The first purpose in this investigation was to evaluate the social-emotional and rational-cognitive explanations of group risky shift on choice dilemmas (hypothetical life situations) by comparing shift in groups of low Mach (emotional) and high Mach (non-emotional) participants. Consistent with the rational cognitive explanations of group shift, group composition was not observed to affect shift magnitude.

The second purpose was to examine the effects of Machiavellian beliefs on social functioning. Mixed support was obtained for hypotheses derived from prior theory and research on the Machiavellian personality. The perceptions of high Machs, as compared with low Machs, concerning the direction of shift, were more in line with their actual shift, providing evidence for the proposition that the former are more astute social observers.

Keywords: Machiavellianism, discussion time, group shift, risky choices.

Considerable recent research indicates that discussion of choice dilemma items† and of other stimulus materials tends to enhance choice tendencies initially dominant in the subject population (see Myers & Lamm, in press). Current attempts to explain this “group polarization phenomenon” fall mainly into two classes – those stressing social-emotional dynamics and those stressing rational-cognitive determinants.

Vinokur (1971) labels the first category the “affective hypotheses”, including responsibility diffusion theory with its stress on “affective interdependencies” and “emotionally tinged interpersonal connections” (Wallach & Kogan, 1965) and the currently more popular interpersonal
comparisons theory which explains shift in terms of social motivation (the desire to perceive and present oneself favorably).

The rational-cognitive approach, symbolized by the Burnstein et al. (1971) paper “Risky shift is eminently rational”, assumes informational influence dynamics. Discussion elicits rational arguments which predominantly favor the initially favored alternative. Some of these arguments are cogent considerations the subject has not previously taken into account.

One possible way to distinguish between these competing categories of explanation is to compose groups which are high and low in susceptibility to social-emotional dynamics. Machiavellianism appears to be one such dimension. Geis and Christie (1970) review the available literature and conclude that:

“The primary difference between individuals who score higher and lower on the Mach scales is the high scorers’ greater emotional detachment. One consequence of the high Machs’ lack of susceptibility to emotional involvements in general is a lack of susceptibility to sheer social pressure urging compliance, cooperation, or attitude change” (p. 312).

“This pattern has turned up consistently in several investigations: (1) Highs and lows are equally persuaded by factual information or rational arguments. (2) Lows but not highs are also moved by sheer social pressure” (p. 296).

Geis and Christie also conclude that “Low Machs, but not highs, get caught up and carried away in a social response process which emerges in the action components of face-to-face interaction” (p. 286). The paradigm for eliciting group-induced shifts contains the elements of face-to-face interaction and “latitude for improvisation” which are apparently essential for the difference of high and low Machs.

Thus the present experiment composes groups of high Mach and low Mach participants to seek evidence for the contribution of social-emotional dynamics to group shift. If such dynamics are a cause of group shift then we shall expect greater shift in the low Mach (“soft touch”) groups than in the cool, detached high Mach groups. If low and high Mach groups shift equally, this will point to the importance of rational-cognitive dynamics, since low and high Mach participants have been shown to be equally affected by rational arguments.

A second purpose in this experiment was to examine hypotheses concerning the effect of Machiavellian beliefs on social functioning. Data were gathered relevant to the following specific questions:

1) Are high Machs more astute social observers? Geis and Levy (1970) observed high Machs to be more accurate than low Machs in perceiving how others would respond to the Mach scale. In the present study it was examined whether high Machs are more accurate in recognizing the direction of their group’s shift than are low Machs.
(2) Are high Machs more negative than low Machs in their judgments of people with whom they have interacted? Their negative view of people *in general* is implicit in the Mach scale. But are their evaluations of *specific* others also more negative? Harris (1966) observes such a tendency. In the present study this question was examined by an interpersonal evaluation questionnaire after the group experience.

(3) Are high Machs more verbose? Geis et al. (1970) suggest that the manipulative abilities of high Machs may be mediated in part by a greater verbal facility relative to low Machs. We directly examined this question by comparing the decision time and the number of verbal acts observed in high Mach and low Mach groups.

