

EFFECTS OF GROUP PERFORMANCE AND LEADER BEHAVIOR ON LEADERSHIP PERCEPTIONS

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The study examined the effects of group performance and leader behavior on leadership perceptions. One hundred fifty engineering undergraduates participated in roleplaying situations. They were randomly assigned to one of the six treatment conditions in the 2 x 3 factorial experiment. Results indicated that ratings on leadership perceptions were significantly influenced by the interaction between group performance and leader behavior. Certain main effects, as expected, of leader behavior and group performance were also observed. Implications of these findings for those in leadership roles are discussed, and directions for future research are suggested.

The emerging literature attests that theories of leadership have received treatment largely under the umbrella of style or situational contingencies. These theories explicitly or implicitly entail prescriptions about how the leader perceives the situation and how he or she makes assessment of its various aspects. Many writers have expressed widespread dissatisfaction with these approaches (e.g., Campbell, Dunnette, Lawler, & Weick, 1970; Korman, 1966). In recent years, it is being realized that leadership is a reciprocal influence process (Hollander & Julian, 1969) and that both leader and subordinate behaviors affect each other meaningfully and in important ways. According to this conceptualization, attention should also be directed

toward investigating how the leader is viewed by others in the organization; that is, how the leader is regarded, how he or she is treated by the members of the organization, and how his or her future behavior is perceived and/or attributed (Heilman, Hornstein, Cage, & Herschlag, 1984). The most crucial issue is not actual or even perceived leader behavior but rather how leader behavior is evaluated (Hollander & Julian, 1969).

The present research attempts to address itself to the following question: How do leadership perceptions vary as a function of the leader's efforts toward group performance and leader behavior?

According to Larson, Lingle, and Scerba (1984), "the performance cue effect is interesting at a theoretical level because it suggests that the way leaders are perceived is guided in part by the perceiver's implicit theories of the relationship between leader behavior and group performance" (p. 324). Several studies indicate that "performance cue effect makes a significant contribution to the variance in the attributions of leadership. Two of the earliest studies make it clear that performance cue has a significant effect on subordinates' descriptions of

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leader behavior (Farris & Lim, 1969) and the ratings of intragroup processes such as communication, influence, and cohesiveness (Staw, 1975). However, one of the most systematic attempts demonstrating the effect of performance cue on ratings of both situational variables and leader behavior was made by Mitchell, Larson, and Green (1977), and it has since been validated in a number of other investigations (e.g., Butterfield & Powell, 1981; Butterfield, Powell, & Mainiero, 1978; Larson, 1982; Phillips & Lord, 1981; Rush, Phillips, & Lord, 1981; Rush, Thomas, & Lord, 1977). In line with the studies cited above, it is hypothesized that *managers of high-performing groups would be evaluated more favorably than managers of low-performing groups, regardless of their leadership styles.*

The second influencing factor of leadership perceptions is the leader behavior itself. In this study, three forms of leadership behavior--autocratic (F), participative (P), and nurturant-task (NT)--were employed. The first two of these have frequently been studied. The third was introduced because it was believed to be salient within the culture from which the sample of the present study was drawn. Considering the socio-cultural values and typical characteristics of the subordinates, Sinha (1980) recommended the salience of the NT style as an alternative model within the Indian culture. The effectiveness of the NT style has recently been demonstrated in a number of laboratory and field investigations by Sinha and others (e.g., see such reviews as those of Ansari, 1986a; Sinha, 1983). In these investigations, this style was perceived as distinctly different from other styles such as F and P, and it was found to have a positive impact on several indicators of effectiveness--commitment, facets of job satisfaction, and organizational productivity.

Heilman et al. (1984) recently examined the reputational consequences of various leader behaviors when viewed by others. Among other findings, they found that participative behavior was seen as effective even when prescriptively inappropriate to the situation. In addition, this favorable evaluation of participative behavior was evident not only in task effectiveness but also in the affective reactions of respond-

ents. It is, therefore, hypothesized that *a leader with participative behavior would be evaluated more favorably than a leader with autocratic behavior.* The emergence of this main effect would be consistent with Heilman et al.'s (1984) findings. Although nurturant-task leader behavior was included in this design, no specific predictions about the leadership perceptions it would elicit were made.

In summary, a significant main effect of the leader's efforts toward group performance is being predicted, and a significant main effect of leader behavior is being predicted. Considering the relative paucity of research on this topic, no prediction of interaction effects is being made.

Method

Subjects

The subjects were 150 male undergraduates of the Indian Institute of Technology Kanpur, India. They were primarily engineering majors. Data were collected during the spring of 1986. The subjects ranged in age from 20 to 24 with an average of 21.25 years.

