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Supervisory Performance and Satisfaction in Relation to Supervisory Style Interactions at Adjacent Levels of Management

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SUPERVISORY PERFORMANCE AND SATISFACTION IN RELATION TO SUPERVISORY STYLE INTERACTIONS AT ADJACENT LEVELS OF MANAGEMENT

by

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Abstract

The present study examined, for a range of industrial management positions, the relationship of supervisory style patterns at adjacent managerial levels to supervisory performance and job satisfaction. It also investigated the utility of Fiedler's Contingency Model for determining the supervisory style associated with optimal work group performance at the middle levels of industrial management. Supervisory style was viewed as the extent to which a supervisor's job related behaviour was basically task-oriented or human relations-oriented. One hundred and twenty-four production supervisory staff representing six manufacturing companies and six organizational levels completed a multi-faceted questionnaire. Measurement devices included: three indices of supervisory style, measures of satisfaction with four separate aspects of the job, two higher management ratings of job performance and independent ratings of position power and job task structure.

The results suggested that, for most levels of industrial management, a subordinate manager's similarity to his immediate supervisor was unrelated to the subordinate's job satisfaction. At the third level of management similarity of supervisory style was positively related to this manager's satisfaction with his work and his coworkers. The results provided considerable support

for earlier findings which showed that subordinate job satisfaction was positively related to the supervisor's "consideration" behaviour as perceived by the subordinate manager. Analysis of data related to the Contingency Model provided little support for the model's validity in terms of the present sample.

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REVIEW OF THE LITERATURE

The literature on leadership reveals many studies demonstrating various relationships between leadership style and group performance and satisfaction (Sales, 1966; Dubin, 1965; Korman, 1966; Vroom, 1967). However, in large organizations with many levels of management, these relationships become much more complex. For example, situational variables such as follower characteristics, leader power and group task may vary markedly from one level to the next. To be effective leader behaviour should vary accordingly.

For several decades leadership theory and research have been moving away from the concept of universal leadership traits and the "one best way to lead". Recognizing this approach as an oversimplification, modern theorists view leadership effectiveness as the result of an interaction between the leader's characteristics, his behaviour, the nature of the followers, and situational characteristics including the nature of the task and organizational setting.

One of the recent problems addressed by theorists concerns whether a manager should select subordinate supervisory staff who are similar or dissimilar to him in managerial style. A number of studies have shown that patterns or interactions of supervisory style at adjacent

managerial levels are differentially related to satisfaction and performance of work groups. A long term research project by Fiedler and his associates has demonstrated considerable support for a model which indicates that group performance is contingent upon the interaction of supervisory style and situational favourableness (Fiedler, 1971). Conceptually comparable work by Fleishman and his colleagues has identified two supervisory behavioural dimensions which are associated with a wide range of managerial performance criteria (Fleishman, 1971).

The Group Satisfaction Studies

Several recent studies investigated the effects of patterns of supervisory style across organizational levels upon work group satisfaction.

In an unpublished laboratory experiment, Hunt and Nealey (1967) studied seven-man student teams which performed a creative task and a manual assembly task. Each team consisted of an executive (second-level manager) and two subordinate first level managers, each of whom supervised two workers. Within each team one of the subordinate managers had a leadership style similar to the executive and the other manager had a style different from the executive. Leadership style was measured by Fiedler's Least Preferred Co-Worker Scale (LPC) (Fiedler, 1967).

The LPC measure is obtained by asking the S to think of everyone with whom he has ever worked and to describe the person with whom he had the most difficulty in getting the job done. This description is made along sixteen bi-polar adjective scales similar in format to the Semantic Differential (Osgood, Suci and Tannenbaum,1957) but using items descriptive of interpersonal relations in the work situation (See Appendix A). Numerous studies have shown that the leadership style of a person who scores low on LPC is oriented towards successful completion of the task while high LPC scores are indicative of leadership which facilitates the development of good interpersonal relations (Hawkins, 1962; Mitchell, 1970; Bishop, 1964). For a more detailed discussion of LPC the reader is referred to page 12 of the present study. Fiedler's Group Atmosphere Score was the index of the manager's satisfaction with his executive (Fiedler,1967).

On the assembly task (construction of toy dogs) the subordinate manager's satisfaction with both his executive and his subordinates was higher when the manager's leadership style was similar to that of his executive. Relationship-oriented managers were more satisfied with both their superiors and their subordinates while working under relationship-oriented executives. Task-oriented managers were more satisfied working for task-oriented executives. The above findings indicated

that congruence of supervisory style was associated with higher group atmosphere on the more structured task. This suggests that patterns of LPC scores may be of more importance in structured than in unstructured tasks.

Wood and Sobel's (1970) field study investigated the effects of interactions of leadership style on satisfaction for first (N = 48) and second level (N = 24) managers in twenty-one United States Post Offices. Leadership style was measured by Fiedler's Least Preferred Coworker Scale (LPC) (Fiedler, 1967). Satisfaction of the first level manager was estimated using the Supervisor, Work, and Coworker job dimensions of the Job Descriptive Index (Smith & Kendall, 1969).

Wood and Sobel found high LPC first level supervisors were significantly more satisfied ($\bar{X}$ satisfaction score = 45.25) with managers who had high LPC scores than were low LPC first level supervisors ($\bar{X}$ satisfaction score = 34.42) who had high LPC managers ($p<.025$). However, where the second level manager had a low LPC score, the difference in satisfaction between high and low LPC first-level managers was not significant.

Similar results were obtained for the criterion of satisfaction with co-workers. High LPC first level supervisors were significantly more satisfied (with their coworkers, $\bar{X}$ score = 47.00) when they had immediate supervisors of similar leadership style than

when their immediate supervisors were dissimilar in style ($\bar{X}$ score = 42.08, $p<.05$).

Leadership style interactions failed to have a significant effect upon the first level supervisor's satisfaction with the work. However, low LPC first-level supervisors tended to show greater satisfaction with the work when their immediate supervisors had similar low LPC scores.

The above study demonstrated that interactions of leadership style across the first two levels of management affected the first level manager's satisfaction with selected aspects of the job. Satisfaction scores were generally higher when first level supervisors worked under managers whose leadership styles were similar to their own.

Nealey and Blood's (1968) field study examined subordinate job satisfaction of first level (head nurse) and second level (unit supervisor) managers in a Veterans' Administration Hospital. Subordinate job satisfaction was measured by five scales of the Job Descriptive Index (Smith, Kendall and Hulin, 1969). Fiedler's Least Preferred Coworker Scale and the Supervisory Behaviour Description Questionnaire (Stogdill and Coons, 1957) assessed supervisory style. The results demonstrated that the LPC scores of supervisors did not correlate significantly with any area of subordinate job satisfaction. However subordinate job

satisfaction with the work, coworkers and supervision was significantly and positively related to the Consideration and Structuring behaviour of first line supervisors (head nurses). At the second level of management, subordinate job satisfaction with the immediate supervisor (unit supervisor) was positively related to Consideration but negatively related to Structuring behaviour. Nealey and Fiedler's (1968) additional analysis of the results indicated that incongruent patterns of leadership style at adjacent levels of supervision predicted higher subordinate job satisfaction. Relationship-oriented (low LPC) head nurses were significantly more satisfied with their superiors when they were task-oriented (high LPC). Task-oriented head nurses were more satisfied working under relationship-oriented unit supervisors.

Hunt's (1971) laboratory experiment investigated the effects of leadership-style patterns on group satisfaction. One hundred and eighty-two male business students were assigned to 26 experimental teams, each composed of 7 subjects. Each team was supervised by an executive (second level manager) with 2 first level managers subordinate to him; each of whom supervised two workers. Teams were assigned to one of four experimental treatments based on pretest LPC scores. Seven of the teams had a high LPC executive and high LPC managers. Seven teams had a high LPC executive and low LPC managers.

In another condition six teams were coordinated by low LPC executives and low LPC managers. Under the last condition, six teams had a low LPC executive and high LPC managers. The group task consisted of a highly complex problem involving the simulated design of a tape recorder. Fiedler's LPC scale measured supervisory style (Fiedler, 1967). The supervision, work and coworker scales of the Job Descriptive Index (Smith, Kendall and Hulin, 1969) assessed satisfaction with the job.

The results indicated that there were no significant supervisory-style interaction effects for the satisfaction criterion. However, managers with high LPC scores were significantly more satisfied with the executive than managers with low LPC scores. Workers were found to be more satisfied with the work when they had executives (second level supervisors) with high LPC scores.

Misumi and Shirakashi's (1966) field experiment investigated group satisfaction (with the work, the immediate supervisor and general group morale) under conditions which varied the leadership style of first and second level supervisors. Students at a Japanese Postal Training Center were involved in counting the number of holes in I.B.M. punch cards. Graduate students acting as first and second level supervisors exhibited one of three supervisory styles: performance-centered, employee-centered or a combination of the above styles.

The results demonstrated that patterns of leadership style at the first two management levels were unrelated to the indices of subordinate job satisfaction. However, group satisfaction with the work and the first line supervisor was significantly greater where the first line supervisor exhibited a performance-centered/employee-centered leadership style.

This study is somewhat difficult to compare to the other group satisfaction studies in that the measures of group satisfaction were not operationally defined.

Two recent studies investigated the effects of leadership style interactions of group leaders and group members; rather than across two levels of supervision. Wearing and Bishop's (1967) study focused on leadership style patterns of military squad leaders and squad members under two conditions. In the non-competitive situation, neither congruent nor incongruent patterns were exclusively associated with high member adjustment scores (satisfaction, self-esteem). But in the competitive condition, congruent groups (squad leaders and members having similar high or low LPC scores) demonstrated significantly higher adjustment scores.

Hanke's (1971) unpublished laboratory experiment examined the effects of leadership style scores of group members and leaders upon several dimensions of satisfaction. In two of the conditions (LoLo and HiHi),

group leaders and members were homogeneous in leadership style (as measured by the LPC pretest). Under two other conditions (LoHi and HiLo), leaders differed from group members in leadership style. Each group consisted of six students who were enrolled in introductory psychology courses. Groups were presented with similar discussion tasks on two separate trials.

The results indicated that patterns of leadership style contributed to member satisfaction of the homogeneous groups (i.e. groups in which the leader and members were similar in leadership style). Satisfaction with the group solution, group leader and group process (Group Atmosphere Scale, Fiedler, 1967) increased over trials for groups which were similar in leadership style (HiHi and LoLo groups).

Studies reported in the literature which relate patterns of supervisory style to group satisfaction are conceptually quite comparable in that they consistently examine the relationship of similarity and dissimilarity of supervisory style to subordinate job satisfaction. They are also methodologically similar because several of the same measurement devices appear in the various studies (Fiedler's LPC scale and the Job Descriptive Index scales).

These studies present conflicting evidence concerning the relationship of supervisory style patterns

to measures of job satisfaction. Hunt and Nealey's (1967) laboratory experiment and Wood and Sobel's (1970) field study demonstrated that the similarity of supervisory style was positively related to the first level manager's job satisfaction. On the other hand, Nealey and Fiedler's (1968) additional analysis of the hospital study (Nealey and Blood, 1968) revealed that incongruence of supervisory style was associated with significantly higher job satisfaction of first level nursing supervisors. Hunt's (1971) experiment produced evidence that supervisory style interactions were unrelated to the job satisfaction of first level managers. Misumi and Shirakashi's (1966) field experiment demonstrated that supervisory style patterns were unrelated to the satisfaction of postal work groups.

These results suggest that additional research is required in order to clarify the relationship of supervisory style patterns to subordinate job satisfaction.

The Group Performance Studies

A number of recent studies investigated the effects of leadership style interactions on work group performance.

Hunt and Nealey's (1967) laboratory experiment (see above) involved teams of students working on a highly structured production task and a task which

involved writing a radio advertisement for a clothing store. These investigators found that congruence or incongruence of leadership style across levels of supervision had no significant effect upon group productivity.

Nealey and Blood's (1968) study of nursing supervision in a Veteran's hospital demonstrated that favourable performance required different leadership styles at different supervisory levels. Immediate supervisors rated the first two levels of supervision on four scales: patient care, information about patients, human relations skill, and general job performance. Fiedler's LPC scale measured leadership style. The results indicated that low LPC (task-oriented) first level nurses received higher ratings on the performance criteria. Second level supervisors who scored high on the LPC measure received significantly better ratings from their superiors.

The above study was replicated by Nealey and Owen Owen (1970) in the same setting. The results for first level nurses supported the earlier findings in that LPC scores were found to correlate negatively with ratings of patient care ($r = -.486$) and general job performance ($r = -.500$) ($p<.05$, $N = 25$). LPC scores of second level nurses were unrelated to performance ratings.

A laboratory investigation by Hunt (1971) examined the effects of combinations of executive-manager leadership styles upon team performance of a simulated

engineering task (see above). It was found that knowledge of the leadership styles of both the first level supervisor (manager) and the second level supervisor (executive) predicted team performance significantly better than either LPC score alone. Executives with low LPC scores and managers with high LPC scores had the best performing groups. Groups exhibiting the poorest performance had high LPC executives who supervised low LPC managers. Although the investigator demonstrated that patterns of supervisory styles at adjacent management levels were differentially associated with group performance, no attempt was made to identify the factors which contributed to the relationship.

Misumi and Shirakashi's (1966) field experiment examined the performance of groups of postal trainees under different combinations of first and second level leadership styles.

The results indicated that performance was maximized in the condition where first line supervisors of the performance-employee type reported to the second level supervisors of the same style ($p<.01$). Similarity of leadership style at adjacent levels of supervision was found to predict highest performance. The employee orientation was interpreted to function as a catalyst in combination with the production orientation in providing "optimum stimulation for the increment of productivity".

However, these results must be viewed with caution. Subjects' perceptions of the supervisor's behaviour indicated that manipulation of the second level supervisor's leadership style was not completely successful. Secondly, each experimental condition contained only one (N = 1) task group.

Hanke's (1971) unpublished laboratory study focused on leadership style interactions of group members and leaders rather than across adjacent levels of supervision. Groups of introductory psychology students participated in a human relations discussion task. Group productivity was operationally defined as the quality of the group solution as assessed by three independent raters. An ANOVA of the ratings indicated that productivity was not significantly affected by an interaction between leadership style of group members and leaders as predicted.

Studies reported in the literature which investigate the relationship of supervisory style interactions to work group performance are conceptually comparable in that they focus upon the relation of similarity and incongruence of supervisory style to work group performance. Operational definitions of work group performance generally vary in terms of the organizational setting.

The results of the studies are generally inconclusive. Hunt's (1971) experiment determined that

incongruence of supervisory style at the first and second supervisory levels was associated with optimal team performance. In contrast, Misumi and Shirikashi's (1966) study of a postal training center produced evidence that similarity of supervisory style was related to highest group performance. Results of the Hunt and Nealey (1967) study suggested that both similarity and incongruence of managerial style were unrelated to group productivity.

The inconsistency of the results appears understandable when one considers the wide range of organizational settings (post office, hospital, laboratory) and variations in tasks and situational demands.

These findings suggest that further research is needed in order to clarify the relationship of supervisory style patterns to work group performance.

Leadership Effectiveness Studies

Least Preferred Coworker Scale -

An extensive sixteen year research program by Fiedler (1967) has helped to shed some light upon the complex phenomena of leadership and group productivity. Fiedler's "Contingency Model" asserts that group effectiveness is contingent upon the interaction of leadership style and the "favourability" of the situation for the leader. Leadership style is operationally measured by the Least Preferred Coworker (LPC) Scale (Fiedler, 1967).

