 2 factorial analysis of variance with repeated measures on the last factor (pretest vs posttest). Mean scores for the 12 conditions are

presented in Table 1. The results indicated that: (1) high risktakers were significantly riskier overall than low risktakers [$F(1,84) = 135.38$, $p < .01$]; (2) Ss who heard the high-risk tape were riskier overall than those who heard the medium- and low-risk tapes [$F(2,84) = 3.20$, $p < .05$]; (3) Ss who heard the high-risk tape shifted significantly toward risk, those who heard the medium-risk tape did not shift appreciably, and those who heard the low-risk tape shifted significantly toward caution [for this interaction, $F(2,84) = 13.81$, $p < .01$]; (4) low risktakers shifted significantly toward risk, while the shift of high risktakers, though in the direction of caution, was not significant [for this interaction, $F(1,84) = 16.60$, $p < .01$].

The a priori nature of the risk-as-value and the reference group hypotheses justified planned comparisons of the pretest and posttest responses of high and low risktakers who listened to the high-risk and low-risk tapes. These comparisons showed no significant shifts from pretest to posttest for high risktakers who heard the high-risk tape or for low risktakers who heard the low-risk tape [$F(1,84) < 1.00$ in each case]. However, high risktakers who listened to the low-risk tape shifted significantly toward caution [$F(1,84) = 6.46$, $p < .05$] and low risktakers who listened to the high-risk tape shifted significantly toward risk [$F(1,84) = 14.22$, $p < .01$]. We note that this confirms the reference group hypothesis but not the risk-as-value hypothesis because, by the latter, the high risktakers, confirmed in their own relatively riskiness, should not have shifted toward caution upon hearing the low-risk tape. However, the fact that high risktakers who listened to the low-risk tape shifted less than the low-risktakers who heard the high-risk tape suggests that low risktakers are

more susceptible to the pull of the group than are high risktakers.

Changes in the Perception of Others' Riskiness

Table 2 presents the mean pretest and posttest estimates by Ss in each experimental group of the riskiness of most university students. Compare, first, Ss' own initial riskiness (Column 1, Table 1) with their initial estimates of others' riskiness (Column 1, Table 2). As would be expected from the way Ss were selected, all Ss perceived other students to be less risky than themselves [$F(1,84) = 221.09$, $p < .01$]. High risktakers' risk preferences and their initial estimates of their peers were significantly riskier overall than low risktakers' [$F(1,84) = 79.48$, $p < .01$]. In addition, there was a significant interaction between Ss' initial riskiness and their perception of others [$F(1,84) = 31.99$, $p < .01$]. Whereas low risktakers initially perceived themselves to be somewhat riskier than their colleagues, high risktakers initially perceived themselves to be a great deal riskier than their colleagues.

Compare, second, pretest and posttest estimates Ss made of their colleagues' riskiness. The Ss' pretest-posttest responses interacted significantly with both the Ss' initial riskiness [$F(1,84) = 9.44$, $p < .01$] and the tape that was heard [$F(2,84) = 48.86$, $p < .01$]. The first interaction showed that, while all Ss changed their estimates of others' riskiness from pretest to posttest (and in the direction of risk), the change for low risktakers was greater than that for high risktakers; their posttest estimates of others' preferences did not differ significantly from each other. As to the interaction of pretest-posttest estimates with the type of tape heard, Ss who heard the high-risk tape subsequently attributed much greater riskiness to others than

they had initially; those who heard the medium-risk tape also attributed significantly more riskiness to others than initially; by contrast, those who heard the low-risk tape later attributed nonsignificantly greater caution to others than they had initially.

Finally, it is of interest to compare Ss' posttest riskiness scores (Column 2 of Table 1) to their final estimates of others' riskiness (Column 2 of Table 2). Again, Ss' final judgments were riskier than the positions they attributed to their colleagues [$F(1,84) = 97.64, p < .01$], and once again the difference between Ss' own judgments and those they attributed to others was greater for high risktakers than for low risktakers [for this interaction, $F(1,84) = 27.05, p < .01$]. In addition, Ss who heard the high-risk and medium-risk tapes perceived less of a gap between their own riskiness and that of their colleagues than did those who heard the low-risk tape [for this interaction, $F(2,84) = 6.57, p < .01$].