Design and Procedure

This was a 2 x 3 factorial experiment, with two levels of group performance (high/low) and three levels of leadership behavior (autocratic/nurturant-task/participative). Subjects were randomly assigned to one of the six treatment conditions, with 50 subjects per cell. They were asked to read a one-page scenario and then to respond to the dependent measures and manipulation check items.

Statistical Analyses

A partial test of the construct validity of the dependent measures employed a varimax rotated factor analysis (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). Because all dependent measure items comprised ratings on a 7-point scale, analyses of variance (ANOVA) appropriate to the between-subjects design were conducted. For further clarification of the results, Dunn analyses were used to test the significance of inter-cell comparisons of interest. Because the

Dunn procedure has been found to be rather conservative (Kirk, 1968), it was used in the present study to test all comparisons, whether *a priori* or *post hoc* in nature. All Dunn comparisons were tested at the $p < .01$ level of significance.

Experimental Manipulations

Subjects were presented with a one-page scenario. The first paragraph introduced Mr. Sunil Kumar as the unit head of a growing manufacturing concern. This paragraph was common to all conditions.

The second paragraph described the manager (Sunil Kumar) with a particular leadership behavior (autocratic/participative/nurturant-task). The style scenarios were drawn from the recent works by Ansari (1986b), Sinha (1980), and Stitt, Schmidt, Price, and Kipnis (1983).

Following the descriptions of each leadership style, the last paragraph indicated the level of performance (high/low). The performance manipulations was taken from Butterfield and Powell (1981, p. 132). In the high performance condition, the subjects were told: "Sunil's efforts were paying off.

Goals were met and projects completed. Confusion in the office was eliminated; things now ran very efficiently." The low performance condition was manipulated by the following messages: "Sunil's efforts were not paying off. Goals were not met, and projects not completed. There was still considerable confusion and inefficiency in the office."

Dependent Measures

Based upon the recent works by Butterfield and Powell (1981), Graves (1985), and Staw and Ross (1980), nine single-statement questions were employed to tap the dependent variables. Seven-point scales were used for each question. Scales for four of the nine questions were reversed in order to control for response bias; responses for these questions were subsequently reversed to make the direction consistent across all questions. The set of questions with their appropriate scores were, then, submitted to a varimax rotated factor analysis. Table 1 reports the factor loadings obtained. It can be seen from Table 1 that three factors were generated with eigenvalues greater than 1.00. It is also evident that, for the most part, the items loaded rather cleanly.

Table 1

Rotated Factors and Item Loadings

<i>Item</i>	<i>Attributions of Leadership</i>	<i>Anticipated Effectiveness</i>	<i>Present Performance</i>
1. To what extent do you think Sunil should be considered for a raise or promotion?	.81	36	.17
2. How much leadership was exhibited by Sunil?	.84	.27	.13
3. Would Sunil make a strong leader?	.72	.23	.20
4. To what extent Sunil is motivated to produce results?	.73	.19	-.09
5. What will be the future productivity of this department under this manager?	.05	.79	.11
6. What will be the future satisfaction of this department employees under this manager?	.23	.64	.01
7. How would you like to work for this manager?	.24	.83	.23
8. How do you think Sunil's boss would evaluate his Behavior?	.10	.04	.75
9. All in all, how effective do you think Sunil's behavior is?	.12	.27	.89
Eigenvalue	5.11	1.32	1.23
Percentage of Variance	45.1	13.6	13.0

Note. Item No. 4 was especially written for this study.

Table 2

Descriptive Statistics, Cronbach Alphas, and Pearson Correlations

Factor	M	SD	1	2	3
1. Attributions of Leadership	18.93	5.95	(.89)		
2. Anticipated Effectiveness	13.62	3.37	.48	(.81)	
3. Present Performance	9.77	2.91	.27		(.83)

Note. Figures in parentheses indicate reliability coefficients; N = 150; For all $r_s p < .01$.

The internal consistency of the scales was assessed with Cronbach's coefficient alpha. Descriptive statistics, reliability coefficients, and interrelationships among the scales are provided in Table 2. The reliabilities of the three scales were within the acceptable range (Nunnally, 1978). From Table 2 it can also be seen that the scales were only moderately intercorrelated (average $r = .35$), indicating a reasonable level of scale independence.