(4) Are high Machs more likely than low Machs to emerge as leaders? Geis et al. (1965) observed a tendency for high Machs to take over in groups. Rim (1966) has even examined the Machiavellianism-leadership relationship within the context of the choice dilemma items (which are also used in the present experiment). Rim draws three conclusions from his study: (a) that high Machs were initially riskier than low Machs (actually, inspection of his data reveals that extremely low Machs were also more risky than mid-Machs); (b) that group discussion produced the usual risky shift; and (c) that Mach score correlated positively with how close a subject’s initial private response was to the actual group decision. From this third finding Rim concludes that high Machs are more influential and that leadership dynamics cause the risky shift. But Rim’s third finding is merely a necessary consequence of the first two findings. If, for whatever reason, group discussion induces increased risk taking *and* if high Machs tend to be slightly higher in initial risk taking, then it follows that the group is moving toward where the high Machs tend to be. In the present study an independent assessment of the leadership role of high and low Machs is provided by interrupting each group after it has discussed half the items and asking it to designate a representative for a subsequent intergroup debate.* Although the distribution of Mach scores is attenuated by the group composition, we may still examine whether within each group it is the relatively high Mach person who tends to emerge as designated representative.

Finally, the gathering of decision time data also permits a consideration of the relationship between length of group discussion and amount of group shift. The interpersonal-comparisons explanation of group shift suggests that only enough talking time is needed to compare prefer-

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*Instructions explained that this debate would take place in front of a student audience and that it would concern the same five issues which they had discussed and five additional ones which they were going to discuss. The winner of the debate would receive a money prize, to be shared with his group. Since this manipulation – before vs. after instructions concerning a debate and election of a representative – had no effect on the dependent measures, we have simplified this paper by not reporting data separately for the first and the second half of the items.
ences. Beyond that, discussion time is irrelevant. Informational influence theory suggests that extensions in the discussion will increase shift so long as more new, persuasive information continues to emerge. Hence, for simple materials, brief discussion will be sufficient to exhaust the information reservoir while for more complex materials longer discussion will increase shift.

Existing data present no clear picture of the relationship between discussion time and shift on choice dilemmas. Lamm and Kogan (1970) and Kogan et al. (1972) demonstrate that an additional round of discussion in a recomposed group can generate a significant additional shift (although Myers, 1974, failed to observe a similar finding). But direct manipulation of the discussion time has generally not yielded greater shift with increased time. Fraser (1971) observed that 1.5 minute and 4.5 minute discussions did not produce differential shift. Bennett et al. (1973) observed that forcing the discussion to 9 minutes per item depressed the shift effect. Perhaps forcing an extension of debate moves a group beyond superficial exchange of socially desirable comments, thereby reducing “groupthink” (as implied by Janis, 1972). Wallach et al. (1967) correlated length of discussion (summed over a group of items) with amount of shift. The correlation was positive for field-dependent groups and negative for field-independent groups. They interpret this finding as suggesting that the affectively oriented field-dependent groups experienced greater emotional interchange with extended discussion and hence greater shift. Thus in the present study the relationship between discussion time and shift was examined separately for low Mach (emotional) and high Mach (nonemotional) groups. Data were also be analyzed for each item individually, so as to not obscure any relationship by summing over items.

**METHOD**

**PARTICIPANTS**
Participants were 88 University of Delaware male students who were paid $1.25 for participating. Prior to the experiment, each participant completed the Mach 4 and 5 scales (Christie, 1970). High Mach and low Mach groups were then composed by median split on the combined Mach 4 + 5 scores. Eight 4-member and four 3-member groups participated in the high Mach and in the low Mach condition.

**MATERIALS AND PROCEDURE**
Ten choice dilemma items, shown in previous research to be reliable risk-shifting items, were utilized (excluding items 6 and 13 from the choice dilemmas questionnaire, Kogan & Wallach, 1964, Appendix E). After initial private responses to the 10 items, the group discussed each item to a consensus. (If, after 7 minutes, a consensus had not emerged, the group average was defined as the group decision.) Subsequent to the discussion, a variety of postexperimental responses were elicited. These included an assessment of the extent to which group members recognized the
risky shift (using the same instructions as Wallach et al., 1965). Participants indicated for each item whether they perceived a risky shift (score 6 +1), no shift (0), or a cautious shift (-1). Summing across the 10 items thus yielded a score which could range from +10 (perceived risky shift on every item) to -10. Participants also indicated their perception of each of the other group members on a variety of 9-point semantic-differential scales.