The LPC measure (presented in Appendix A) is obtained by asking the S to think of everyone with whom he has ever worked and to describe the person with whom he had the most difficulty in getting a job done. This description is made along sixteen interval scales similar to Osgood's Semantic Differential (Osgood, Suci and Tannenbaum, 1957) but using items descriptive of interpersonal relations in the work situation.

Each item of the LPC scale is a bi-polar adjective checklist with numerical values which range from 8 at the favourable end to 1 at the unfavourable end. Since the scale consists of 16 items the possible range of scores is from 16 to 126. For a large number of unspecified samples, Fiedler "empirically determined" that low LPC scores range from 16 to 44 while high LPC scores range from 82 to 128. An individual's score is calculated by summing the item scores on the sheet describing the individual's least preferred coworker. A high score (having an average item of value of about 5 on the 8-point scale) indicates that the S has described his least preferred coworker in relatively favourable terms. A low score ($\bar{X}$ item value of 2) means that the least preferred coworker has been described in a very negative rejecting manner.

Interpretation of LPC Scores -

Early research supported the interpreation that LPC is a complex concept which can be described as a style of leadership. Hawkins (1962) demonstrated that low LPC leaders are more task-oriented than relationship-oriented. They demand more good performance from group members and are more controlling and managing of the group interaction (Fiedler, Meuwese and Oonk, 1961). Low LPC leaders interrupt group members more often and make more negatively toned statements.

High LPC leaders are more concerned with establishing good interpersonal relations. Stogdill and Coons (1957) employed a factor analytic technique to differentiate between the "task function" and the "consideration function" of leadership. Meuwese (1964) empirically demonstrated that high LPC leaders are more considerate on the "consideration function" as defined by Stogdill and Coons (1957). The members of groups with "considerate" or high LPC leaders tend to be lower in anxiety; they get along better with one another and they are more satisfied to be in the group. Bishop (1964) revealed that the high LPC person derives his major satisfaction from successful interpersonal relationships while the low LPC individual obtains his major satisfaction from task performance.

Mitchell (1970) demonstrated that high LPC leaders tend to be cognitively more complex in their

thinking about groups. Low LPC leaders tend to give more stereotyped, cognitively simple responses.

The accumulation of more data has influenced Fiedler to modify his interpretation of the LPC score (Fiedler, 1971) to include the concept of a goal hierarchy. High LPC leaders have the establishment of good interpersonal relations as a primary goal with prominence and self-enhancement as a secondary goal. Low LPC leaders view successful completion of the task as the primary goal and are somewhat less concerned with the development of good interpersonal relations. A leader will attempt to achieve both types of goals in situations where his influence is relatively great. He will stress only his primary goal when the situation is unfavourable or stressful and it is not possible to obtain both primary and secondary goals.

In summary, high LPC leaders are concerned with gaining self-esteem through the development of good interpersonal relationships. Low LPC leaders are concerned with gaining self-esteem through successful completion of the task.

Situational Favourableness -

According to the "Contingency Model" the variable which moderates the relationship between leadership style (LPC) and group performance is situational favourableness.

It is defined as the extent to which the task group situation allows the leader to influence and control the group's behaviour. Situational favourableness is operationalized in terms of three dimensions: (a) leader-member relations, (b) task structure, and (c) position power. Subsequent studies have shown leader-member relations to be the most important of these situational factors, followed by task structure and position power, respectively (Fishbein, Landy and Hatch, 1969; Mitchell, 1969).

The Contingency Model postulates that it is easier to be the leader of a group that respects and accepts its leader, or in which the leader feels accepted, than in a group that distrusts and rejects its leader. Quality of leader-member relations can be assessed by a number of methods but a Group Atmosphere Scale is the most frequently used measure (Fiedler, 1967). The leader is asked to describe his work group on a checklist of bi-polar adjectives practically identical to the Least Preferred Coworker Scale (See Appendix B). Summation of the item scores yields a reliable and meaningful estimate of the extent to which the leader feels accepted by the group (Fiedler, 1962).

Task structure is the second situational factor which affects the degree to which the leader can influence his group. It is considered easier to be a

leader of a group that has a highly structured, clearly outlined task than of a group that has a vague, unstructured, nebulous task. Task structure is operationalized using several of Shaw's (1963) dimensions for the classification of tasks. Four of the relevant scales: decision verifiability, goal clarity, goal path multiplicity and solution specificity appear in Appendix C.

Position power of the leader is another determinant of situational favourability. The leadership function is easier when the position is vested with power to hire and fire, promote, and administer positive or negative sanctions. Lack of authority does not facilitate group members' compliance with their leader's directions. Appendix D shows a 13 item checklist containing various indices of position power (Hunt, 1967). Summation of the individual items provides a reliable estimate of the leader's position power (Fiedler, 1967).

Dichotomizing each of the three aspects of situational favourableness results in the eight celled classification system presented along the horizontal axis of Figure 1. Situational favourableness for the leader is maximized in Octant I and minimized in Octant VIII.

Figure 1 plots the results of 15 studies (antedating 1963) which contributed to the development of the Contingency Model. Spearman rank-order correlations

Fig. 1: Correlations Between Leaders' LPC Scores and Group Effectiveness Plotted for Each Cell

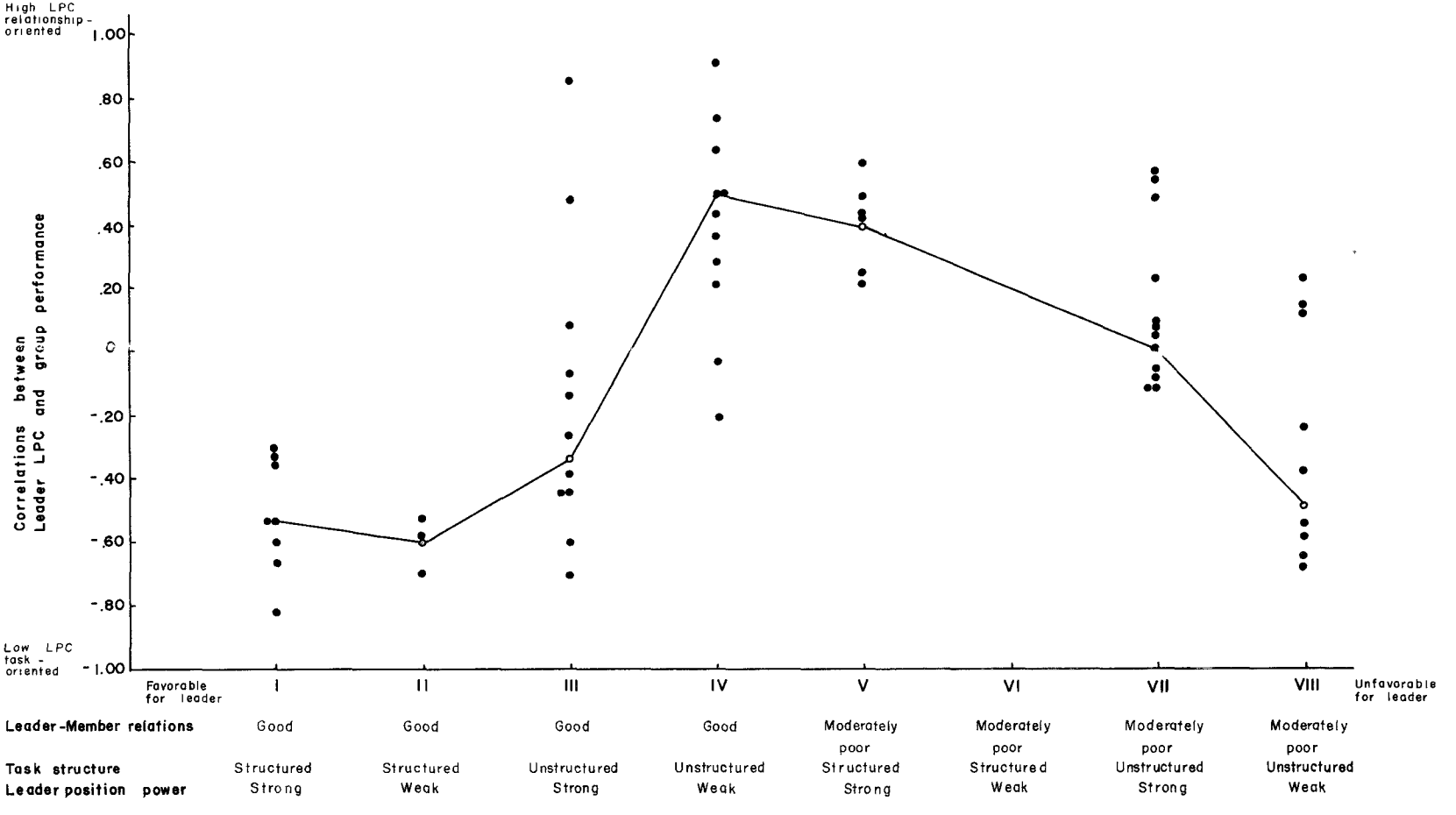
High LPC relationship-oriented
1.00
.80
.60
.40
.20
0
-.20
-.40
-.60
-.80
Low LPC task-oriented
-1.00
Correlations between Leader LPC and group performance
Favorable for leader
I
II
III
IV
V
VI
VII
VIII
Unfavorable for leader
Leader-Member relations
Good
Good
Good
Good
Moderately poor
Moderately poor
Moderately poor
Moderately poor
Task structure
Structured
Structured
Unstructured
Unstructured
Structured
Structured
Unstructured
Unstructured
Leader position power
Strong
Weak
Strong
Weak
Strong
Weak
Strong
Weak

Fig. 1

between leadership style (LPC score) and group performance are plotted for each cell of the situational favourableness dimension. It can be seen the task-oriented (low LPC) leaders perform more effectively than relationship-oriented leaders (high LPC) in very favourable (Octants I, II & III) or very unfavourable (Octant VIII) situations. Relationship-oriented leaders are more effective in situations intermediate in favourableness (Octants IV, V & VII).

Fiedler's (1971) extensive review of studies designed to test the Contingency model lists only two such studies which are relevant for the present research. Both studies (Hunt, 1967 and Hill, 1969) followed the exact methodology of Fiedler's model (1967) and each tested the model's validity in an industrial setting.

Hunt examined the model's ability to predict the performance of production foremen in a heavy machinery plant. Management personnel provided ratings of task structure, position power and performance for production foremen. LPC scores were found to correlate -.80 with performance for those foremen (N = 5) who were classified as falling into Octant III. For those foremen in Octant VII (N = 5) the correlation between performance and leadership style was -.30. These results confirmed the model's predictions.

Hill's (1969) study investigated the performance of assembly line instructors in a large electronics manufacturer. A panel of three judges assessed task structure (Shaw, 1963) and position power (Hunt, 1967). Departmental managers rated the assembly instructors on several dimensions of job performance. LPC scores correlated -.10 with performance for assembly instructors (N = 9) who fell into Octant II. For those instructors (N = 9) who were classified in Octant VI, the correlation between LPC scores and performance was -.24. Such data provide evidence of the model's predictive ability.

The extent to which the above two studies assess the validity of the Contingency model for industrial management is somewhat questionable. In the Hunt study (1967) production foremens' jobs were defined as being "unstructured". Current trends in industrial management support the conclusion that lower level supervisory positions are more appropriately defined as being "structured" jobs. Hill's (1969) study examined the performance of "assembly line instructors". Positions of this type are typically viewed as part of the "staff function" and are not construed to be part of lower level industrial supervision.

The Supervisory Behaviour Studies

Introduction -

A long-term leadership research program (1946-1956) at Ohio State University established "Consideration" and "Initiating Structure" as basic dimensions of leadership behaviour in formal organizations (Fleishman, 1971). These variables were identified as a result of many factor-analytic investigations which determined the smallest number of dimensions which would adequately describe leader behaviour, as perceived by the leader's subordinates and the leader himself. The two dimensions were defined as (Fleishman and Peters, 1962):

> Consideration (C): Reflects the extent to which an individual is likely to have job relationships characterized by mutual trust, respect for subordinates' ideas, and consideration of their feelings. A high score is indicative of a climate of good rapport and two-way communication. A low score indicates the supervisor is likely to be more impersonal in his relations with group members.
>
> Initiating Structure (S): Reflects the extent to which an individual is likely to define and structure his role and those of

> his subordinates toward goal attainment. A high score on this dimension characterizes individuals who play a more active role in directing group activities through planning, communicating information, scheduling, trying out new ideas, etc.

In the industrial situation, these dimensions are measured by two separate questionnaires depending on the nature of the responding population. The "Leadership Opinion Questionnaire (LOQ)", a Likert-type attitude scale, assesses how the leader thinks he should behave in his leadership role (Fleishman, 1953). The "Supervisory Behaviour Description Questionnaire (SBDQ)" measures subordinate perceptions of supervisory behaviour (Fleishman, 1957).

Development of the SBDQ -

Hemphill's original measure, the Leader Behaviour Description Questionnaire, contained 150 statements descriptive of leadership behaviour (Hemphill, 1950). A factor analysis of the responses of 300 Air Force crew members who described their commanders revealed two major and two minor factors. The major factors "Consideration" and "Initiating Structure" accounted for 80 per cent of the common variance among the 150 items. "Prediction Emphasis" and "Social Sensitivity" were the minor factors.

New keys were developed to score the questionnaire along these factor dimensions. Highest loading items were selected for each key.

The revised measure, the Supervisory Behaviour Description Questionnaire, was administered to a sample of 100 International Harvester foremen who described the behaviour of their own supervisors. By intercorrelating the scores on each of the four dimensions, it was found that they showed considerable overlap with one another. Dimension intercorrelations ranged from .56 to .80. This may have been due to "halo" effect or because certain items on the various scales had high loadings on several dimensions. To clarify these problems tetrachoric correlations of every item with each dimension total score were calculated to reveal sources of overlap between the dimensions. It was found that most items correlated highly with the dimension to which they were assigned. However, many items also correlated highly with one or more dimensions to which they were not assigned.

Next, the item-dimension correlations were compared with the loadings from the Air Force sample by orthogonal rotation of factors (Wherry, Campbell and Perloff, 1951). Factor rotation increased item loadings on the dimensions to which they were assigned and decreased loadings on other dimension. Furthermore, it was found that the two major dimensions ("Consideration"

and "Initiating Structure") accounted for practically all of the variance.

Item-dimension loadings from the Harvester sample produced two new scoring keys, one for "Consideration" and one for "Initiating Structure". The selection of items for each dimension were based on the following criteria: (a) the item should have a high loading on the appropriate dimension, (b) the item should load as close to zero as possible on the other dimension, and (c) items which did not discriminate among supervisors (most respondents picking the same alternative) were rejected. Table 1 contains examples of some of the 28 items which best met these criteria for the "Consideration" scale and examples of some of the 20 items which were included in the "Initiating Structure" scale (See Appendix E).

Characteristics of the SBDQ -

The 48-item revised version of the SBDQ was administered to 122 foremen in an International Harvester truck manufacturing plant (Fleishman, 1953). Foremen were asked to describe the behaviour of their own immediate supervisor. In the final form of the questionnaire, response alternatives for each item were weighted from zero to four. Thus the score range for "Consideration" (28 items) was 0 - 112 and 0 - 80 for "Initiating Structure" (20 items). Table 2 summarizes the results of the above

study (See Appendix E). It was found that the two dimensions were quite independent ($r = -.02$), that the dimensions were internally consistent, and the questionnaire produced a wide range of scores on each dimension.

Additional data confirming the orthoganality of these two dimensions is reported briefly by Stogdill and Coons (1957). For 90 first line supervisors who described their superiors on the SBDQ, the correlation between "Consideration" and "Structure" was established as -.05.

