Leader Structure and Subordinate Satisfaction for Two Hospital Administrative Levels: A Path Analysis Approach

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The path-goal theory of leadership was examined by investigating relationships between leader initiating structure and subordinate satisfaction at two hospital administrative levels. It was hypothesized that at the higher occupational level, for 20 female associate directors, initiating structure would be negatively related to role ambiguity, and positively related to expectancy II and subordinate satisfaction. However, at the lower occupational level, for 20 female head nurses, it was hypothesized that initiating structure would be negatively related to subordinate satisfaction and unrelated to expectancy II. Subjects completed the Supervisory Behavior Description, an instrument adapted to measuring ambiguity, an instrument adapted to measuring expectancy II, and the Job Descriptive Index. The hypotheses were substantiated. A path analysis model was confirmed for associate directors, but not for head nurses, indicating initiating structure was a more important source of role clarification and subordinate satisfaction at the higher occupational level.

Evans (1970) and House (1971) have presented a path-goal theory of leadership that attempts to relate leader initiating structure to subordinate satisfaction. House (1971) concluded that role ambiguity, the lack of clarity and predictability one perceives in the work environment, is a key variable that moderates the relationship between leader behavior and subordinate satisfaction. Under conditions of high ambiguity, where roles are ill-defined, leader initiating structure is perceived to be instrumental toward role clarification, and is therefore positively related to subordinate satisfaction. Initiating structure is the degree to which the leader assigns tasks, specifies procedures, and schedules work to be done by subordinates (Fleishman, 1953). Conversely, when roles are well-defined, leader initiating structure is perceived to be unnecessarily close control and is therefore negatively related to subordinate satisfaction. According to House, role ambiguity is much more likely to be found at higher occupational levels.

Expectancy theory (e.g., Lawler, 1973) is one framework that might clarify the theory underlying these path-goal hypotheses. In a situation of high role ambiguity, leader initiating structure would be expected to be positively related to expectancy II, the perception of the probability of obtaining a reward given a certain performance (Lawler, 1973). In other words, role-clarifying behavior by the leader should act to clarify the probabilities of reward attainment. Perceptions of performance-reward probabilities should, in turn, be positively related to subordinate satisfaction. In situations where roles are relatively well-defined, however, leader initiating structure might not be necessary for role clarification and should therefore be unrelated to expectancy II.

The present study examines these questions at two hospital nursing administrative levels. The general hypothesis under investigation was: At the higher administrative level, roles will be less defined, and stronger relationships will exist between leader initiating structure, role ambiguity, expectancy II, and satisfaction with work.
METHOD

Sample and Procedure

The study was conducted at a major midwestern medical center, and was part of a larger research project which focused upon leader behavior–subordinate behavior relationships. The data collected by means of a large questionnaire which was completed during normal working hours in separate classroom and seminar facilities on the premises of the medical center. The dual objectives of psychological research and an anonymous attitude survey were explicated to the respondents. Further description of the sample, data collection, and total sample results may be found in Szilagyi and Sims (1974).

Because of a special request by the Director of Nursing, respondents from two nursing administrative levels (Associate Director and Head Nurse) were singled out for more detailed investigation. The Associate Director is a relatively new, higher level administrative position which reports directly to the Hospital Director. All associate directors were former head nurses who had been promoted to broader administrative responsibilities within the previous year. The primary distinction between the two positions is that the Head Nurse has direct patient-care supervisory responsibilities while the Associate Director has broad responsibilities of a policy-making nature and is not directly involved in patient care. Each of these two administrative groups contained 20 female subjects who had answered the questionnaire.

Measures

Leader initiating structure was measured by Fleishman's (1953) Supervisory Behavior Description (SBD) questionnaire. Role ambiguity was measured by the Rizzo, House, and Lirtzman (1970) instrument. Expectancy II was measured by an adaptation of an expectancy instrument developed by House and Dessler (Note 1). The split-half reliabilities (corrected by Spearman-Brown formula) for these scales were: initiating structure, .93; role ambiguity, .76; expectancy II, .93. Satisfaction with work was measured by the Job Descriptive Index (Smith, Kendall, and Hulin, 1969).

Analysis

Differences between means were tested by a one-tailed Student's t test. Relationships were evaluated using Pearson product-moment correlations, and differences between correlations were evaluated by a Z test.

Exploration of a causal model utilized the procedure of path analysis (Wright, 1934). Path analysis is a special type of multivariate analysis that deals with a closed system of variables which are assumed to be linearly related. The employment of this technique is facilitated by the use of a diagram showing the interrelationships of the variables undergoing analysis. In a path analysis diagram, a one-way arrow represents the causal relationship between each determining variable and each variable dependent on it. The analysis attempts to explain empirical findings in terms of the process which the researcher believes underlies the system, rather than by merely examining the bivariate relationships.