Results

Manipulation Checks

Built into the stimulus scenarios were the three manipulation check items describing three leadership styles. Subjects rated each item on a 5-point scale (1 = *to almost no extent*; 5 = *to a very great extent*) the extent to which it was true for the manager. This was the critical perceptual manipulation, and the study's internal validity hinges on the degree to which the subjects accurately perceived the styles of the manager. Each of the manipulation checks was subjected to a 3 x 2 (leader behavior by performance) ANOVA. The analysis showed a highly significant main effect of leadership style on all the three items, and neither main effect of group performance nor interaction reached its significance level. Subjects saw the autocratic manager to a greater extent, [$F(2,144) = 189.19, p < .001, \eta^2 = .72$] as autocratic ($M = 3.76$) than the nurturant-task ($M = 2.44$) or participative ($M = 1.08$) type. Similarly they rated the nurturant-task manager to a greater extent [$F(2,144) = 57.03, p < .001, \eta^2 = .43$] as nurturant-task type ($M = 4.24$) than the autocratic ($M = 3.12$) or participative type ($M = 2.72$). Finally, the participative manager was perceived to a greater extent [$F(2,144) =$

116.65, $p < .001, \eta^2 = .69$] as participative ($M = 4.20$) than the nurturant-task ($M = 1.34$) or autocratic type ($M = 1.84$). Thus subjects perceived their experimental assignments as intended.

Leadership Perceptions Ratings

Figure 1 portrays the mean scores of the subjects' rating on dependent measures.

Attributions of Leadership.

Analysis of variance revealed a main effect for leader behavior, $F(2,144) = 11.59, p < .01, \eta^2 = .12$, a main effect for performance, $F(1,144) = 19.34, p < .01, \eta^2 = .10$, and an interaction between leader behavior and performance, $F(2,144) = 4.45, p < .01, \eta^2 = .05$. Subsequent Dunn analyses indicated that leader behavior made a significant difference in the attributions of leadership depending on whether the leader's efforts toward group performance were successful or unsuccessful. In the high performance condition, autocratic behavior was attributed significantly less leadership ability than were nurturant-task and participative behavior; also nurturant-task behavior was attributed more leadership ability than was participative behavior. Leader behavior also significantly affected attribution ratings in the low performance condition. In this case, nurturant-task behavior was attributed significantly more leadership ability than were participative and autocratic behavior, the last two did not differ from each other in attribution ratings.

Anticipated Effectiveness.

The general pattern, in this case, was not very different from that of attributions of leadership ratings. A main effect for leader behavior [$F(2, 144) = 87.73, p < .01, \eta^2 = .51$] was apparent, and subsequent Dunn analyses verified that,

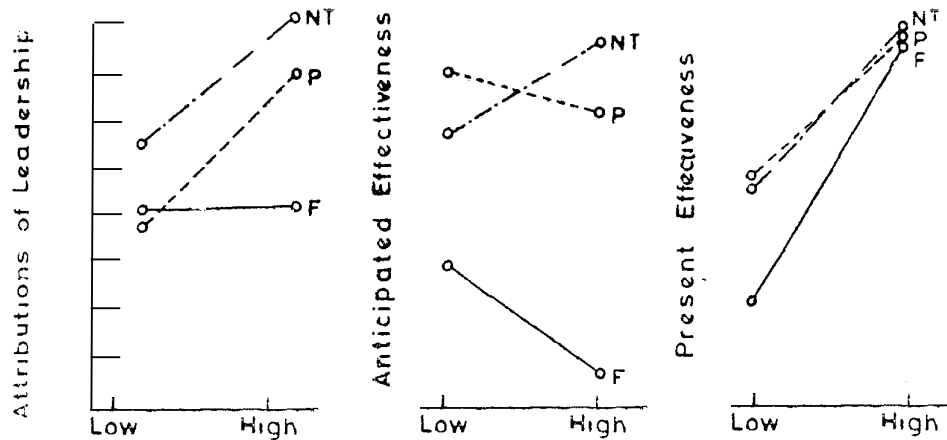


Figure 1. Leadership perception as a function of leader behavior and group performance (F = Autocratic; NT = Nurturant-task; P = Participative).

regardless of group performance, participative and nurturant-task behavior were rated significantly higher on anticipated effectiveness than was autocratic behavior. While there was no evidence of performance effect, a clear interaction between leader behavior and performance was noted [$F(2,144) = 12.09, p < .01, \eta^2 = .07$]. Subsequent analyses disclosed that, in the high performance condition, nurturant-task behavior was rated significantly higher on anticipated effectiveness than was participative behavior. On the other hand, the reverse was the case in the low performance condition; i.e., participative behavior was rated higher than was nurturant-task behavior. Regardless of group performance, as expected, autocratic behavior was rated significantly lower than were other leader behaviors.

Present Performance. Although main effect for leader behavior, $F(2,144) = 6.49, p < .01, \eta^2 = .05$, and interaction between leader behavior and performance, $F(2,144) = 4.11, p < .01, \eta^2 = .03$, were significant, much of the variance in the present performance rating was explained by the performance main effect itself, $F(1,144) = 108.26, p < .01, \eta^2 = .40$. Subsequent Dunn analyses indicated that all forms of leader behavior were rated significantly more on present performance

in the high performance condition, whereas autocratic behavior was rated significantly less in the low performance condition than were nurturant-task and participative behavior. The fact that performance cue has a stronger effect (40% of the variance) on present performance may also be interpreted as an evidence for successful manipulation of performance condition.