Stogdill and Coons (1957) reported inter-rater reliability coefficients for a sample of workers who described 31 foremen on the SBDQ. Agreement coefficients were estimated as .72 for the Consideration Scale and .64 for the "Initiating Structure" dimension. Foremen who described 60 general foremen demonstrated (inter-rater) agreement coefficients of .65 and .47 the "Consideration" and "Structure" scales, respectively.

Harris and Fleishman (1955) investigated the stability of SBDQ scores over time. Three hundred workers described 100 first line supervisors using the SBDQ. A year later, 300 other workers described the same foremen. Test-retest reliability estimates of .56 and .53 were obtained for the Consideration and Structure scales, respectively. In other words, "a given individual's leadership pattern does not seem to change

very much in the same general situation, and you can make some pretty good predictions about it from one time to the next" (Fleishman, 1971).

Numerous field studies have assessed the validity of the SBDQ by correlating it with other independent measures of leadership effectiveness. Fleishman et al. (1955) obtained correlations between descriptions of foremen behaviour and independent indices of absenteeism, turnover, accident rates and grievances. Descriptions of foremen behaviour were also correlated with ratings of foremen effectiveness by management. They found, for example, that high scores on the "Structure" scale were positively related to high effectiveness ratings but also to more grievances. High "Consideration" scores were related to lower effectiveness ratings and greater employee absenteeism.

In a study of over 300 Israeli foremen, Fleishman and Simmons (1970) established that those who scored high on both "Consideration" and "Structure" showed a disproportionate number of high proficiency ratings.

The above findings and others (Anderson, 1966; Fleishman and Harris, 1962) present adequate evidence that scores on the Supervisory Behaviour Description Questionnaire are predictive of other independent leadership criteria.

Previous research relating patterns of supervisory style to job satisfaction and performance appears somewhat inconclusive. A number of studies provide evidence suggesting that similarity of supervisory style across managerial levels is associated with higher subordinate job satisfaction (Hunt, et al., 1967; Wood and Sobel, 1970) and greater productivity (Misumi and Shirikashi, 1966). Other investigators have shown that incongruence of supervisory style at adjacent levels of management is positively related to job satisfaction (Nealey and Fiedler, 1968) and group performance (Hunt, 1971).

The literature suggests that nearly all investigations of supervisory style interactions were conducted in institutional (e.g., hospital, military and postal) or laboratory environments. In addition, the effects of supervisory style patterns at middle and senior management levels have received little or no attention.

In view of current research developments the present study extends the investigation of supervisory style patterns to an expanded range of management personnel from the industrial management.

A major purpose of the present study is to investigate further the effects of supervisory style interactions upon subordinate job satisfaction and supervisory performance. In order to examine this relationship, the present study utilizes

a model based on social psychological theories which define the relationship of attitude similarity to interpersonal attraction.

These theories postulate a linear relationship between attitude similarity and interpersonal attraction (Heider, 1946; Newcomb, 1953). Byrne and his associates demonstrated that interpersonal attraction is a linear function of the proportion of similar attitudes (Byrne, 1961; Byrne and Clore, 1966; & Byrne and Nelson, 1965). Secord and Backman (1964) have established that those who are seen as similar to one's self in attitudes and personality attributes are preferred over those who are dissimilar. Fiedler has shown supervisory style (LPC) to be a relatively stable attitude (Fiedler, 1967). Interpreting job satisfaction as a measure of attraction and supervisory style (LPC) as an attitude, suggests that job satisfaction is a function of the similarity of attitudes as indexed by similarity of LPC scores at adjacent supervisory levels.

In order to investigate the relationship of supervisory style interactions to supervisory performance, the present study utilizes Fiedler's Contingency Model. The model has shown that supervisory performance is a product of the interaction between the supervisor's style and the favourability of the situation for the leader. Nealey and Fiedler (1968) suggested that in order to investigate

supervisory style interactions at adjacent levels of supervision the characteristics of the subordinate level manager could be viewed as one type of situational variable which could affect situational favourableness for the manager at the next level. In the current thesis, it is suggested that a manager's operating style (in relation to the supervisory style of the immediate supervisor) may contribute to the situational favourableness of the subordinate manager. Therefore, LPC interactions across management levels are interpreted as an index for the variable of leader-member relations (Wood and Sobel, 1970). Similarity of leadership style is construed to be indicative of good leader-member relations while dissimilarity signifies moderately poor leader-member relations.

The present study predicts that supervisory effectiveness at a given level of management will coincide with the prediction made by the Contingency Model where leader-member relations are measured in terms of the existing LPC pattern. For example, it is predicted that given a structured task and strong position power, low LPC first line foremen will perform more effectively to the extent that they demonstrate supervisory styles (LPC scores) similar to their immediate supervisors (good leader-member relations). Similarly, a high LPC

general foreman will be able to obtain higher performance from his first line foremen to the extent that they show similar supervisory styles (LPC scores).

The second major purpose of the present study is to assess the concurrent validity of the Contingency Model for several levels of industrial management. Specifically the model predicts that the correlation between supervisory style (LPC score) and supervisory performance will be negative in Octants I, II, III and VIII, and positive in Octants IV and V (See Figure 1).

METHOD

Subjects

Subjects for the present study were drawn from six Southwestern Ontario plants engaged in the manufacture of various metal products. The sample consisted of 124 male supervisory personnel from six successive levels of the production operation, ranging from first line supervisors to vice-president/manufacturing. The distribution of subjects according to supervisory level was as follows:

Supervisory Level -		N
I	Foremen	69
II	General Foremen	29
III	Production Manager	12
IV	Assistant Plant Manager	2
V	Plant Manager	6
VI	Vice-President/Manufacturing	6

Supervisory level was defined in the following manner: A first level supervisor (foreman) was one who functioned as the immediate supervisor of rank-and-file work groups; and, a second level manager (general foreman) supervised one or more first line foremen. This procedure facilitated assignment of a manager's level and allowed comparison with previous studies which had used this procedure (Nealey and Blood, 1968; Wood and Sobel, 1970).

Figure 1 represents an organization chart depicting a typical chain of command for the production function in a manufacturing operation (See Appendix G). It shows six levels of supervision (Foremen, general foremen, plant superintendent, factory manager, general manager and vice-president/manufacturing) each of which have responsibility in the area of production.

Normative data, including age, educational level, length of service with the company and length of service in present position were collected for the sample. Appendix H summarizes mean normative data scores for each of the six participating organizations. A typical supervisor from the present sample was found to be approximately 41 years old, with slightly less than Grade 12 education, employed with the company for the last 13 years, and performing his present job for the last 4 years.

Measurement Devices

This study employed four categories of measurement devices including measures of: (a) supervisory style, (b) similarity of supervisory style, (c) supervisory performance, and (d) supervisory job satisfaction. The historical development and theoretical basis for these measures are discussed in the preceding chapter.

(a) Supervisory Style -

Supervisory style was operationalized by the Least Preferred Coworker Scale (Fiedler, 1967) and the Supervisory Behaviour Description Questionnaire (Fleishman, 1971).

i) Least Preferred Coworker Scale (LPC)

The LPC measure is obtained by asking the subject to think of everyone with whom he has ever worked and to describe the person with whom he had the most difficulty in getting a job done. This description consists of sixteen interval scales similar to the Semantic Differential (Osgood, Suci and Tannenbaum, 1957) but using items describing interpersonal relations in the work situation.

Each item of the scale is a bi-polar adjective checklist with numerical values ranging from 8 at the favourable end to 1 at the unfavourable end. A person's score is calculated by summing the item scores on the sheet describing the person's least preferred coworker. For 16 items the possible range of scores is from 16 to 128. A high score (having a mean item value of about 5 on the 8-point scale) means that the subject has described his least preferred coworker in relatively favourable terms. A low score

($\bar{X}$ item value of about 2) indicates that the least preferred coworker has been described in a negative, rejecting manner.

Numerous empirical studies have shown that low LPC leaders behave in a managing, directive fashion in their attempts to gain self-esteem through successful completion of the task. High LPC leaders function in an easy going, non-directive manner in attempting to develop good interpersonal relations in the work group context.

ii) Supervisory Behaviour Description Questionnaire (SBDQ)

The above questionnaire requires subordinates to describe the supervisor's behaviour in terms of two basic leadership behavioural dimensions - Consideration and Structure. Consideration (c) reflects the extent to which the supervisor has job relationships characterized by mutual trust, respect for subordinates' ideas and consideration of their feelings. A high score is indicative of good rapport and two-way communication. A low score indicates that the supervisor is more impersonal in his work group relationships. Structure (S) reflects the degree to which a supervisor defines and structures his role and those of his subordinates toward goal attainment. A high score is characteristic of the supervisor

who directs work group activities through planning, communicating information, scheduling, trying out new ideas, etc. (Fleishman & Peters, 1962).

The questionnaire consists of 48 items descriptive of supervisory behaviour in the work group situation. Twenty-eight of these items measure subordinate perceptions of Consideration behaviour while twenty items measure subordinate perceptions of the supervisor's Structure behaviour. The subordinate is asked to respond to each item in terms of the perceived frequency of occurrence. Individual item values range from 0 (always or often) to 4 (never or very seldom). Therefore the possible range for the 28-item Consideration scale is from 0 to 112. Similarly the range of scores for the 20-item Structure scale is from 0 to 80 (See Appendix H).

(b) Similarity of Supervisory Style

Similarity of supervisory style for adjacent supervisory positions was assessed using three measures developed by the author. For each of these measures the absolute difference (D) (between the supervisory style scores of a specified manager and his immediate supervisor) represented the extent to which they were similar in their styles. A low D score was interpreted to reflect high similarity of supervisory style.

i) Similarity of Supervisory Style (D_{LPC})

The similarity of a specified manager to his immediate supervisor in terms of their Least Preferred Coworker scores was indexed by the absolute difference between their LPC scores.

ii) Similarity of Supervisory Style (D_C)

Similarity of a given manager to his immediate supervisor in terms of their scores on the Consideration (C) dimension of the SBDQ was measured by the absolute difference between their C scores.

iii) Similarity of Supervisory Style (D_S)

A manager's similarity to his immediate supervisor in terms of their scores on the Structure (S) dimension of the SBDQ was measured by the absolute difference between their S scores.

(c) Supervisory Performance

One of the most difficult problems the writer encountered was the development of valid performance criteria. Many of the leadership effectiveness studies have employed higher management effectiveness ratings as indices of productivity (Hill, 1969). However, this technique may have introduced factors other than actual performance of the supervisor, such as rater bias. Other researchers have found that in many organizations no "objective" measures were in use (Nealey and Owen, 1970)

or different types of "objective" measures precluded cross-organizational comparisons.

The latter difficulty became quite apparent during the present study. For example, in several but not all of the participating organizations, performance of first line supervisors was measured using estimates of "efficiency" (the amount of production per hour worked) and "utilization" (output per man hour worked). At the third level of supervision, some production managers were measured in terms of actual versus projected annual costs. In cases where comparable objective measures were identified, other related factors (parts shortages, increased material's cost, etc.) frustrated managerial attempts to meet performance standards and therefore precluded the author's use of these measures.

The performance of first level supervisors (foremen) was measured by a modified version of a 5-point rating scale developed by Nealey and Blood (1968). The modification consisted of extending the low end of the scale to include the point "much below average" and thereby devise equal appearing intervals on each side of the midpoint. Both the incumbent's immediate supervisor and the next higher supervisor were required to rate the incumbent's performance on his primary task (production). These ratings were combined to produce a mean composite rating of performance. Points on the scale were labelled

"much above average", "above average", "about average", a "little below average" and "much below average" (See Appendix I). Scale values ranged from 1 (much above average) to 5 (much below average). An inter-rater reliability coefficient (product moment technique) of .41 ($p<.001$) was established (Ferguson, 1966).

The performance of all managers above the first level of supervision was measured using an index developed by the author. For a specified position, the incumbent's immediate supervisor and the manager at the next higher level were asked to rate the extent to which the incumbent had attained specified performance standards relating to his major functions. The two scores were combined to produce a mean composite rating of job performance. Ratings were made using an 8-point bi-polar scale similar to a given item of the Least Preferred Coworker scale. Points along the scale were specified as "very effectively", "quite effectively", "somewhat effectively", "slightly effectively", "slightly ineffectively", "somewhat ineffectively", "quite ineffectively", and "very ineffectively". Scale values ranged from 8 ("very effectively") to 1 ("very ineffectively"). A score on this instrument was interpreted as a measure of general job performance. An inter-rater reliability coefficient (product moment technique) of .50 ($p<.001$) was established for the two sets of ratings (Ferguson, 1966) (See Appendix I).

(d) Job Satisfaction

The present study measured two types of job satisfaction - satisfaction with specific aspects of the job and general job satisfaction.

i) Job Descriptive Index

Satisfaction with specific aspects of the job was assessed using several scales of the Job Descriptive Index (JDI) developed by Smith, et al. (1969). These researchers argued that job satisfaction was an affective response to distinguishable aspects of the job, evaluated in relation to appropriate frames of reference.

The JDI measures satisfaction with five aspects of the job: the type of work, the supervision, coworkers on the job, the pay, and opportunities for promotion. For each aspect the respondent is presented with a list of adjectives or short phrases and is instructed to indicate whether each word or phrase applies to that particular aspect of the job in question (e.g., his pay). If the word applies to his pay he is asked to write "Y" (for Yes) beside the word. If the word does not apply to his pay, he is asked to write "N" (for No) beside the word. If he cannot decide, he is asked to enter a question mark (?).

The range of scores for a given item from one of the 5 JDI scales is from 0 to 3. A scoring weight of 0 is assigned to any positive item which receives a "no" response or to any negative item which elicits a "yes" response. Any item to which the response is "?", is scored as 1. Positive items which prompt a "yes" response or negative items which result in a "no" response are assigned a scoring weight of 3.
The present study employed three of the JDI scales: satisfaction with the work, the supervision, and coworkers on the job (See Appendix J).

In a study of 80 male employees from two electronics plants, Smith,et al. (1969) established split-half reliability coefficients (corrected by Spearman Brown Formula) for the final revised JDI scales. These estimated split-half internal consistencies ranged from .80 for the Pay scale to .88 for the Coworkers scale.
Very little test-retest data exists for the JDI. Smith, et al. (1969) established test-retest reliability estimates after a three year interval for 45 employees of a farm cooperative. These values ranged from .45 to .75. However, a major change in this organization during the three year

interval may account for the low test-retest estimates.

During the early development of the JDI, the researchers investigated the possibility that the order of scale presentation could have influenced resultant scores. Answering questions related to Pay could have influenced responses to other scales such as Supervision. Hulin, et al. (1969) reported that JDI scores obtained from 272 Cornell University students and Ithaca residents were subjected to Latin square analysis of variance. This procedure revealed no significant order effects.

Smith, et al. (1969) reported four studies which attempted to assess the convergent and discriminate validity of the JDI scales. Each study measured validity by a modification of the Campbell-Fiske model for establishing convergent and discriminant validity (Campbell and Fiske, 1959). The basic methodology involved either cluster analysis or principal component analysis. JDI scales demonstrate discriminant validity if they are able to distinguish satisfaction with pay from satisfaction with work, and in turn to distinguish these from satisfactions with other aspects of the job. Convergent validity requires that

the JDI measures and other different types of measures in the same area should be significantly similar in their evaluations.

On the basis of these validation studies, Smith, et al. (1969) conclude that "discriminable scores can be obtained from measures directed toward several aspects of the job and that several methods of measurement applied to the same aspect show substantial agreement". In general, the results have held up across quite different groups of subjects and a considerable range of methods of measuring satisfaction.

