

Machiavellianism and Leadership

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The relevance of Machiavellianism as a personality style for leadership was studied in the context of experimental task groups. The subjects were 84 male undergraduate students. The experimental design assigned 14 high Machiavellians (Machs) and 14 low Machs as leaders of task groups who constructed toy cube bridges under either a favorable or an unfavorable situation. In the favorable situation, the leader was presented to the group as technically qualified, and his authority was emphasized (high leader power). Task performance was evaluated according to a single criterion (structured task). In the unfavorable situation, the leader's qualities or special status were not emphasized (low power), and task performance was evaluated according to multiple criteria (unstructured task). No performance differences were found between high Mach and low Mach led groups. However, significant differences were observed with regard to group interactions. High Mach leaders gave more orders and were less involved in reducing tension. They were also less directive and requested more assistance when the situation was unfavorable, whereas the low Machs' behavior across situations remained unchanged.

This study focused on the relevance of Machiavellianism as a personality style for leadership behavior. The concept of Machiavellianism, as introduced by Christie and Geis (1970), pertains to cognitive agreement with the basic ideas of Nicollo Machiavelli, for example, mistrust in human nature, lack of conventional morality, opportunism, and lack of affect in interpersonal relationships. People who scored highly on standard measures of Machiavellianism (high Machs) were found to have a strong tendency to manipulate other people (Geis & Christie, Note 1). In an experimental bargaining coalition game, high Machs manifested better sense of timing and adjusted their acts to current circumstances. They also appeared to initiate and control the structure of group interaction. High Machs manifested higher effectiveness under ambiguous, rather than clear, situations. They also were found to be detached from ego-involving elements in bar-

gaining context (Geis, Weinheimer, & Berger, Note 2) and were more resistant to social pressure than low Machs (Bogart, 1968; Epstein, 1969; Feiler, Note 3).

Geis, Krupat, and Berger (Note 4) found that in an experimental situation involving group discussions, high Machs were rated significantly higher than low Machs on task performance, amount of leadership displayed, and contribution to group progress, but lower on sociometric position. In another study by Geis (1968), high Machs were chosen significantly more often for a leadership position than the low Machs, and the chosen high Mach leaders led their groups to a higher level of group performance. However, in a group situation requiring the members to establish an efficient communication network to solve their problem, the high Mach members failed to become key persons in the communication network and made significantly fewer organizational suggestions (Oksenberg, 1968).

Christie (Christie & Geis, 1970) suggested that Machiavellian superiority in interpersonal bargaining and structure initia-

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tion results from basic amoral attitudes and mistrust in human nature. This superiority manifests itself more clearly in unstructured situations, in which the task is complicated and avoidance of effective involvement is important.

In conclusion, high Machs appear to be successful manipulators, resisting attitude change, and have an effective task oriented approach. These characteristics as well as their tendency to gain control in group situations suggest a potential to perform effectively as leaders in task oriented groups.

Those studies pertaining to Machs' behavior as leaders dealt with spontaneous and informal leadership as it emerged in the course of the group's development. Even these data concerned with the Machs as informal leaders are conflicting. No attempt has yet been made to study behavioral differences between high and low Machs placed in formal leadership positions in task groups.

It was the purpose of this study to examine some of the differences in behavior and performance of task groups led by either high or low Machs formally assigned and given responsibility for their groups.

Current leadership literature suggests that unless situational parameters can be specified, relationships found between leadership behavior and performance will be of limited generalizability. The concept and operational definitions of situational favorability as used by Fiedler (1967) were adopted to study the effect of this moderating variable on the relationship between Machiavellianism and leadership behavior. Specifically, a favorable and an unfavorable situation were created by varying the degree of task structure and the leader's power.

Based on the literature review, the following hypotheses were stated:

1. Task oriented groups with high Machs as leaders will have higher performance than task oriented groups with low Machs as leaders.
2. The difference in performance between high and low Mach led groups will be more pronounced in the unfavorable than in the favorable situation.
3. High Machs will give more orders and will initiate a greater proportion of the group interaction than low Machs.