Discussion

Results generally provided support for the hypotheses. That is, both leader behavior and performance cues had significant effects on leadership perceptions. In addition, the interaction between performance cues and leader behavior was significant for all the dependent measures. Several themes are evident in the data which are in order. The first, concerning significant interaction, is clear and unambiguous: the interaction of leadership behavior with performance cues makes a significant contribution to the variance in leadership perceptions. This conclusion holds true for all the three dependent measures. Our data suggest: (a) that having high performance group nurturant-task and participative behavior receive more favorable ratings on attributions of leadership, whereas autocratic behavior regardless of performance conditions

receives less favorable ratings; (b) that nurturant-task behavior and participative behavior are perceived favorably on anticipated effectiveness in the high performance and the low performance conditions, respectively; and (c) that whereas performance cue has a strong positive effect on the present effectiveness ratings regardless of leader behavior, autocratic behavior receives the most negative ratings in the low performance condition. As regards performance cue effect, the present findings clearly support those of the previous studies (e.g., Mitchell et al., 1977; Rush et al., 1977). Effects of leader behavior are also in tune with the findings of Ansari (1986b) and those of Heilman et al. (1984). Yet the findings regarding the interaction effect are somewhat incongruent with those of Lord, Binning, Rush, and Thomas (1978). This inconsistency may be attributed to many differences in research designs, samples, dependent measures, and experimental manipulations between the present study and that of the Lord et al. Thus additional work in this area is warranted.

The second theme is of particular interest. Of the two independent variables examined in the present study, leader behavior clearly has the stronger effect. Contrary to the contingency formulation, participative and nurturant-task managers were seen favorably, no matter what the circumstances. This favorable perception was evident not only in attributions of leadership ratings but also in the ratings of effectiveness. This finding should, however, be viewed with caution. It is possible that reactions to the information provided were influenced by the fact that respondents were viewing the episode from the perspective of general audience rather than the definite perspective of subordinates or bosses. Yet this finding is quite consistent with that found in other studies. For example, Heilman et al. (1984), in a series of two studies, reported that participative leaders receive more favorable evaluation ratings than the autocratic ones. This finding was consistent regardless of who was doing the judging--the boss or the subordinate. Thus, the finding of the present study and that of Heilman et al. suggest that, regardless of the respondents' perspectives, participative leaders are liked more and are believed to have more successful interpersonal impact

than are autocratic ones. A similar observation was made in a recent experimental study by Ansari (1988b).

In view of the fact that more favorable ratings are received by nurturant-task behavior than any other leader behavior, some additional comments are in order. Evidence (Ansari, 1986a; Sinha, 1980) exists that the nurturant-task style has been invariably endorsed as the most practiced style of Indian managers. This conclusion holds equally true for those organizations which are decidedly ineffective. Thus Sinha (1985) wondered, "if the managers were employing nurturant-task style, ...why were these organizations ineffective?" (p. 28). He interpreted this inconsistency in the light of a culture-specific implicit theory (Eden & Leviatan, 1975) favoring the nurturant-task model of leadership (Verma, 1986). This implies that the effect of social desirability is so strong that managers even in ineffective organizations try to show themselves as nurturant-task oriented superiors. However, this is not the case in the present experimental data. Figure 1 shows that the evaluation of nurturant-task behavior clearly varies with respect to group performance. The present finding gets rather stronger support by a large survey recently conducted by Ansari (1987). The survey employed 440 executives representing seven organizations and was designed to investigate the moderating effect of organizational climate on the relationship between leader behavior and measures of organizational effectiveness. Ansari (1987) concluded that nurturant-task behavior was invariably endorsed in those organizations which had a favorable climate and was significantly and positively related to each of the effectiveness measures, whereas this leader behavior did not contribute significantly to any criterion measures in an unfavorable climate. In sum, the present finding and that of Ansari's survey suggest that nurturant-task behavior has an edge over other leadership behavior in the Indian set up because it is related to the indicators of organizational effectiveness.

Taken as a whole, the present findings make it clear that how a leader's behavior are seen will depend on the context in which the judgment takes place. This implies that, instead of holding one implicit notion

about effective leadership behavior; people generally seem to hold multiple notions. Further research examining the beliefs about leadership in a variety of settings is needed. It may be possible to extend such programs to actual work organizations. Future research should also focus on the status of the respondents; that is, who is judging--the boss, the subordinate, or the peer.

Finally, it should be noted that, because of our paper-and-pencil stimulus materials and measures, these results are to be interpreted with caution. Nonetheless the present findings, as noted above, are not inconsistent with those in the previous studies. A great deal of similarity in the present findings and those obtained in the previous studies is evident, given the many differences in research designs and samples. This fact may be considered as partial evidence for the external validity of the present experimental findings.

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