Sampling statistics of the JDI -

Norms for the JDI scales were obtained from a sample of 21 plants representing 19 different companies and 16 different statistical areas in the continental United States. Each firm consisted of 50 or more employees and was selected from a basic random sample of 21,000 business or industrial firms. The sample was stratified by size to over-represent larger firms.

Within each of the 21 plants, male employees were randomly sampled, with some stratification by age to include older employees who were close to retirement. The total sample consisted of nearly 2000 male employees.

Table 1 shows the means and standard deviation of the JDI scales for the total sample of male employees pooled across 21 plants (See Appendix J). It can be seen that workers are more satisfied with some aspects of the job (e.g., Coworkers) than others (e.g., Pay). Smith, et al. (1969) concluded that the above scores "reflect actual differences in attitudes which cannot be discounted as artifacts of the nature of the scales used."

ii) Satisfaction with the Job-in-General (JIG)

The Job Descriptive Index (JDI) has been shown to be a reliable and valid measure of an individual's satisfaction with distinguishable aspects of the job. However, recent reviews of the literature on job satisfaction (Vroom, 1964; Herzberg, et al. 1957) have reported the development of a "general" or "non-specific" factor which (unlike the JDI, which measures satisfaction with discriminable aspects of the job) reflects the individual's general attitude towards all aspects of the job.

Kunin's (1955) study reported the development of a non-verbal rating of satisfaction with the Job-in-General (JIG). The present study employed a modified version of the JIG (Smith, et al., 1969; Loche, et al., 1964). The S is presented with a

series of six faces characterized along a continuum from happy to unhappy. He is asked to express how he feels about his job in general by putting a check under the appropriate face (See Appendix J). Kunin's (1955) study demonstrated that the faces were located at roughly equi-distant units along a 100-point scale.

Procedure

For each of the organizations comprising the present sample, the author's initial contact was with the employee relations manager. During this meeting the general purpose of the study was explained and considerable emphasis was placed upon the requirement for confidentiality of information. A subsequent meeting was held with senior management to confirm the company's interest in the project. As a final preparatory step, senior management advised all supervisory personnel that their cooperation was requested for the completion of an independent research project related to "their work roles as industrial supervisors".

The collection of data for foremen and general foremen was accomplished at prescheduled group meetings which consisted of between 6 and 12 supervisors depending upon shift assignments. At the beginning of the session

the author stressed the need for confidentiality and that participation in the survey was not obligatory. Participants were instructed to proceed with each section of the questionnaire booklet as a group according to the provided instructions. The questionnaire booklet contained the following measures arranged in standard order: normative data sheet, Least Preferred Coworker Scale, Group Atmosphere Scale, Job Descriptive Index, Job in General Scale, Supervisory Behaviour Description Questionnaire and Supervisory Performance Ratings Scales (where applicable). The approximate mean time for completion of the group session was 50 minutes.

Data collection for managerial personnel above the second level of supervision parallelled the above method except that in most cases the survey was conducted individually or in small groups of 2 to 3 managers.

Employee relations managers and assistants completed rating scales of position power and job task structure for all relevant supervisory positions within their respective companies.

RESULTS

The results of the current study are reported in the following sequence: (a) results which examine the relationship of supervisory style interactions to subordinate job satisfaction, (b) results which examine the relationship of supervisory style patterns to supervisory performance, and (c) results which assess the validity of the Contingency Model for the present sample of industrial supervisors.

To test whether or not similarity of supervisory style was related to the subordinate manager's job satisfaction, similarities in supervisory style scores (D_{LPC}, D_c and D_s) were correlated with the four job satisfaction measures. Coefficients were calculated for each of the first three levels of supervision, for a combined sample of fourth, fifth and sixth level managers and for all levels of supervision.

For 67 first line foremen, correlations of job satisfaction with similarity of supervisory style (D_{LPC}) were low and insignificant. These results indicate that LPC scores of first line supervisors interacting with LPC scores of 2nd level managers are unrelated to variance in the job satisfaction of 1st level supervisors.

Correlations for 2nd level supervisors (N = 29) were generally insignificant with two exceptions. General

foremen who scored similarly to their immediate supervisors on the "Consideration" dimension of the SBDQ showed greater satisfaction with the job-in-general ($r = .60$, $p<.05$), and general foremen who scored differently from their immediate supervisors on the "S" dimension of the SBDQ demonstrated higher satisfaction with their coworkers ($r = .62$, $p<.05$).

At the 3rd level of supervision ($N = 12$), similarity of supervisory style (as indexed by D_{LPC}) was associated with higher job satisfaction on the coworker ($r = .58$, $p<.05$), and work ($r = .58$, $p<.05$) scales of the Job Descriptive Index. It was also noted that superintendents who scored differently from their immediate supervisors on the "S" dimension of the SBDQ reported higher satisfaction with their immediate supervisors ($r = .70$, $p<.05$).

Correlations between similarity of supervisory style and subordinate job satisfaction for a pooled sample of fourth, fifth and sixth level managers ($N = 8$) were generally low and insignificant.

For the entire sample of industrial managers ($N = 116$), correlations between similarity of supervisory style and job satisfaction were generally low and insignificant. Variance in subordinate job satisfaction was unrelated to differences in supervisory style at adjacent management levels. Subordinate managers who

scored differently from their immediate supervisors on the Structure dimension of the SBDQ reported higher job satisfaction with their work ($r = .34$, $p<.05$).

Table 1 summarizes correlations between supervisory style similarities (D_{LPC}, D_C, D_S) and subordinate job satisfaction for specified levels of management.

Supplementary Results

Although the focus of the present work was to study the effect of supervisory style interactions upon subordinate job satisfaction, the data permitted examining in what way the immediate supervisor's style/behaviour affected subordinate job satisfaction. Several previous studies have investigated this relationship.

Nealey and Blood (1968) examined the effect of supervisory style and behaviour upon subordinate job satisfaction (JDI) for 22 head nurses (1st level) and 8 unit supervising nurses (2nd level) in a Veterans Administration Hospital. This study was subsequently replicated by Nealey and Owen (1970) in the same setting. The results of both studies generally supported the conclusion that leadership style (i.e., LPC) at each of the first two levels of nursing supervision was unrelated to the job satisfaction of subordinate nurses.

Correlations between supervisory style (LPC scores) and subordinate satisfaction with the immediate

TABLE 1: Correlations of Satisfaction Measures With Similarity of Supervisory Style (D_{LPC}, D_C, D_S)

TABLE 1

Supervisory Levels		Co	S	W	JIG
1st Level Supervisors (Foremen)					
D_{LPC}	N = 67	.00	-.02	.01	-.08
2nd Level Supervisors (General Foremen)					
D_{LPC}	N = 29	-.13	-.22	.23	-.09
D_C	N = 17	-.41	-.03	.01	-.60*
D_S	N = 17	.62*	.04	.06	.22
3rd Level Supervisors (Production Manager/ Superintendent)					
D_{LPC}	N = 12	-.58*	-.002	-.58*	-.22
D_C	N = 12	.50	.03	.13	.10
D_S	N = 12	-.12	.70*	.30	.19
4th, 5th, 6th Level Supervisors					
D_{LPC}	N = 8	-.40	-.08	-.25	-.18
D_C	N = 8	.32	.11	-.22	-.30
D_S	N = 8	-.48	-.16	-.37	.04
All Levels					
D_{LPC}	N = 116	-.12	-.08	-.02	-.10
D_C	N = 37	.11	.03	.04	-.32
D_S	N = 37	.04	.22	.34*	.28

* $p<.05$ (two-tailed test)

Co - satisfaction with coworkers
S - satisfaction with immediate supervisors
W - satisfaction with work
JIG - satisfaction with job-in-general

supervisor (JDI - Supervision) were calculated for the present data. Correlations for the first and third levels of management and all levels combined were non-significant. However, for the 29 general foremen of this industrial population, satisfaction with the immediate supervisor was generally higher when these managers demonstrated managing, directive, task-oriented styles of leadership ($r = -.50$, $p<.05$). Table 2 summarizes these results.

Correlations between supervisory style (LPC score) and subordinate job satisfaction were calculated for the supervisory staff of each organization. These coefficients were insignificant in four (4) of the six (6) organizations studied. Subordinate job satisfaction at a fifth plant was positively related to LPC scores of supervisors ($r = .53$, $p<.05$) while this relationship at the sixth plant was negative ($r = .61$, $p<.05$). These results suggest that specific situational factors influence, to some extent, the type of supervisory style which is valued by subordinates in a given company. Table 3 summarizes the correlations.

The present study also established correlations of supervisory style (LPC score) and subordinate job satisfaction with other discriminable aspects of the job including the coworkers, the work and the job-in-general.

TABLE 2: Correlations of Subordinate Satisfaction With The Immediate Supervisor (S) and Supervisory Style Measures, Across Supervisory Levels

TABLE 2

Satisfaction With Immediate Supervisor (S)

Supervisory Style Measures	Foremen (1st level) N = 67	General Foremen (2nd level) N = 29	Superintendent (3rd level) N = 12	All Levels N = 116
LPC	.11	-.50*	-.05	-.07
C	.62*	.65*	.18	.56*
S	-.09	-.31	-.16	-.13

* $p<.05$ (two-tailed test)

TABLE 3: Correlations of Subordinate Satisfaction With The Immediate Supervisor (S) and Supervisory Style Measures, Across Organizations

TABLE 3

Satisfaction With Immediate Supervisor (S)

Supervisory Style Measures	Organization A N = 13	B N = 30	C N = 13	D N = 28	E N = 21	F N = 11
LPC	.14	-.18	-.61*	.30	.53*	-.24
C	.57*	.52*	.62*	.30	.68*	.51
S	-.54	-.07	-.14	-.31	-.57*	.56

* $p<.05$ (two-tailed test)

A large number of non-significant correlations supported the conclusion that supervisory style was unrelated to subordinate job satisfaction with these other aspects of the job.

Nealey and Blood (1968) & Nealey and Owen (1970) examined the relationship of subordinate job satisfaction to supervisry behaviour as perceived by the supervisor's subordinates. Supervisory behaviour was operationalized by the "Consideration"(C) and "Initiating Structure"(S) scales of the Supervisory Behaviour Description Questionnaire (SBDQ). The results of both studies demonstrated that at each of the first two levels of nursing supervision, supervisors who demonstrated a human relations orientation (high LPC score) contributed to higher job satisfaction of nursing subordinates (See Appendix K).

Data from the present study provide confirmation for some of the earlier results. Table 2 summarizes correlations of subordinate job satisfaction with the "C" and "S" dimensions of SBDQ. For 67 first line supervisors, satisfaction with the general foreman was positively related to the extent that the general foreman demonstrated a human relations orientation ($r = .62$, $p<.05$). This finding was repeated for 29 supervisors at the general foreman level ($r = .65$, $p<.05$) and for all levels of supervisory staff ($r = .56$, $p<.05$, $N = 116$).

Additional support for the positive relationship of "Consideration" to subordinate job satisfaction is shown by the pattern of correlations in Table 3. In four of the six organizations comprising the present sample, correlations ranging from medium to medium high were established ($p<.05$).

Results of the Nealey & Blood study suggested that the effect of a supervisor's Structuring behaviour (S) upon subordinate job satisfaction was largely determined by the level of management. For example, they established that Structuring behaviour was positively related ($r = .557$, $p<.05$) to the job satisfaction of nursing assistants who reported to RN's ($N = 22$) but negatively related to the same RN's satisfaction with their unit supervisors ($r = -.712$, $p<.05$) (See Appendix K).

Table 2 shows that for the present sample of industrial supervisors there is a slight tendency for Structuring behaviour to be negatively related to subordinate job satisfaction, particularly in the case of general foremen. In five of the six organizations, subordinate job satisfaction was negatively related to the immediate supervisor's Structuring behaviour but only one of these correlations met an acceptable level of significance ($r = -.57$, $p<.05$) (See Table 3).

To test whether or not supervisory style interactions at adjacent levels of supervision were related to the subordinate manager's job performance, the following procedures were carried out:

1. LPC scores were obtained for all supervisory personnel at a given managerial level.
2. The distribution of group atmosphere scores for these supervisors was dichotomized at the median. Group atmosphere was measured in terms of similarity of supervisory style (D_{LPC}).
3. Supervisors were classified into the Contingency Model octants according to their scores on the three dimensions of situational favourableness.
4. Spearman rank order correlations, adjusted for ties, (Ferguson, 1966) between supervisory LPC scores and composite performance ratings were computed within each octant.
5. The correlations were tested for statistical significance.

Correlations between supervisory LPC scores and composite performance ratings were calculated for foremen (Cells I & V), general foremen (Cells I & V) and for a combined sample of all positions above the general foremen level (Cells III & VII). The correlations tended to be of small magnitude and failed to reach the acceptable level of statistical significance.

Supplementary Results

Data from the present study permitted examining the relationship of supervisory style/behaviour to supervisory performance. A considerable amount of research has been conducted to investigate the relationship of a supervisor's "Consideration" and "Structuring" behaviour to his job performance. For example, Halpin and Winer (1957) have shown that superior ratings of the technical competence of air crew commanders correlated -.38 with Consideration and .36 with Structure ($p<.05$, $N = 29$). Fleishman, Harris & Burtt (1955) determined that "Consideration" shown by production supervisors was negatively related to worker absenteeism ($r = -.49$, $p<.05$, $N = 72$) while "Structure" was positively associated with such absenteeism ($r = .27$, $p<.05$, $N = 72$). Korman's (1966) review of research relating organizational criteria to "Consideration" and "Structure" suggested that supervisory performance was slightly more often related positively to "Consideration" and negatively to "Structure".

For the present study, correlations between composite ratings of supervisory performance and Consideration and Structure were calculated for second level and a pooled sample of 3rd, 4th and 5th level managers, respectively. These coefficients were

statistically insignificant.

The Contingency Model predicted that the correlation between supervisory style (LPC score) and supervisory performance would be negative in Octants I, II, III and VIII and positive in Octants IV and V.

To test the appropriateness of the model for the present sample of industrial supervisors, the following steps were carried out:

1. LPC scores were obtained for all supervisors at a specific organizational level.
2. Supervisors were classified into octants according to their scores on the three dimensions of situational favourableness.
3. Spearman rank order correlations between LPC scores and composite performance ratings were calculated within each octant.
4. These correlations were tested for statistical significance.

For the present study, the most difficult part of the above methodology was related to placing supervisors from a given organizational level into the appropriate octant according to their scores on leader-member relations, task structure and position power.

Previous researchers typically dichotomized the distribution of LPC scores at the median. In this way a particular supervisor was classified as having "good"

or "poor" leader-member relations depending upon whether the Group Atmosphere score fell above or below the median in the distribution of such scores. Other researchers (Hill, 1969) have trichotomized the distribution of scores with the upper third of the distribution considered to have "good" leader-member relations and the lower third considered to have "poor" leader-member relations. In the present study, Group Atmosphere scores for first level supervisors (foremen) and second level managers (general foremen) were trichotomized. Distributions of scores for those at higher organizational levels were divided at the median due to the relatively small numbers of these scores.

Ratings of position power for all positions within a given organization were obtained from the employee relations manager. The same ratings were provided by the assistant employee relations manager where possible. Examination of the pattern of ratings from the entire sample revealed minimal inter-plant and intra-level differences. On this basis it was concluded that all positions included in the present study could be appropriately classified as showing "high" position power. Table 1 summarizes ratings of position power (See Appendix L).

Task structure in the present study was operationalized using four of Shaw's (1963) dimensions

for the classification of tasks including - decision verifiability, goal clarity, goal path multiplicity and solution specificity (See Appendix C).