RESULTS AND DISCUSSION

GROUP SHIFT BY HIGH AND LOW MACHS

The first purpose in this study was to compare the “affective” and “rational” approaches to explaining group shift by comparing shift in the low Mach and high Mach conditions. Both types of groups displayed significant shifts toward higher risk acceptance (p < .01 in each case). The mean shift was virtually identical in magnitude for the two conditions (shifts of 4.99 and 5.42 – summed over the ten items – for the low and high Mach groups, respectively).

It may furthermore be noted that, contrary to the conclusion of Rim (1966), high Mach groups did not evidence greater initial risk acceptance than low Mach groups (low Machs = 53.90; high Machs = 56.60).

EFFECTS OF MACHIAVELLIAN BELIEFS ON SOCIAL FUNCTIONING

(1) Are High Machs More Astute Social Observers? Across all 24 groups, the perception of risky shift was barely significant (M = 0.52, t = 1.79, p < .05, two-tailed). The respective mean values of the low and high Mach groups were 0.86 (p < .05) and 0.19 (ns). More to the point of the present question, we may inquire as to the relationship between the extent of group risky shift over the 10 items and the recognition of risky shift score. This relationship is significantly positive (r = 0.72) for the 12 high Mach groups but negligible (r = 0.12) for the low Mach groups, and the two rs are significantly different from each other (p < .05). Thus, high Mach subjects were more astute observers of the shift tendency which they evidenced.

(2) Are High Machs More Negative in Interpersonal Judgments? The semantic differential scales elicited closely comparable peer judgments from the high Mach and low Mach groups (e.g., on the 9-point rating of “likeableness” low Mach participants gave average ratings of 7.1 and high Mach participants of 6.9). In other words, judgments of specific other persons appeared to be similar for the two conditions. It should be noted, however, that the target persons being judged were not the same for the two conditions since high Machs were evaluating high Machs and low Machs evaluating low Machs.
(3) Are High Machs More Verbose? For each discussion an observer counted the number of verbal acts emitted by each group member. Any continuous verbal statement was counted as one verbal act. The high Mach groups emitted slightly more verbal acts during this discussion of the ten items than did the low Mach groups (194.2 vs. 168.4, \( t = 1.06 \)). They also therefore used slightly more discussion time than the low Mach groups (32.1 mm vs. 26.2 mm; \( t = 1.57 \)). Thus the trends were in the direction predicted from previous theory and research on Machiavellianism, but they did not approach significance.

(4) Are High Machs More Likely to Emerge as Leaders? Each group was asked to designate a representative who would later represent the group in debate. The mean Mach score of elected representatives (159.7) was almost identical with that of the other group members (159.9). Thus relatively high Mach persons within a group were not more likely to emerge as group representative for a verbal manipulation situation (a debate) than were lower Mach persons. However, this finding must be qualified with the reminder that the range of Mach scores within each group was limited by the group composition manipulation.

LENGTH OF DISCUSSION AND GROUP SHIFT
The relationship between discussion time and risky shift was examined by correlating these two variables across the 24 groups for each of the 10 items. These 10 correlations were then averaged (by \( z \) score transformation) and a mean correlation of -0.09 resulted. Perhaps the absence of any relationship between discussion time and risky shift was due to the contaminating effect of the extent of initial disagreement among group members and the time they required for group decision. However, partialling out the effect of the range of initial prediscussion scores did not alter the negligible relationship between discussion time and shift (partial \( r = -0.11 \)). Furthermore, the correlations for the five items showing the most substantial risky shift considered separately were very close to the correlations obtained from averaging over all 10 items.

It is conceivable that the absence of correlation between discussion time and risky shift is the result of the counterbalancing of significant but opposite relationships existing in the high Mach and low Mach conditions. This possibility is suggested by Wallach et al. (1967), as discussed earlier. However, the discussion time vs. shift correlation did not differ for high and low Machs. Thus it appears that the confusing pattern of results from previous studies on discussion time may simply reflect the absence of any general effect of this variable on choice dilemmas shift. This conclusion is consistent with the interpersonal comparisons theory, which presumes that discussion merely serves to inform each participant of others’ positions and that additional exchange of arguments is not crucial. Perhaps further research will clarify the minimal
discussion time required for group shift on the choice dilemmas items and will allow us to ascertain whether, as information influence theory implies, longer discussion time yields greater shift as the materials become more complex.

REFERENCES