4. High Machs will be more responsive to situational demands. More specifically, they will give fewer orders and request more assistance when the situation is unfavorable. No such differences are expected in terms of tension reducing behavior.

No particular hypotheses were stated with regard to changes in the nature of the task itself, irrespective of leadership style. It was basically hypothesized that leaders with different Mach scores would respond differently to variations in situational favorability.

Method

Subjects

Subjects for the experiment were 84 introductory psychology male students at Temple University. Machiavellian scales had been administered to all introductory psychology male students some weeks prior to the experiment. Fourteen subjects with Machiavellian scores above 75% were assigned as high Mach leaders and 14 students with scores below 25% served as the low Mach leaders. One half of these high and low Machs were assigned to a relatively favorable situation, giving them more power and supervising a structured task. An additional 56 subjects with Machiavellian scores in the mid-50% range were randomly assigned as group members, 2 group members per leader. There were thus 14 groups with high Mach leaders and 14 groups with low Mach leaders. All the subjects had volunteered to take part in the experiment.

Task

The experimental task consisted of constructing a bridge of Lego plastic cubes. Subjects were told to build the most profitable bridge according to specific criteria given. The bridge had to be smooth and continuous, but no further technical directions or limitations were given. The leader was not allowed to touch the cubes and was supposed to supervise the work done by his group members.

The two levels of the task structure were established as follows:

1. *Structured situation.* Task performance was evaluated according to one single criterion, the length of the bridge's span, in inches, between the two nearest supports.
2. *Unstructured situation.* Task performance was evaluated according to a combination of the following criteria: (a) length of span between the two nearest supports, (b) height of span (from table to lowest point of span), (c) number of pieces used, and (d) time of work.

The differences between the structured and the unstructured situations were thus established with regard to the following three of the four dimensions adopted by Fiedler (1967) as a basis for the definition of task structuredness: (a) Decision verifiability—The correctness of the solution can more easily be demon-

strated in the structured task, since it depends on a single easily observed factor, namely the length of the bridge's span, whereas in the unstructured situation the task related decisions cannot be easily verified as to their correctness. (b) Goal-path multiplicity—In the unstructured situation the task can be solved by means of a much larger variety of procedures, due to the multiple nature of the criteria, than in the structured situation. (c) Solution specificity—Whereas in the structured task there is basically one correct solution (building the longest possible bridge), in the unstructured task there are a large number of possible solutions that would result in successful task completion.

The two levels of leader position power were as follows:

1. *High power.* (a) The leader was instructed by the experimenter privately and was given a chance to experiment with the materials for a few moments while his group members were waiting outside the laboratory. The instructions concerning the task were then presented to the group members directly by the leader. (b) The group was told that the leader was selected for the experiment on the basis of high scores on technical and leadership ability tests. Since all introductory psychology students were previously administered various personality and aptitude scales for experimental purposes, the explanation was quite plausible. The group members were instructed by the experimenter that the leader had the authority to decide about any problem and that they should obey his orders.

2. *Low power.* (a) In this situation the instructions were presented by the experimenter to the whole group without referring specifically to the leader. No special qualities of the leader, nor the necessity for following his decisions, was mentioned. (b) The leader did not have a chance to experiment with the materials before the experiment started.

Thus, the power position was created by assigning the leader formal authority, by allowing him exclusive access to resources of information, and by presenting him as having highly relevant qualifications.

The favorable situation combined high leader position power and structured task demands. The unfavorable situation included both a low power position and an unstructured task. In the instructions the subjects were told to build the most profitable bridge possible. The criteria for the bridge profitability were detailed, and graphs showing the transformation of levels of task criteria to dollar values were presented. Thus, in the favorable situation the group was presented with a single graph converting span length in inches to dollar values, whereas in the unfavorable condition four graphs were presented, one for every criterion, and the subjects were told that the cumulative dollar value of their performance would be taken as an indication of their success in the task. The graphs were available to the subjects throughout the experimental trial.