DISCUSSION

The findings that Ss perceived themselves to be relatively risky and that they shifted toward risk after listening to persons who adopted riskier positions than their own are consistent with the risk-as-value hypothesis. However, the fact that high risktakers became more cautious after listening to persons who took more cautious positions than their own is not consistent with that hypothesis. According to the hypothesis, initial high risktakers should be unaffected by the presentation of conservative views, since the information confirms their realization of the value of risk taking. Our results, like those of Dion, Baron, & Miller (1970), indicate that when they are forced to consider cautious arguments and to recognize cautious group norms about risk-oriented items, individuals change their judgments toward caution. The results support the conclusions of a generation of studies of the effects of reference groups: given a judgment issue and information about the views of a group of relevant others who do not differ markedly among themselves, individuals who deviate from the group norm will shift their judgments in the direction of that norm.

It is possible, by a different interpretation of the risk-as-value hypothesis, to bring it in line with

these results. According to Brown (1965), the cultural value is for moderate riskiness. Perhaps the high risktakers, when confronted with views much less risky than their own and having little opportunity to change those views, came to perceive themselves as too risky, too bold and venturesome, and adopted more cautious judgments so as to narrow the gap between themselves and others while still remaining on the risky side of the norm. The observed small shifts toward caution by high risktakers upon hearing the low-risk tape is consistent with this interpretation. It also suggests that high risktakers are less susceptible to group influence.

We have suggested above that the results of the study by Wallach & Mabli (1970) may have occurred because the positions taken by their cautious Ss in the discussions were riskier than their private judgments, thereby providing an apparent group norm not a great deal less risky than the initial position of the risky S. Also, their high risktakers had the opportunity to persuade and influence the opinions of low risktakers. Since individuals are culturally disposed to generate and favor risky arguments when considering risky items (Brown, 1965; Madaras & Bem, 1968), the influence of the risky group members would predominate. However, when high risktakers do not have the opportunity to influence more conservative persons—when they listen to group discussions, are merely presented with group norms, or engage in discussions with confederates who have been instructed to argue for a consensus—the cultural bias toward risk and social comparison pressures come into conflict. In this situation, the only way for an individual to minimize the discrepancy between himself and relevant others is to become more cautious.

It will be remembered that the judgments and arguments that Ss in the present study listened to were homogeneously of high, medium, or low riskiness. It will be important to determine whether a risky person will shift toward caution when he is exposed to heterogeneous judgments and arguments, including some views similar to his own, even when the group mean is as different from his position as was the mean of the low-risk tape in the present study. Similarly, it is unclear what proportion

of arguments in a discussion must be risky in order for the risky shift to take place among relatively cautious Ss. Research into such questions must differ from the typical work on this problem by exerting experimental control over the content of the discussions. The importance of such research is underlined by the fact that the present data, and others from experiments which have controlled the feedback to the S about others' opinions, raise questions about the greater merit of the risk-as-value interpretation of the risky shift as opposed to a traditional reference group interpretation.

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NOTE

1. Originally, the design of the experiment called for high, medium, and low risktakers, the latter group comprising Ss who chose scale odds of 5-10, 7-10, and 9-10 on at least four of the six items. However, the sample contained only 15 Ss with this pattern of scores who, at the same time, perceived themselves to be at least as risky as their peers. Furthermore, the obtained mean riskiness score for these Ss was approximately 6.0, instead of the desired 7.0, making the difference between medium and low risktakers only 1 scale point, whereas the obtained difference between medium and high risktakers was 2 scale points, as planned. This inequality, together with the number of Ss in the low-risktakers category, was the reason for combining medium and low risktakers into one group, to be labeled low risktakers.