Ratings of task structure for all positions within an organization were obtained from the employee relations manager and from his assistant where possible. Combining the ratings of six employee relations managers and two assistants resulted in a mean task structure score for each supervisory level (N = 6 levels). Mean task structure score for a specific level of supervision was then compared with the median score (20.5) of all task structure ratings. On this basis supervisory positions which fell above the median task structure score (foremen and general foremen) were considered to be "high" in task structure. Supervisory positions which fell below the median were designated as "low" in task structure. Included in this group were assistant plant managers, plant managers and vice presidents.

The third level of supervision (production managers) posed a difficult problem in that the mean task structure score for this group (20.5) equalled the median score of the distribution. Based on several years of working with industrial supervisors in similar positions, the author concluded that production managers compared more favourably with senior management in terms of task structure than with lower level management.

Therefore, production managers were considered to be "low" in task structure. Ratings of task structure for all supervisory positions are summarized in Table 2 (See Appendix L).

Performance of first line supervisors was measured using a modified version of the 5-point rating scale developed by Nealey and Blood (1968). A given supervisor's performance was rated by his immediate supervisor and by the manager at the next supervisory level (i.e., two levels above the incumbent). These two ratings, taken together, produced a composite estimate of performance on the primary task. For all supervisory positions above the first level, performance was estimated using an 8-point, bi-polar rating scale similar in format to a given item from the LPC scale. This scale measured the extent to which an incumbent had attained specified performance criteria. The incumbent's performance was rated by his immediate supervisor and by the next successive supervisory person. These combined ratings reflected a composite estimate of job performance.

Examination of scores for the three factors contributing to situational favourableness resulted in a slotting of each supervisory level into the appropriate cell of the model. Separate rank order correlations were calculated between supervisory LPC scores and composite

performance ratings for foremen (Cells I & V), general foremen (Cells I & V) and all positions above the general foreman level (Cells III & VII). The calculations were adjusted for tied ranks (Ferguson, 1966). The resulting correlations failed to reach the acceptable level of statistical significance (See Table 4). It was concluded that for the present sample of industrial supervisors, performance appeared to be unrelated to supervisory style within the given context of situational favourableness.

TABLE 4: Correlations Between Supervisors' LPC Scores and Composite Ratings of Supervisory Performance

TABLE 4

Supervisory Level	Situational Favourableness			Octant	r
	Leader-Member Relations	Task Structure	Position Power		
1st level supervisors (foremen, N=20)	good	structured	high	I	-.20
1st level supervisors (foremen, N=18)	moderately poor	structured	high	V	.14
2nd level supervisors (general foremen, N=10)	good	structured	high	I	-.01
2nd level supervisors (general foremen, N=10)	moderately poor	structured	high	V	-.38
3rd, 4th and 5th level supervisors (N=10)	good	unstructured	high	III	.17
3rd, 4th and 5th level supervisors (N=10)	moderately poor	unstructured	high	VII	-.63

DISCUSSION

The overall pattern of results indicated that similarity of supervisory style (D_{LPC}) at adjacent management levels was not significantly related to the job satisfaction of subordinate managers. While this finding was generally consistent for the various management levels and satisfaction measures, two additional trends were of interest. Seventeen of the twenty correlations between similarity of supervisory style (D_{LPC}) and subordinate job satisfaction were in a negative direction. This trend suggested that similarity of supervisory style was related positively, but non-significantly, to subordinate job satisfaction. Secondly, the size of the coefficients at the first two levels of supervision ($\bar{X}r = -.04$) was appreciably smaller than correlations at higher managerial levels ($\bar{X}r = -.29$). This pattern was construed to mean that the positive relationship between similarity of supervisory style and subordinate job satisfaction was slightly stronger at higher levels of management. A post-hoc interpretation of this trend suggested that lower level supervisors were less likely (a) to have viewed their supervisors' operating styles as inappropriate, and (b) to have expressed the resulting dissatisfaction on the satisfaction indices. These factors would have tended to reduce

variance in the job satisfaction of lower level supervisors and depress to some extent the resultant correlations.

Results of the Hunt and Nealey (1967) study showed that similarity of supervisory style was positively related to subordinate job satisfaction but only when the work group was involved in the more structured of two separate tasks. The present results proved contradictory in that the positive relationship between similarity of style and satisfaction received stronger support at higher management levels, where the positions were rated as less structured.

At the third level of management similarity of supervisory style was positively related to the production manager's satisfaction with coworkers and with the work. These results were somewhat difficult to interpret. Previous research had failed to investigate this relationship beyond the second level of supervision (Hunt, 1971; Wood and Sobel, 1970; Nealey and Blood, 1968). A suggested interpretation of these results was in terms of the small sample size (N = 12). Variance in satisfaction could be construed to result from large differences in the scores of a few individuals.

The social psychological model which predicted a positive relationship between similarity of style and

subordinate job satisfaction was based on earlier theories which postulated a linear relationship between attitude similarity and interpersonal attraction. By inference this suggested, that in terms of the present study, greater support should have been received for the relationship between similarity of style and satisfaction with the immediate supervisor. The present study provided minimal support for this interpretation. The correlational trends indicated that satisfaction with coworkers was more closely associated with similarity of style than were the other three measures of satisfaction. A post-hoc interpretation of these trends suggested that positive affective responses generated by a subordinate manager's similarity to his supervisor influenced his attitudes towards his coworkers and to a lesser degree the other aspects of the job.

Future research in this area might be well directed towards the development of a conceptual basis for explaining the relationship between similarity of supervisory style and job satisfaction. For example, similarity of supervisory style might be viewed more constructively as "the subordinate manager's perception of the similarity of style". Other efforts might be directed towards clarifying the moderating role which the task structure variable appeared to play

(as suggested by the Hunt and Nealey (1967) study and the present investigation). In view of the present findings, future samples should be more representative of the middle and senior levels of management. Finally, the present research indicated a need for clarifying the role of similarity of supervisory behaviours (Consideration and Structure) in relation to subordinate job satisfaction.

Results of the supplementary analyses indicated that subordinate satisfaction with the immediate supervisor was related to the supervisor's operating style (LPC) and to the subordinate's perceptions of his supervisor's behaviour (Consideration and Structure).

At the second level of supervision, the satisfaction of general foremen was negatively related to the LPC scores of their immediate supervisors, i.e., general foremen were generally more satisfied when their production managers exhibited a directive, managing, task-oriented operating style.

This finding was not unexpected in view of current industrial management practices associated with the two supervisory positions. In the experience of this author, general foremen are typically recruited from first line supervisory ranks, perceive themselves (and are viewed by others) as lower level managers and frequently terminate their careers as general foremen. Production managers, however, are usually regarded as

middle management personnel whose expertise relates to a problem-solving role in production technology. The above role distinctions relating to production expertise suggest that general foremen were more satisfied with managing, directive, task-oriented supervisors because they perceived themselves as being somewhat less qualified experts than their supervisors.

The results also suggested that satisfaction with the immediate supervisor in relation to his supervisory style (LPC) was influenced by situational factors specific to a given company. In one company (Organization E), characterized by a history of continuous production emphasis and frequent mandatory overtime scheduling, management personnel were more satisfied with non-directive, human relations oriented supervisors (See Table 3). The finding that these supervisors valued a human relations operating style in their managers is not unexpected in view of the existing organizational climate which was extremely production oriented. In another company (Organization C), the management staff were relatively younger, and less experienced in their present jobs and in production management. This supervisory group demonstrated higher satisfaction with managers who were managing, directive and task-oriented. The author suggests that supervisors in Company C were more satisfied with a managing, task-oriented style of supervision

in their superiors because they perceived themselves as being less expert in their managerial roles.

The results which demonstrated that satisfaction (with the immediate supervisor) was positively related to the supervisor's Consideration behaviour were generally consistent across managerial levels and across organizations. These findings provided corroborating evidence for numerous earlier studies and reviews (Fleishman, 1971; Korman, 1966) which showed a positive relationship between supervisory "Consideration" behaviour and various satisfaction measures. Similarly, some added support was provided for earlier studies which demonstrated a negative relationship between Structure behaviour and organizational criteria (Korman, 1966).

Future research of these problems would be well directed towards developing a more useful conceptual framework for explaining the relationship of supervisory style (LPC) to supervisory behaviour. Nealey and Fiedler's (1968) review of the middle management function suggested a noticeable distinction between a supervisor's style and his behaviour. Supervisory style as measured by LPC was viewed as a specified pattern of behaviour which was reasonably stable over time. Supervisory behaviour (C and S) was construed to be situationally specific and subject to change as the situation changed.

For example, several studies by Fiedler and his associates indicated that high LPC leaders show more Structuring behaviour in favourable situations and more Consideration behaviour in unfavourable situations. Low LPC leaders were found to demonstrate more Consideration behaviour in favourable situations and more Structuring behaviour in less favourable situations (Fiedler, 1966; Fiedler, Meuwese and Oonk, 1961; Meuwese and Fiedler, 1965).

Fleishman has suggested that the relationship of supervisory style (LPC) to supervisory behaviour (C and S) is complex and requires additional research (personal communication, 1972). Other investigators have cautioned against the common tendency to interpret high LPC as meaning high Consideration and low LPC as indicating high Structure (Nealey and Blood, 1968). For the hospital sample, these researchers found that LPC was unrelated to both Consideration and Structure. Data from the present study showed that a supervisor's LPC score was not significantly related to subordinate perceptions of his Consideration behaviour ($r = -.15$, $N = 42$) or Structuring behaviour ($r = -.03$, $N = 42$).

The results which examined the relationship of supervisory style interactions to job satisfaction indicated that similarity of supervisory style at adjacent managerial levels was generally unrelated to the

subordinate manager's job satisfaction. The supplementary results which investigated the relationship between supervisory style and subordinate job satisfaction demonstrated that subordinate managers expressed higher satisfaction with specific operating styles shown by their superiors. Comparisons of both groups of findings indicated that knowledge of the immediate supervisor's operating style ("one level knowledge") was a more useful predictor of subordinate job satisfaction than knowledge of the supervisory styles at adjacent management levels ("two level knowledge"). Therefore, future research in the area of job satisfaction would be more appropriately developed on the basis of a "one level model" of job satisfaction.

Fiedler's (1971) review of empirical findings for the Contingency Model suggested that for a wide range of managerial environments, task-oriented supervisors performed more effectively in very favourable and unfavourable situations, while relationship-oriented supervisors were more effective in moderately favourable circumstances. The current study failed to provide support for this model.

Fiedler has suggested that in order to provide validation evidence for the model, a given study should conform to the explicit methodology of the model (Fiedler, 1971). The author attempted to meet this

guideline where possible, but encountered several methodological limitations relating to operationalizing the dimension of situational favourableness.

In the present study the quality of the supervisor's relations with members of his work group was measured by the leader's perception of the group atmosphere. According to the contingency model, group atmosphere is a situational variable which is external to the supervisor and which may affect the degree to which the supervisor influences the work group. When group morale is based upon the supervisor's perception of the group, it becomes difficult to regard group morale as a situational variable.

Therefore, in terms of the usefulness of group atmosphere as a measure of situational favourability for the supervisor, the perceptions of the group members themselves should prove to be a more valid estimate of the quality of supervisory-subordinate relationships. A recent critique of the model provided additional support for this criticism (Graen, et al., 1970).

For the present study, employee relations managers and assistants rated a designated position's task structure using Shaw's (1963) dimensions for the classification of tasks. They reported considerable difficulty in making comparisons between their company's supervisory

position's and Shaw's bench mark positions which they viewed as "irrelevant" and "inappropriate". The same raters assessed the position power of a given job using a measure developed by Hunt (1967). The overall pattern of ratings for the present sample indicated that either (a) Hunt's measure failed to identify differences in position power between the various managerial levels or, (b) such differences were practically non-existent.

Current industrial management trends suggest that differences in position power are very often related to a supervisor's position in the managerial hierarchy. For example, first line supervisor's are usually limited contractually (by the collective agreement) in their efforts to discipline, discharge or motivate members of the bargaining unit. Managers at higher levels of the organization are typically less encumbered by such obstacles in dealing with their subordinates. Therefore, it was concluded that for the present sample, Hunt's measure of position power was somewhat inadequate in that it failed to detect actual differences in position power.

The majority of studies testing the validity of the Contingency Model have used higher management effectiveness ratings to assess supervisory performance (Fiedler, 1971). The present study employed this technique in order to avoid several practical difficulties

associated with the use of the existing objective performance estimates (See Measurement Devices). Inter-rater reliability coefficients obtained from the ratings were of a magnitude which suggested a review of the validity of the ratings. Recognizing this, it is recommended that future studies supplement managerial performance ratings with multiple objective measures which have been pretested to allow for cross-organizational comparisons.

In interpreting response differences to the LPC measure, Fiedler (1967) has suggested that the high LPC person who describes his least preferred coworker positively is able to differentiate between the coworker's personality and the way he works. The low LPC person who describes his least preferred coworker negatively, is unable to make this distinction and in effect links poor performance with undesirable personality characteristics. Mitchell (1970) has interpreted the response to LPC in terms of differences in cognitive complexity between high and low LPC persons. During the current study, a number of supervisors reported considerable difficulty in selecting a least preferred coworker. This suggests that future research would be appropriately directed towards an examination of the manner in which past work experiences influence a person's response to his least preferred coworker.

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APPENDIX A

LEAST PREFERRED COWORKER (LPC) SCALE

(Fiedler, 1967)

People differ in the ways they think about those with whom they work. This may be important in working with others. Please give your immediate, first reaction to the items on the following.

Shown below are pairs of words which are opposite in meaning, such as Very Neat and Not Neat. You are asked to describe someone with whom you have worked by placing an "X" in one of the eight spaces on the line between the two words.

For example: If you were to describe the person with whom you are able to work least well, and you ordinarily think of him as being quite neat, you would put an "X" in the second space from the words Very Neat, like this:

Very Neat:								Not :Neat
	X							
Very Neat	Quite Neat	Somewhat Neat	Slightly Neat	Slightly Untidy	Somewhat Untidy	Quite Untidy	Very Untidy	

If you ordinarily think of the person with whom you can work least well as being only slightly neat, you would put your "X" as follows:

Very Neat:								Not :Neat
			X					
Very Neat	Quite Neat	Somewhat Neat	Slightly Neat	Slightly Untidy	Somewhat Untidy	Quite Untidy	Very Untidy	

LPC

Now, think of the person with whom you can work least well. He may be someone you work with now, or he may be someone you knew in the past.

He does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe this person as he appears to you.

Pleasant	:____:____:____:____:____:____:____:____:	Unpleasant
Friendly	:____:____:____:____:____:____:____:____:	Unfriendly
Rejecting	:____:____:____:____:____:____:____:____:	Accepting
Helpful	:____:____:____:____:____:____:____:____:	Frustrating
Unenthusiastic	:____:____:____:____:____:____:____:____:	Enthusiastic
Tense	:____:____:____:____:____:____:____:____:	Relaxed
Distant	:____:____:____:____:____:____:____:____:	Close
Cold	:____:____:____:____:____:____:____:____:	Warm
Cooperative	:____:____:____:____:____:____:____:____:	Uncooperative
Supportive	:____:____:____:____:____:____:____:____:	Hostile
Boring	:____:____:____:____:____:____:____:____:	Interesting
Quarrelsome	:____:____:____:____:____:____:____:____:	Harmonious
Self-assured	:____:____:____:____:____:____:____:____:	Hesitant
Efficient	:____:____:____:____:____:____:____:____:	Inefficient
Gloomy	:____:____:____:____:____:____:____:____:	Cheerful
Open	:____:____:____:____:____:____:____:____:	Guarded

APPENDIX B

GROUP ATMOSPHERE SCALE

(Fiedler, 1967)

Describe the atmosphere of your work group by checking the following items:

1. Friendly : : : : | : : : : Unfriendly
2. Accepting : : : : | : : : : Rejecting
3. Satisfying : : : : | : : : : Frustrating
4. Enthusiastic : : : : | : : : : Unenthusiastic
5. Productive : : : : | : : : : Nonproductive
6. Warm : : : : | : : : : Cold
7. Cooperative : : : : | : : : : Uncooperative
8. Supportive : : : : | : : : : Hostile
9. Interesting : : : : | : : : : Boring
10. Successful : : : : | : : : : Unsuccessful

APPENDIX C

SCALES FOR RATING TASK STRUCTURE

(Shaw, 1963)

I. Please rate according to the instructions in the following sections those jobs which you and the researcher have agreed are a representative cross section of jobs in your company.