Instruments

The validity of the experimental manipulation was measured by means of two questionnaires. One questionnaire dealt with the authority and knowledge of the leader, and the other questionnaire dealt with the degree of structure perceived. Another set of questions

was used to check the leader's perception about his authority and the structure of the task. The postexperimental questionnaire also contained items concerning the group members' perception of the leader's efficiency, warmth, friendliness, and consideration and their personal feelings about him.

The group's task performance in terms of the bridge profitability was measured according to the criteria described above.

Twelve categories of verbal interactions between the leader and the group members were established. Seven categories dealt with the leader as the source of communication. These categories were leader makes suggestions, leader makes decisions, leader gives explanations, leader reduces tension, leader seeks help, leader gives orders, and leader works by himself. Six categories were used for categorizing interactions initiated by the group members. These were group members make suggestions, group members argue with leader, group members make decisions, group members give explanations, group members ask questions, and group members have internal discussions among themselves. Another interaction category was obtained by dividing the total number of leader communication attempts by the total number of group member communication attempts. This category was termed *leader/group member interaction*. A complete idea expressed by a subject constituted a scoring unit.

The interaction categories were observed and scored independently by two raters throughout the entire experiment. The raters were two undergraduate students of psychology who were thoroughly instructed with regard to the rating system. The raters were unaware of the objective of the study and were unfamiliar with the Machiavellianism concept. The raters were also not informed of the nature of Mach scores in general or of the Mach differences between the group leaders. The experimental trials were observed through a one-way screen so that the subjects were unaware of the raters' presence.

Results

Manipulation of Situational Favorability

The power manipulation was checked by comparing separately the leader's and the group members' perceptions of the leader's power position. The power manipulation proved to be highly significant, both according to the leaders' reports, $F(1, 26) = 27.94$, $p < .001$, and the group members' reports, $F(1, 54) = 16.16$, $p < .001$. The structure manipulation was checked in a similar way, separating the leaders' and group members' perceptions. The leaders also perceived the task as significantly more structured in the favorable situation, $F(1, 26) = 8.62$, $p < .01$, but there were no significant differences in the group members' perceptions of task structure, $F(1, 54) = 1.84$, $p < .10$. Since

mainly the leader struggled with task structure in terms of planning and decision making, it is possible that the group members were less aware of this parameter. Generally, we may conclude that the manipulation of situational favorability was successful, in particular from the leader's point of view.

Interrater Reliability of Interaction Categories

To estimate the degree of interrater reliability of the interaction categories observed, the kappa coefficient of agreement was employed (Cohen, 1960). The kappa coefficient obtained was .823, which is highly significant ($p < .001$) and indicates that a high proportion of the joint judgments on the various categories are in agreement.

Performance

The differences in performance between low Machs and high Machs were tested separately for the favorable situation and for the unfavorable situation by means of a t test. Although the performance scores for the high Mach groups tended to be higher than for the low Mach groups in both situations, the differences did not reach acceptable statistical significance levels (favorable situation, $t = 1.42$, $p > .05$; unfavorable situation, $t = 1.2$, $p > .05$). Hypotheses 1 and 2 were, thus, not supported.

Postexperimental Questionnaire Data

No significant differences were found due to Machiavellianism on the questionnaire data rated by the group members in terms of perceived leader efficiency, consideration, warmth, and support.

Observational Data

The major differences between high and low Machs were found through the observational data. Table 1 provides two-way analyses of variance and cell means for the significant interaction patterns in the groups, resulting from Machiavellian leadership style and from situational favorability. As hypothesized, high Mach leaders gave more orders and initiated a greater proportion of

the interaction in the group than low Mach leaders. High Machs were engaged significantly less in tension reducing behavior. They were also less exposed to arguments and suggestions than low Machs. Hypothesis 4, concerning the high Machs' greater flexibility and responsiveness to situational demands, was also supported by the results. Under the unfavorable conditions, high Machs gave significantly fewer direct orders, $F(1, 24) = 11.56$, $p < .01$, and at the same time sought significantly more help from their group, $F(1, 24) = 10.97$, $p < .01$, and gave more suggestions, $F(1, 24) = 4.42$, $p < .05$. The behavior of low Mach leaders remained remarkably invariant in spite of the differences in the situation (leader orders, $F = .00$, ns , leader seeks help, $F = .25$, ns , leader's suggestions, $F = 3.58$, ns).