The first assumption of path analysis is that the degree of influence of one variable upon another can be expressed in some quantitative term. After the causal diagram has been constructed, a value is calculated for each causal arrow in the diagram; that value is known as the path coefficient and represents the degree of the causal influence. The actual computational procedures are not reviewed here, since excellent summaries are now available (Borgatta, 1969; Duncan, 1966). The path coefficients are none other than the beta coefficients, or standardized regression coefficients, calculated as in a typical regression model, and the usual algorithms for regression calculations may be employed.

RESULTS

When the means of the variables were compared for the two groups, the associate directors were found to have lower satisfaction with work (p < .10), higher role amb-

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TABLE 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Correlation coefficient</th>
<th>Z*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head nurse</td>
<td>.29*</td>
<td>1.94 (p = .06)</td>
</tr>
<tr>
<td>Associate director</td>
<td>.29*</td>
<td>1.94 (p = .06)</td>
</tr>
<tr>
<td>Initiating structure and satisfaction with work</td>
<td>-.35**</td>
<td>2.71 (p = .007)</td>
</tr>
<tr>
<td>Role ambiguity and satisfaction with work</td>
<td>-.24</td>
<td>0.350</td>
</tr>
<tr>
<td>Role ambiguity and expectancy II</td>
<td>-.54***</td>
<td>3.26 (p &lt; .001)</td>
</tr>
<tr>
<td>Expectancy II and satisfaction with work</td>
<td>.35**</td>
<td>1.30 (p = .20)</td>
</tr>
</tbody>
</table>

Note: * Z test for difference in correlation coefficients, ** p < .15, *** p < .10, **** p < .01.
guity ($p < .10$), and lower expectancy II ($p < .01$). No significant differences in perceptions of initiating structure were found.

Table 1 shows the differences between correlation coefficients of the two administrative groups. Initiating structure and satisfaction with work were negatively related for the head nurses, but positively related for the associate directors. Initiating structure was negatively related to role ambiguity for the associate directors, and positively related to expectancy II. Role ambiguity was negatively related to satisfaction with work for both groups, but negatively related to expectancy II only for the associate directors.

To further explicate these results, a simplified model was constructed and tested through the use of path analysis. In Figure 1, a path analysis diagram is shown for the associate director group. It can be seen that the magnitude of the path coefficients strongly reinforced the a priori construction of the model. Although structure was positively related to satisfaction with work, the strength of the relationship was seen to lie through the paths of the intervening variables rather than through a direct relationship. The adjacent variables in the diagram showed stronger relationships than those that were not adjacent. Figure 2 shows that, for the head nurses, the proposed model did not hold. In general, the strongest relationships are not obtained for adjacent variables, which fact destroys the validity of the causal model for the head nurse group.

**DISCUSSION**

The results were consistent with House’s (1971) belief that occupational level moderates the relationship between leader behavior and subordinate satisfaction. Initiating structure was negatively related with satisfaction with work ($r = -.35, p < .10$) for head nurses in a low-ambiguity situation, while the two variables were positively related ($r = .29, p < .15$) for associate directors, in a high-ambiguity situation. This result indicated that associate directors, occupying a position in which the requirements of work performance tend to be ill-defined, had a positive response to supervisory clarification and guidance furnished by initiating structure. Thus, in this high-ambiguity situation, initiating structure clarified the path to subordinate goals, resulting in subordinate satisfaction.

In the nonambiguous situation, head nurses

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**Figure 1.** Path analysis diagram for associate directors. (Correlation coefficients are shown in parentheses; path coefficients are shown without parentheses.)

**Figure 2.** Path analysis diagram for head nurses. (Correlation coefficients are shown in parentheses; path coefficients are shown without parentheses.)
did not require clarification or initiating structure. Role prescriptions for head nurses are generally prescribed by professional standards, practices, and norms. Georgopoulos (1972) suggested an explanation for these prescriptions: "Because of the nature of its work . . . the hospital shows a great concern for favorable outcomes and for clarity of responsibility and accountability, with little tolerance for ambiguity or error" (p. 18). Consequently, for the head nurses, leader initiating structure was not needed to clarify the path to subordinate goals, and was therefore not positively related to subordinate satisfaction. Rather, the negative relationship between the two variables indicated that structure was seen as unnecessary control by the leader.

As predicted, expectancy II was positively related to both initiating structure and satisfaction at the higher occupational level. This indicated that initiating structure clarified the probabilities of reward attainment, and that those probabilities were positively related to satisfaction. Further, since expectancy II was unrelated to initiating structure at the lower occupational level, it seemed likely that initiating structure was not necessary for clarification of the perception of performance-reward probability. The inclusion of the expectancy II variable has extended the path-goal theory of leadership and has provided an empirical link to an expectancy theory of motivation.

The path analysis models have supplemented these correlational findings, and, at the higher occupational level, have supported the assumption of a causal link between leader initiating structure, role ambiguity, expectancy II, and subordinate satisfaction. To some extent, the situation found by the analysis is not unique. Many individuals in many organizations face the problem of adjusting to situational ambiguities when promoted from a technical job to an administrative job. This research demonstrates how leader initiating structure can assume greater importance at higher administrative levels where role clarification is required to explicate the appropriate path to subordinate goals.

REFERENCE NOTE


REFERENCES


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