II. You will note that there are four dimensions on which each job is to be rated. Each dimension is described on a separate sheet. Please rate all jobs on a given dimension before going to the next dimension. In other words, jobs are to be rated on each dimension independently of the way they are rated on other dimensions.

III. (A) In order to help you in your rating, you will note that there is a graphic scale (ranging from 1 to 11) for each dimension with job titles arranged below the horizontal line so as to cover most of the points on the scale. These are called "anchor jobs."

(B) All anchor jobs, with the exception of two, have been evaluated by a panel of judges, and general agreement has been reached that the jobs belong where they are shown on the scale. These jobs were selected from among one hundred because of the high interjudge agreement.

(C) A short description of each job on the scale is included on the same page. This is the same description that the judges used in rating the jobs.

IV. When rating the selected jobs in your company, please keep the description of the anchor jobs in mind and rate your jobs in relation to these anchor jobs.

V. Note that in many cases there are different anchor jobs as job dimensions change.

VI. (A) In order to simplify your rating work, it is suggested that you list (on the last sheet clipped to these) your company jobs to be rated. (Note that each line on this sheet is lettered and this will be the job letter.) Then it is suggested that you familiarize yourself with the dimension you are going to rate and the anchor-job descriptions.

(B) After doing this, place the letter corresponding to the job you are rating above the anchor job which most nearly corresponds to it for the dimensions you are rating.

(C) After you have done this for each job, check to see that you have placed them where you think they belong. This may mean you will rearrange some of your earlier placements. After you are satisfied that you have rated the jobs the way you want them in relation to each other and in relation to the anchor jobs, do the same thing for the next dimension. Please do not refer to job ratings on earlier dimensions when rating on later dimensions, however.

VII. Do not worry if you have not covered every number on the scale. It may be that you are dealing with a narrow range of jobs. Also, you will note that there are parts of some of the scales which have no anchor jobs, because none were found to fall consistently on those parts of the scale. If you believe some of your jobs should lie at these points, it is all right to place them there. Please make sure, however, you have placed your jobs above one of the eleven points on the scale and not in between these points.

Dimension I

Goal clarity This is the degree to which the requirements of a job (the tasks or duties which typically make up the job) are clearly stated or known to people performing the job.

Read the job descriptions for Dimension I. Then think of yourself as the person assigned the job and ask yourself how clear *what* you are to do is to you. Do not include *how* you are to do the job. There is another dimension.

To rank this dimension, assume that the *lower* the scale number, the *lower* the goal clarity (the less clear the goals of the job).

1 I. Idle millionaire

2 II. Hobo

3

4

5 III. Train director

IV. Private detective

V. Receiving stores supervisor

6 VI. Educational director

7 VII. Notary public

8 VIII. Canvas cover repair foreman

9 IX. Bench carpenter

10 X. Chili maker

11 XI. Axle assembler

Place the letters of jobs corresponding in structure to the anchor jobs shown on the scale directly above those anchor jobs. If there is no anchor job above the number on the scale, you can still place your job there if desired.

Job descriptions for Dimension I

I. Idle millionaire.

II. Hobo. Note: Since no job evaluated by the judges was found to extend beyond 5 on this dimension, these two "jobs" have been added in an effort to broaden the scale. It may well be that some of your jobs approach these two on this dimension.

You may supply your own descriptions for these two jobs.

III. Train director. Directs switching of railroad traffic entering or leaving yards to regulate movements of trains in conformity with traffic schedules and safety regulations. Signals switching directions to towerman by manipulating controls from central control room.

IV. Private detective. Performs private police work to protect property by detecting thievery, shoplifting, or dishonesty among employees or patrons of a business establishment or other private organization.

V. Receiving and stores supervisor. Supervises workers engaged in receiving and storing production materials in an industrial establishment. Note: While the above three are different jobs, they were given the same rating on this dimension.

VI. Educational director. Plans, organizes and administers training programs designed to promote efficiency through instruction of new employees in firm's policies, systems and routines. Instructs foremen in vocational training methods.

VII. Notary public. Administers oaths or affirmations where required, issues summonses for witnesses in cases before courts or other person authorized to

examine witnesses. Takes affidavits on request.

VIII. Canvas cover repair foreman. Supervises a group of workers who repair tents, awnings, and canvas covers used to protect various objects, such as motors and instruments.

IX. Bench carpenter (woodworking). Works at a bench in an industrial firm and fits and assembles prefabricated wooden sections; or cuts, shapes, fits and assembles wooden sections according to blueprints and sketches, performing general carpentry duties, such as sawing, planning, jointing, fitting, and nailing.

X. Chili maker. Cooks specified amounts of groud meat, chili, spices, chopped onions, garlic, and beef tallow in a steam-jacketed kettle to make chili and ladles from kettle into cans. All ingredients weighed out by chili maker or according to his formula.

XI. Axle assembler (auto manufacturing). Secures front- or rear-axle subassemblies to chassis springs on final assembly line. Bolts sub-assembly in place using wrenches and power-driven nut-tightening tools.

Dimension II

Goal-path multiplicity This is the degree to which the problems encountered in the job can be solved by a variety of procedures (number of different paths to the goal--number of alternatives in performing the job--number of different ways the problems typically encountered in the job can be solved).

Read the job descriptions for Dimension II. Then think of yourself as the person assigned the job, and remembering that you have already evaluated the job in terms of *what* is expected, now shift and think of *how* you are to do the job. How many ways are there to accomplish the goal? To what extent is planning necessary to decide *how* to do the job?

To rank this dimension, assume that the *lower* the goal-path multiplicity (the less paths there are to the goal).

1	I.	Date puller
2	II.	Off-line assembler
3	III.	Billing clerk
4	IV.	Form builder
5	V.	Drafting clerk
6	VI.	Receiving and stores supervisor
7	VII.	Dance hall inspector
	VIII.	Chief clerk

8 IX. Buyer

9 X. Broadcast director

10 XI. Research engineer

11

Place letters of jobs corresponding in structure to anchor jobs shown on the scale directly above anchor jobs. If there are no anchor jobs above the number on the scale, you can still place your job there if desired.

Job descriptions for Dimension II

I. Date puller. Cuts open dates, removes the stones, and cuts the dates into pieces for use in making candy.

II. Off-line assembler (auto manufacturing). Assembles units, such as windshields and lights, which are later placed on the automobile chassis as it passes over the assembly line. Uses screwdriver, power-driven nut tightener, and other hand tools.

III. Billing clerk. Prepares statements, bills, and invoices, by hand or on a typewriter, to be sent to customers, showing an itemized account of the amount they owe. Obtains information from purchase orders, sales and charge slips or other records. Addresses envelopes and inserts bills preparatory to mailing. Checks billings with accounts receivable ledger.

equipment and gives advice on construction, manufacture, materials, and processes. Experiments with existing machinery to improve design.

III. Service director (retail trade). Supervises all operating and non-selling services of a large store, such as delivery, wrapping, storage, stock keeping, receiving, and alterations. Responsible for care of building and upkeep of equipment, such as elevators.

IV. Buyer (retail or wholesale trade). See job description for Dimension II.

V. Cameraman (motion picture). Photographs anybody or anything of which motion pictures may be required with a motion-picture camera. Specializes in shots from unusual angles and dangerous heights or positions.

VI. Account analyst (banking). Determines and prepares charges to be made against commercial accounts for various services performed by the bank. Prepares reports on status and value of individual accounts for bank officials.

VII. Cabinet assembler (furniture). Assembles by hand the parts of the radio cabinet that have been cut and dressed in the machine department, fastening the joints together with glue or braces at the points of union, and holding them together with

IV. Form builder (aircraft and auto manufacturing). Builds forms, fixtures, jigs, or templates of wood or metal for use as guides or standards by other workers in mass production of cars or planes. Studies blueprint of part for which fixture is to be built and lays out, cuts, and assembles component pieces of wood or metal. Checks and measures finished assembly against blueprint.

V. Drafting clerk. Draws and letters organization charts, schedules, and graphs. Uses simple drafting instruments such as ruling pen, lettering pen, and straightedge to produce neat, legible charts and graphs.

VI. Receiving and stores supervisor. See job description for Dimension I.

VII. Dance hall inspector. A member of the police force who inspects all dance halls for licenses and for conduct of patrons. Enforces regulations concerning such places and reports on the manner in which each is operated.

VIII. Chief clerk. Coordinates the clerical work of an establishment, directing performance of such services as the keeping of personnel and time records, standardizing operating procedures for clerical work, and purchasing and keeping inventories of clerical supplies and equipment. Directs

work of several subordinate office managers. Note: While the above two jobs are different, they were given the same rating on this dimension.

IX. Buyer (retail or wholesale trade). Purchases merchandise within budgetary limitations in sufficient quantity and with sufficient appeal to sell rapidly. Assigns selling price to merchandise and initiates procedures such as price reductions to promote the sale of surplus or slow-moving items.

X. Broadcast director. Supervises broadcasting of specific radio programs. Formulates general policies to be followed in preparing and broadcasting programs. Keeps expenditures for producing programs within budgetary limits and creates and develops program ideas.

XI. Research engineer. Conducts engineering research concerned with processing a particular kind of commodity with a view to improving present products and discovering new products or to improving and discovering new machinery for production purposes. Examines literature on subject. Plans and executes experimental work to check theories advanced. Consults with other engineers to get their ideas. Prepares report of findings.

Dimension III

Decision verifiability This is the degree to which the "correctness" of the solutions or decisions typically encountered in a job can generally be demonstrated by appeal to authority or authoritative source (e.g., the census of 1960), by logical procedures (e.g., mathematical demonstration), or by feedback (e.g., examination of consequences of decision, as in action tasks).

Read the job descriptions for Dimension III. Then think of yourself as the person assigned the job and ask yourself to what extent it is possible for you or others evaluating your work to know whether the job has been done "correctly" or not. A time sequence is implied here. For some jobs it is possible to know but only after a long period of time, say, one year or more. For others it is possible to know immediately or within a one-year period.

To rank this dimension, assume that the *lower* the scale number, the *lower* the decision verifiability (the less ways there are to verify job decisions).

1

2 I. Social welfare research worker

3

4 II. Design engineer

5 III. Service director

6 IV. Buyer

7	V.	Cameraman
8	VI.	Account analyst
9	VII.	Cabinet assembler
10	VIII.	File clerk
	IX.	Off-line assembler
11	X.	Nuts and bolt sorter

Place letters of jobs corresponding in structure to anchor jobs shown on the scale directly above anchor jobs. If there is no anchor job above the number on the scale, you can still place your job there if desired.

Job descriptions for Dimension III

I. Social welfare research worker. Performs research to facilitate investigation and alleviation of social problems. Gathers facts by reference to selected literature and by consultation. Analyzes data, employing statistical computations, and correlates information. Evaluates social projects or disposition of cases in light of findings. Estimates future needs for services and presents facts significant to formulation of future plans.

II. Design engineer. Creates designs for machinery or equipment. Draws up construction details and determines production methods and standards of performance. Investigates practicability of designs in relation to limitations of manufacturing

clamps.

VIII. File clerk. Keeps correspondence, cards, invoices, receipts, and other records arranged systematically according to subject matter in file cabinets or drawers. Reads information on incoming material and sorts and places it in proper position in filing cabinet. Locates and removes material from cabinet when requested. Note: The above two jobs are different, but they were given the same rating on this dimension.

IX. Off-line assembler (auto manufacturing). See job description for Dimension II.

X. Nuts and bolt sorter. Sorts nuts and bolts by hand according to size, length, and diameter. Discards defective pieces.

Dimension IV

Solution specificity This is the degree to which there is generally more than one "correct solution" involved in tasks which typically make up a job. Some tasks, e.g., arithmetic problems, have only one solution that is acceptable; others have two or more, e.g., a sorting task where items to be sorted have several dimensions; and still others have an almost infinite number of possible solutions, each of which may be equally as good as others.

For example, consider human relations problems or many problems managers must make decisions about.

Read the job descriptions for Dimension IV. Then think of yourself as the person who must decide whether tasks typically falling within a given job have been performed correctly or not. Ask yourself how difficult it would be to decide the relative correctness of the task solution of two people who have been assigned a given task as a part of their job and have come up with quite different answers.

Where there are a number of solutions which might be equally acceptable, you are dealing with a job low in solution specificity.

To rank this dimension, assume that the *lower* the scale number, the *lower* the solution specificity (the *more* correct solutions there are).

1	I.	Social welfare research worker
2	II.	Research engineer
3	III.	Dancer
4	IV.	Broadcast news analyst
5	V.	Service manager
6	VI.	Warehouse manager
7	VII.	Cane cutter
8	VIII.	Electrical assembler
9	IX.	Candy-cutting machine girl
10	X.	Dairy maid

11 XI. Barrel drainer

Place letters of jobs corresponding in structure to anchor jobs shown on the scale directly above anchor jobs.

Job descriptions for Dimension IV

I. Social welfare research worker. See job description for Dimension III.

II. Research engineer. See job description for Dimension II.

III. Dancer. Performs dances along, with a partner, or in a group.

IV. Broadcast news analyst. Analyzes and interprets news from various sources. Prepares copy and broadcasts material over radio station or network.

V. Service manager. Supervises activities of an institution that renders service to the public, such as a business-service, repair-service or personal-service establishment.

VI. Warehouse manager. Manages one or more commercial or industrial warehouses to maintain stocks of material. Directs through intermediate supervisors checking of incoming and outgoing shipments. Keeps stock records and does other clerical tasks. Directs handling and disposition of materials through foremen and establishes and

enforces operations procedures according to work requirements.

VII. Cane cutter. Cuts sugarcane in the fields during harvest season using a broad-bladed knife. Pulls off side leaves of several cane stalks with hook at end of knife and cuts the leaves from stalk with knife blade. Cuts through stalk at base of ripe section and places cut stalks in piles.

VIII. Electrical assembler (refrigeration equipment). Installs electrical equipment in refrigerator display cases working from blueprints. Cuts pockets and bores holes in wooden framing of case with electric or hand tools to install wiring and light receptacles. Attaches wires to fixtures and fixtures to receptacles, using hand tooks, and tests circuits of completed case for errors in wiring or hookup.

IX. Candy-cutting machine girl. Takes cut candies from cutting machine by hand and arranges them on metal trays ready for wrappers and packers. Picks out imperfect pieces of candy and drops them into a container. When conveyors are used, arranges pieces on conveyor belt as they come from the cutting knives.

X. Dairy maid. Performs lighter types of work on a dairy farm. Milks cows. Separates cream by hand

in pans or by machine with a cream separator. Churns butter with a hand churn.

XI. Barrel drainer. Empties water from barrel that has been inspected or weighed by roling barrel onto a stand and pulling bung from hole by hand.