The intercorrelation coefficients between the interaction categories that significantly differentiated between high and low Machs were as follows: Leader Reduces Tension $\times$ Leader Orders, $r = .12$; Leader Reduces Tension $\times$ Members' Arguments, $r = .30$; Leader Orders $\times$ Members' Suggestions, $r = .15$; Leader Orders $\times$ Members' Arguments, $r = .27$. None of these correlations was statistically significant. The possibility that some of the significant F s reported for specific categories may have resulted in part from substantial negative correlations with other categories (because of the ipsative nature of the interaction scoring system) may therefore be ruled out.

Discussion

High and low Mach led groups did not differ in their productivity. They were also not described by their groups as acting differently. However, independent observers did perceive differences in their behavior. It is possible that at least in an experimental situation of short duration such as the present one, systematic observations constitute a more sensitive measure of group interactions than postexperimental questionnaires. It may be suggested that the subjects who had to concentrate on the experimental task could not attend to the interaction process in the group as well as the independent observers.

As hypothesized, high Machs gave more orders than low Machs. High Machs also showed a greater responsiveness to situational demands, manifested in the adoption of a more participative style under the unfavorable conditions. Such a change in the degree of group participation may be interpreted as an attempt to better utilize group resources when faced with a more difficult task. It may be speculated that under real life circumstances in which task duration

is longer, such better utilization of group resources would in the long run positively affect group performance. It may be noted that the high Machs were engaged less than low Machs in group maintenance functions, as indicated by their fewer attempts to reduce tension in both the favorable and unfavorable situations. In this connection it may be worthwhile to refer to the confusion that exists in the literature between considerate and participative leadership. Yukl

Table 1
Cell and Main Effect Means and F Values for Significant Interaction Categories

Variable	Cell means			F		
	Low Mach	High Mach	Total	Mach	Situation	Interaction
Leader's suggestions						
U	1.71	5.28	3.49			
F	4.28	2.42	3.35	.74	.02	7.45*
T	2.99	3.85				
Leader works himself						
U	1.57	1.57	1.57			
F	.57	.42	.49	.02	5.86*	.02
T	1.07	.99				
Leader seeks help						
U	.71	3.57	2.14			
F	.85	.42	.63	3.27	4.99*	5.99*
T	.78	1.99				
Leader reduces tension						
U	1.28	.28	.78			
F	2.42	.71	1.56	5.95*	2.00*	.38
T	1.85	.49				
Leader gives orders						
U	9.71	9.85	9.78			
F	9.71	26.00	7.85	6.12*	5.91*	5.91*
T	9.71	17.92				
Members' suggestions						
U	5.85	3.28	6.06			
F	6.28	2.57	4.60	11.56**	.07	.38
T	6.06	2.92				
Members' arguments						
U	4.28	3.14	3.71			
F	5.57	1.28	3.42	9.05**	.09	3.02
T	4.92	2.21				
Leader/group member interaction						
U	1.04	3.40	2.22			
F	.52	1.60	1.06	6.29*	2.61	1.71
T	.78	2.50				

Note. U = unfavorable situation, F = favorable situation, T = total, Mach = Machiavellianism.

* $p < .05$. ** $p < .01$.

(1971) has shown that both conceptually and empirically, "consideration" and "participation" can be considered as separate dimensions and participation is considerate only when subordinates desire so. Thus the increased task difficulties that confronted the leaders in the unfavorable situations may have prompted the high Machs to make more use of their group members' abilities. But there is no evidence that high Machs became more considerate when the situation became more complex.

In conclusion, high Mach leaders proved to have a wider range of appropriate behaviors than the low Mach leaders. Yet the high Mach leaders were found to be consistently less concerned with their group members' feelings. Thus the question is raised of whether high Machs would be capable of addressing themselves to followers' needs when the situation demands it.

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