APPENDIX D

SCALES FOR RATING POSITION POWER

(Hunt, 1967)

1. Can the supervisor recommend subordinate rewards and punishment to his boss?
2. Can the supervisor punish or reward subordinates on his own?
3. Can the supervisor recommend promotion or demotion of subordinates?
4. Can the supervisor promote or demote subordinates on his own?
5. Does the supervisor's special knowledge allow him to decide how subordinates are to proceed on their jobs?
6. Can the supervisor give subordinates a general idea of what they are to do?
7. Can the supervisor specifically instruct subordinates concerning what they are to do?
8. Is an important part of the supervisor's job to motivate his subordinates?
9. Is an important part of the supervisor's job to evaluate subordinate performance.
10. Does the supervisor have a great deal of knowledge about the jobs under him but require his subordinates to do them?
11. Can the supervisor supervise and evaluate subordinate jobs?
12. Does the supervisor know both his own and his subordinates' job so that he could finish subordinate work himself if it were necessary and he had enough

time?

13. Has the supervisor been given an official title by the company which differentiates him from his subordinates?

APPENDIX E

TABLES SHOWING SELECTED ITEMS AND SCALE CHARACTERISTICS OF THE SUPERVISORY BEHAVIOUR DESCRIPTION QUESTIONNAIRE

(Fleishman, 1957)

TABLE 1

Examples of Items Selected for the Revised Form
Of the Supervisory Behaviour Description
(Fleishman, 1957)

Item No.		Orthogonal Factor Loading	
	"Consideration"	"Consideration"	"Initiating Structure"
7.	He refuses to give in when people in the work group disagree with him.	-.68	.06
21.	He sees that a worker is rewarded for a job well done.	.70	.05
40.	He makes those under him feel at ease when talking with him.	.86	.05
	"Initiating Structure"		
3.	He tries out his new ideas.	-.10	.42
30.	He talks about how much should be done.	-.20	.60
44.	He asks for sacrifices from his people for the good of the entire department.	.00	.46

TABLE 2

Means, Standard Deviations, Range, Reliabilities, And Intercorrelations of the Dimension Scores Of the Revised Supervisory Behaviour Description (N = 122) (Fleishman, 1957)

	Consideration	Initiating Structure
No. of Items	28	20
Mean	82.3	51.5
Standard Deviation	15.5	8.8
Range[1]	22 to 106	13 to 68
Reliability[2]	.92	.68
Intercorrelation	-.02	

[1] In this form, the alternatives for each item were weighted from zero to four. Thus, the highest possible score was 112 for Consideration and 80 for Initiating Structure.

[2] Split-half correlations corrected to full length of each dimension by the Spearman-Brown formula.

APPENDIX F

ORGANIZATIONAL CHART

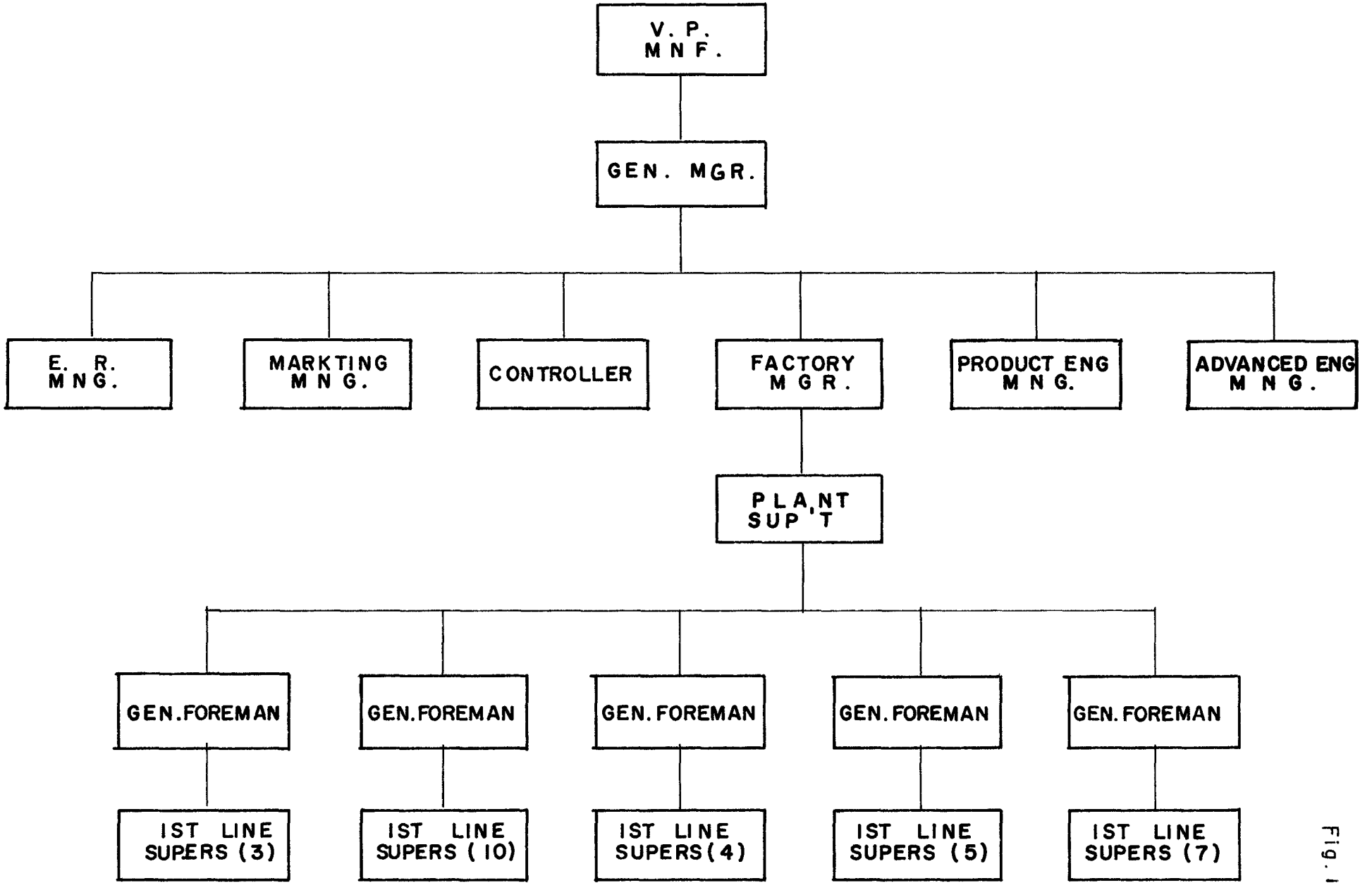
V. P.
M N F.
GEN. MGR.
E. R.
M N G.
MARKTING
M N G.
CONTROLLER
FACTORY
M G R.
PRODUCT ENG
M N G.
ADVANCED ENG
M N G.
PLANT
SUP'T
GEN.FOREMAN
GEN.FOREMAN
GEN. FOREMAN
GEN. FOREMAN
GEN. FOREMAN
IST LINE
SUPERS (3)
IST LINE
SUPERS (10)
IST LINE
SUPERS(4)
IST LINE
SUPERS (5)
IST LINE
SUPERS (7)

Fig. 1

APPENDIX G

NORMATIVE DATA

TABLE 1

Normative Data

	$\bar{X}$ Age (years)	$\bar{X}$ Educational Level (grade)	$\bar{X}$ Length of Service With Company (years)	$\bar{X}$ Service In Present Position (years)
Organization A	37.93	12.5	8.92	3.9
Organization B	46.13	12.0	19.9	3.93
Organization C	35.13	11.4	3.48	1.59
Organization D	44.28	11.90	21.0	5.96
Organization E	37.68	11.05	8.84	3.28
Organization F	40.92	12.08	9.13	3.14
Grand Mean	41.41	11.8	13.7	3.93

APPENDIX H

SUPERVISORY BEHAVIOUR DESCRIPTION QUESTIONNAIRE (SBDQ)

(Fleishman, 1957)

SUPERVISORY BEHAVIOR DESCRIPTION

by

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Washington, D.C.

INSTRUCTIONS:

You have observed your own supervisor and probably you know pretty well how he operates. In this questionnaire, you are simply to *describe* some of the things your own supervisor does with your group.

For each item, choose the alternative which best describes how often your supervisor does what that item says. Remember...there are no right or wrong answers to these questions. The items simply *describe* the behavior of the supervisor over you; they do not judge whether his behavior is desirable or undesirable. Everyone's supervisor is different and so is every work group, so we expect differences in what different supervisors do.

Answer the items by marking an "X" in the box (a, b, c, d, or e) next to each item to indicate your choice.

1.	HE IS EASY TO UNDERSTAND. a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□
2.	HE ENCOURAGES OVERTIME WORK. a. a great deal b. fairly much c. to some degree d. comparatively little e. not at all	a b c d e □□□□□
3.	HE TRIES OUT HIS NEW IDEAS. a. often b. fairly much c. occasionally d. once in a while e. very seldom	a b c d e □□□□□
4.	HE BACKS UP WHAT PEOPLE IN HIS WORK GROUP DO. a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□
5.	HE CRITICIZES POOR WORK. a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□
6.	HE DEMANDS MORE THAN WE DO. a. often b. fairly often c. occasionally d. once in a while e. very seldom	a b c d e □□□□□
7.	HE REFUSES TO GIVE IN WHEN PEOPLE IN THE WORK GROUP DISAGREE WITH HIM. a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□
8.	HE EXPRESSES APPRECIATION WHEN ONE OF US DOES A GOOD JOB a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□
9.	HE INSISTS THAT PEOPLE UNDER HIM FOLLOW STANDARD WAYS OF DOING THINGS IN EVERY DETAIL. a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□
10.	HE HELPS PEOPLE IN THE WORK GROUP WITH THEIR PERSONAL PROBLEMS. a. often b. fairly often c. occasionally d. once in a while e. very seldom	a b c d e □□□□□
11.	HE IS SLOW TO ACCEPT NEW IDEAS. a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□
12.	HE IS FRIENDLY AND CAN BE EASILY APPROACHED. a. always b. often c. occasionally d. seldom e. never	a b c d e □□□□□

13. HE GETS THE APPROVAL OF THE WORK GROUP ON IMPORTANT MATTERS BEFORE GOING AHEAD. a b c d e
    a. always b. often c. occasionally
    d. seldom e. never

14. HE RESISTS CHANGES IN WAYS OF DOING THINGS. a b c d e
    a. a great deal b. fairly much c. to some degree
    d. comparatively little e. not at all

15. HE ASSIGNS PEOPLE UNDER HIM TO PARTICULAR TASKS. a b c d e
    a. always b. often c. occasionally
    d. seldom e. never

16. HE STRESSES BEING AHEAD OF COMPETING WORK GROUPS. a b c d e
    a. a great deal b. fairly much c. to some degree
    d. comparatively little e. not at all

17. HE CRITICIZES A SPECIFIC ACT RATHER THAN A PARTICULAR INDIVIDUAL. a b c d e
    a. always b. often c. occasionally
    d. seldom e. never

18. HE LETS OTHERS DO THEIR WORK THE WAY THEY THINK BEST. a b c d e
    a. always b. often c. occasionally
    d. seldom e. never

19. HE DOES PERSONAL FAVORS FOR THE PEOPLE UNDER HIM. a b c d e
    a. often b. fairly often c. occasionally
    d. once in a while e. very seldom

20. HE EMPHASIZES MEETING OF DEADLINES. a b c d e
    a. a great deal b. fairly much c. to some degree
    d. comparatively little e. not at all

21. HE SEES THAT A WORKER IS REWARDED FOR A JOB WELL DONE. a b c d e
    a. always b. often c. occasionally
    d. seldom e. never

22. HE TREATS PEOPLE UNDER HIM WITHOUT CONSIDERING THEIR FEELINGS. a b c d e
    a. always b. often c. occasionally
    d. once in a while e. very seldom

23. HE INSISTS THAT HE BE INFORMED ON DECISIONS MADE BY THE PEOPLE UNDER HIM. a b c d e
    a. always b. often c. occasionally
    d. seldom e. never

24. HE OFFERS NEW APPROACHES TO PROBLEMS. a b c d e
    a. often b. fairly often c. occasionally
    d. once in a while e. very seldom

25. HE TREATS ALL WORKERS UNDER HIM AS HIS EQUALS. a b c d e
a. always b. often c. occasionally ☐☐☐☐☐
d. seldom e. never

26. HE IS WILLING TO MAKE CHANGES. a b c d e
a. always b. often c. occasionally ☐☐☐☐☐
d. seldom e. never

27. HE ASKS SLOWER PEOPLE TO GET MORE DONE. a b c d e
a. often b. fairly often c. occasionally ☐☐☐☐☐
d. once in a while e. very seldom

28. HE CRITICIZES PEOPLE UNDER HIM IN FRONT OF OTHERS. a b c d e
a. often b. fairly often c. occasionally ☐☐☐☐☐
d. once in a while e. very seldom

29. HE STRESSES THE IMPORTANCE OF HIGH MORALE AMONG THOSE UNDER HIM. a b c d e ☐☐☐☐☐
a. a great deal b. fairly much c. to some degree
d. comparatively little e. not at all

30. HE TALKS ABOUT HOW MUCH SHOULD BE DONE. a b c d e
a. a great deal b. fairly much c. to some degree ☐☐☐☐☐
d. comparatively little e. not at all

31. HE "RIDES" THE PERSON WHO MAKES A MISTAKE. a b c d e
a. often b. fairly often c. occasionally ☐☐☐☐☐
d. once in a while. e. very seldom

32. HE WAITS FOR PEOPLE UNDER HIM TO PUSH NEW IDEAS BEFORE HE DOES. a b c d e ☐☐☐☐☐
a. always b. often c. occasionally
d. seldom e. never

33. HE RULES WITH AN IRON HAND. a b c d e
a. always b. often c. occasionally ☐☐☐☐☐
d. seldom e. never

34. HE TRIES TO KEEP THE PEOPLE UNDER HIM IN GOOD STANDING WITH THOSE IN HIGHER AUTHORITY. a b c d e ☐☐☐☐☐
a. always b. often c. occasionally
d. seldom e. never

35. HE REJECTS SUGGESTIONS FOR CHANGES. a b c d e
a. always b. often c. occasionally ☐☐☐☐☐
d. seldom e. never

36. HE CHANGES THE DUTIES OF PEOPLE UNDER HIM WITHOUT FIRST TALKING IT OVER WITH THEM. a b c d e ☐☐☐☐☐
a. often b. fairly often c. occasionally
d. once in a while e. very seldom

37. HE DECIDES IN DETAIL WHAT SHALL BE DONE AND HOW IT SHALL BE DONE. a b c d e □□□□□
a. always b. often c. occasionally
d. seldom e. never

38. HE SEES TO IT THAT PEOPLE UNDER HIM ARE WORKING UP TO THEIR LIMITS. a b c d e □□□□□
a. always b. often c. occasionally
d. seldom e. never

39. HE STANDS UP FOR PEOPLE UNDER HIM EVEN THOUGH IT MAKES HIM UNPOPULAR. a b c d e □□□□□
a. always b. often c. occasionally
d. seldom e. never

40. HE MAKES THOSE UNDER HIM FEEL AT EASE WHEN TALKING WITH HIM. a b c d e □□□□□
a. always b. often c. occasionally
d. seldom e. never

41. HE PUTS SUGGESTIONS THAT ARE MADE BY THE PEOPLE UNDER HIM INTO OPERATION. a b c d e □□□□□
a. always b. often c. occasionally
d. seldom e. never

42. HE REFUSES TO EXPLAIN HIS ACTIONS. a b c d e □□□□□
a. often b. fairly often c. occasionally
d. once in a while e. very seldom

43. HE EMPHASIZES THE QUANTITY OF WORK. a b c d e □□□□□
a. a great deal b. fairly much c. to some degree
d. comparatively little e. not at all

44. HE ASKS FOR SACRIFICES FROM HIS PEOPLE FOR THE GOOD OF THE ENTIRE DEPARTMENT. a b c d e □□□□□
a. often b. fairly often c. occasionally
d. once in a while e. very seldom

45. HE ACTS WITHOUT CONSULTING THE PEOPLE UNDER HIM FIRST. a b c d e □□□□□
a. often b. fairly often c. occasionally
d. once in a while e. very seldom

46. HE "NEEDLES" PEOPLE UNDER HIM FOR GREATER EFFORT. a b c d e □□□□□
a. a great deal b. fairly much c. to some degree
d. comparatively little e. not at all

47. HE INSISTS THAT EVERYTHING BE DONE HIS WAY. a b c d e □□□□□
a. always b. often c. occasionally
d. seldom e. never

48. HE ENCOURAGES SLOW-WORKING PEOPLE TO GREATER EFFORT.

a b c d e
□ □ □ □ □

a. often b. fairly often c. occasionally
d. once in a while e. very seldom

APPENDIX I

SCALES FOR RATING SUPERVISORY PERFORMANCE

A Performance Rating Scale For
First Level Supervisors

Production is the major task of any First Line Supervisor. Consider, for a moment, the performance of foreman _____ in the area of production. Place a check mark at one of the 5 points along the line which best describes this supervisor's performance in the area of production.

1	2	3	4	5
much above average	above average	about average	a little below average	much below average

A Performance Rating Scale For
Supervisors Above the First Level

Every organizational role or position has standards which relate to performance.

Consider, for a moment, the position of _____ _____. How clearly defined are the standards of performance for this position.

Very well defined	Quite well defined	Somewhat well defined	Slightly well defined	Slightly undefined	Somewhat undefined	Quite undefined	Very undefined

To what extent does _____ _____ attain the standards of performance which have been set for his job.

Very effective	Quite effective	Somewhat effective	Slightly effective	Slightly ineffective	Somewhat ineffective	Quite ineffective	Very ineffective

What are the three major functions of the above job. List them in order of importance.

1.

2.

3.

APPENDIX J

TABLE SHOWING JDI SCALE STATISTICS

SCALES FOR RATING JOB SATISFACTION

TABLE 1

JDI Scale Statistics for Male Employees
Pooled Across 21 Plants
(Smith, Kendall and Hulin, 1969)

Scale	N	Raw Scores		Difference of Mean from Equated Neutral Point
		Mean	Standard Deviation	
Work	1971	36.57	10.54	10.57
Pay	1966	29.90	14.53	7.90
Promotions	1945	22.06	15.77	2.06
Supervision	1951	41.10	10.58	8.10
Coworkers	1928	43.49	10.02	11.49

JDI - SUPERVISION

You are asked to describe your SUPERVISION using the following adjectives. Put a Y beside an item if the item describes your SUPERVISION. Put an N beside the item if it does not describe your SUPERVISION. Place a ? beside the item if you are not sure.

SUPERVISION

____ Asks my advice

____ Hard to please

____ Impolite

____ Praises good work

____ Tactful

____ Influential

____ Up-to-date

____ Doesn't supervise enough

____ Quick tempered

____ Tells me where I stand

____ Annoying

____ Stubborn

____ Knows job well

____ Bad

____ Intelligent

____ Leaves me on my own

____ Lazy

____ Around when needed

JDI - WORK

You are asked to describe your WORK using the following adjectives. Put a Y beside an item if the item describes your WORK. Put an N beside the item if it does not describe your WORK. Place a ? beside the item if you are not sure.

WORK

____ Fascinating

____ Routine

____ Satisfying

____ Boring

____ Good

____ Creative

____ Respected

____ Hot

____ Pleasant

____ Useful

____ Tiresome

____ Healthful

____ Challenging

____ On your feet

____ Frustrating

____ Simple

____ Endless

____ Gives sense of accomplishment

JDI - COWORKERS

You are asked to describe your COWORKERS using the following adjectives. Put a Y beside an item if the item describes your COWORKER. Put an N beside the item if it does not describe your COWORKER. Place a ? beside the item if you are not sure.

COWORKERS

____ Stimulating

____ Boring

____ Slow

____ Ambitious

____ Stupid

____ Responsible

____ Fast

____ Intelligent

____ Easy to make enemies

____ Talk too much

____ Smart

____ Lazy

____ Unpleasant

____ No privacy

____ Active

____ Narrow interests

____ Loyal

____ Hard to meet

Put a check under the face that expresses how you feel about your job in general, including the work, the pay, the supervision, the opportunities for promotion and the people you work with.

JIG - FACES SCALE

Fig. 1

APPENDIX K

RESULTS OF PREVIOUS STUDIES SHOWING THE RELATIONSHIP BETWEEN SUBORDINATE JOB SATISFACTION AND SUPERVISORY BEHAVIOUR

(Nealey and Blood, 1968;

Nealey and Owen, 1970)

TABLE 1

Job Satisfaction Area	Nealey & Blood (1968)				Nealey & Owen (1970)	
	1st Level Supervisors N = 22		2nd Level Supervisors N = 8		1st Level Supervisors N = 25	
Satisfaction with Immediate Supervisor	Consideration	Initiating Structure	Consideration	Initiating Structure	Consideration	Initiating Structure
	.790*	.557*	.820*	-.712*	.826*	-.017

* $p<.05$

APPENDIX L

RATINGS OF POSITION POWER AND TASK STRUCTURE

TABLE 1

Employee Relations Managers' Ratings of Position Power
For Designated Supervisory Levels

Organization	Supervisory Level					
	I	II	III	IV	V	VI
	Foreman	General Foreman	Production Manager	Assistant Plant Manager	Plant Manager	General Manager/ V.P.
A		11	9		13	13
B	11 11	11 11	12 12		12 12	
C	11 11	11 11	12 12		13 13	13
D	11	11	11	11	11	
E	11	11	12		12	
F	10	9	11	9	9	
$\bar{X}$'s	10.85	10.75	11.38	10.00	11.88	13.00

Note

Scores on the position power questionnaire (Hunt, 1967) reflect the number of affirmative responses made by employee relations managers/assistants to 13 questions concerning the formal power associated with a designated supervisory level. High scores are indicative of greater position power.

TABLE 2

Employee Relations Managers' Ratings of Task Structure
For Designated Supervisory Levels

Organization	Supervisory Level					
	I	II	III	IV	V	VI
	Foreman	General Foreman	Production Manager	Assistant Plant Manager	Plant Manager	General Manager/ V.P.
A	8	8	5		6	4
	9	7	4		3	2
	8	7	6		4	2
	9	5	6		3	3
	34	27	21		16	11
B	10	9	7		6	5
	8	7	4		3	2
	9	8	6		4	2
	8	7	5		4	2
	35	31	22		17	11
C	8 8	7 6	6 5		5 5	4 2
	5 9	5 8	4 5		3 3	2 2
	9 9	8 8	6 5		5 4	4 2
	8 6	7 5	6 4		5 2	4 1
	30 32	27 29	22 19		18 14	14 7
D	8	6	5	4	3	
	8	7	5	3	2	
	8	7	5	4	1	
	7	6	5	3	2	
	31	26	20	14	8	
E	8	7	5		5	4
	8	7	4		3	2
	9	8	6		4	4
	7	6	5		4	2
	32	28	20		16	12
F	5 5	4 8	3 7	2 6	1 6	
	6 6	5 5	11 4	11 3	11 3	
	6 7	6 6	3 5	1 4	1 2	
	6 8	6 6	2 5	1 2	1 1	
	23 26	21 25	19 21	15 15	14 12	
$\bar{X}$'s	30.38	26.75	20.5	14.67	14.38	11.0

median = 20.5

APPENDIX M

RAW DATA SCORES

ORGANIZATION A

POSITION	LPC	SBDQ C	SBDQ S	D_{LPC}	D_c	D_s	JDI GA	JDI CO	JDI S	JDI W	JIG	RIS	RGS
President	76	76	32										
VP Mfg.	59	66.33	50	17	9.67	18	56	52	47	44	5	7	
Prod. Mgr.	57	89.75	42.50	2	23.42	7.5	71	52	40	45	5	5	5
" "	56	79.50	55.75	3	13.17	5.75	76	54	39	44	5	4	4
Mgr.Mfg-Eng.	67	87	35	8	20.67	15	68	52	54	46	6	7	7
Gen.Foreman	77			21			67	45	48	43	5	6	4
" "	90			34			72	45	42	36	5	6	5
" "	58			1			73	48	50	33	5	7	5
" "	81			25			65	51	43	17	3	7	5
" "	74			18			65	54	45	36	5	6	5
" "	61			4			63	44	53	37	4	7	5
" "	57			10			68	51	54	40	5	7	6
" "	83			26			66	49	51	41	6	7	5
" "	57			0			68	51	51	39	5	7	6

ORGANIZATION B

POSITION	LPC	SBDQ C	SBDQ S	D_{LPC}	D_C	D_S	JDI GA	JDI CO	JDI S	JDI W	JIG	RIS	RGS
Group V.P.	66	79	69										
Mgr. Mfg.	61	92.67	44	5	13.67	25	68	50	48	43	5	7	
Supt.of Mfg.	34	89.33	52.33	27	3.34	8.33	59	42	51	36	4	8	6
Mgr. (P&E)	50	100.5	44	11	7.83	0	67	48	42	28	4	7	8
Mgr. (S.O.)	77	76.67	53.50	16	16	9.5	61	44	47	43	4	7	6
Mfg. Coord.	52			25			53	31	36	21	3	7	
Gen. Foreman	55	98.5	53.50	5	2	9.5	80	52	54	30	5	6	7
" "	82	85.75	54.75	48	3.58	2.42	74	46	48	36	5	7	7
" "	57	89.0	57.33	17	.33	5.0	64	49	43	34	3	7	6
" "	34	83.33	50.33	0	6	2.0	66	47	54	35	5	8	7
" "	79	87.25	49.25	29	13.25	5.25	74	52	54	50	4	6	7
Foreman	84			5			55	42	50	25	4	2	2
"	58			1			66	51	51	46	5	2	2
"	32			25			73	48	51	47	5	3	3
"	79			3			77	50	48	37	5	2	3
"	66			13			78	49	48	43	6	2	3
"	58			19			52	41	15	14	4	3	3
"	59			18			50	41	31	30	3	4	4
"	63			14			80	54	46	42	4	2	2
"	37			3			74	42	50	40	5	2	4
"	68			13			69	50	51	30	4	2	3
"	69			8			62	50	51	29	3	3	3
"	50			32			71	45	54	45	6	2	1
"	67			15			69	39	52	42	5	2	2
"	85			30			71	54	51	38	5	2	2
"	83			49			56	51	39	18	5	2	4
"	80			1			70	45	49	39	6	2	2
"	78			1			76	54	47	33	4	2	3
"	73			9			69	51	50	37	6	3	3
"	88			54			60	48	51	39	4	2	3
"	76			1			73	54	38	39	5	3	3
"	73			16			69	45	48	39	5	3	3

ORGANIZATION C

POSITION	LPC	SBDQ C	SBDQ S	D_{LPC}	D_c	D_s	JDI GA	JDI CO	JDI S	JDI W	JIG	RIS	RGS
VP Mfg.	47	101	42										
Plant Mgr.	49	88	46.67	2	13	4.67	68	48	51	38	5	7	
Supt.	92	64.75	51.0	43	23.25	4.33	62	44	40	37	5	7	6
"	37	80.33	27.0	12	7.67	19.67	73	38	52	39	5	8	7
"	78	46.0	36.0	29	42	10.67	70	52	51	37	5	7	7
Gen.Foreman	59			33			70	51	45	40	4	8	6
" "	33	86.0	51.5	59	21.25	0.5	74	45	12	51	5	6	8
Foreman	60			32			69	30	34	30	4	2	2
"	75			38			62	35	46	23	5	3	3
"	89			56			61	52	51	43	4	3	3
"	72			39			55	45	40	30	3	2	3
"	48			11			63	46	47	42	4	1	2
"	60			23			63	48	38	37	4	3	3
"	77			1			62	38	33	29	4	2	2
"	86			6			64					2	2

ORGANIZATION D

POSITION	LPC	SBDQ C	SBDQ S	D_{LPC}	D_c	D_s	JDI GA	JDI CO	JDI S	JDI W	JIG	RIS	RGS
VP Mfg & IR	72	89	32										
Works Mgr.	64	81	45	8	8	13	73	54	51	51	6	7	
Ass't. Works Mgr.	52	88	52	12	7	7	70	54	43	38	5	8	7
General Supt	70	79	50.74	18	9	1.26	73	50	41	43	5	8	8
Gen. Foreman	78			8			64	47	43	27	4	5	4
" "	79	66.33	49.66	9	12.67	1.08	65	45	38	27	4	7	7
" "	68	76	57	2	3	6.26	69	48	13	34	5	6	6
" "	67	60	53.5	3	19	2.76	71	48	38	35	4	5	4
" "	71			1			68	40	41	40	5	6	7
" "	92	82	54	22	3	3.26	69	45	36	30	6	7	8
" "	77	108	60	7	29	9.26	65	49	40	30	3	7	6
" "	79	80.5	41	9	1.5	9.74	71	45	29	38	6	7	8
" "	78	63.5	50.75	8	15.5	.01	75	44	51	39	3	7	7
Foreman	66			12			59	54	54	39	5	2	2
"	65			14			70	48	54	31	5	3	3
"	63			16			47	22	48	39	5	2	2
"	86			7			68	49	51	37	5	2	2
"	47			20			56	32	32	11	1	1	4
"	61			16			74	49	48	42	6	2	2
"	62			17			73	43	42	42	5	3	3
"	93			15			70	21	48	38	4	3	3
"	74			18			73	51	45	45	5	3	2
"	65			27			70	54	51	42	5	3	3
"	60			19			68	43	50	25	4	2	3
"	70			8			74	34	24	37	5	3	3
"	65			14			56	32	27	24	2	3	3
"	77			9			71	50	37	37	4	2	3
"	52			27			58	39	48	30	3	2	3
"	75			8			72	40	32	39	6	3	3
"	96			18			79	29	33	21	4	2	3

ORGANIZATION E

POSITION	LPC	SBDQ C	SBDQ S	D_{LPC}	D_c	D_s	JDI GA	JDI Co	JDI S	JDI W	JIG	RIS	RGS
General Mgr.	78	96	44										
Plant Mgr.	23	74	48	55	22	4	70	50	49	39	5	6	
Plant Supt.	65	77	51	42	3	3	57	35	45	32	5	6	8
Gen.Foreman	79	85.9	37.1	14	8.9	13.9	60	52	47	44	5	6	5
" "	47	48.8	51.4	18	28.2	.4	58	41	41	33	4	7	7
Foreman	70			23			62	51	36	46	5	3	3
"	53			6			63	44	21	37	4	4	4
"	59			12			55	30	19	23	3	4	3
"	70			9			65	54	52	32	4	3	2
"	58			21			74	52	52	31	5	2	2
"	36			43			68	54	36	40	4	2	3
"	51			28			66	51	49	44	5	4	3
"	76			3			62	52	42	40	5	3	4
"	77			30			52	45	25	28	4	2	2
"	55			24			74	49	54	44	5	2	2
"	70			23			55	46	54	45	5	3	3
"	44			35			65	48	51	45	5	4	3
"	71			24			56	39	31	21	3	3	2
"	84			37			56	44	23	46	6	2	2
"	70			9			66	46	47	29	5	3	3
"	81			34			67	36	39	42	5	4	3
"	68			11			62	51	38	20	3	2	1

ORGANIZATION F

POSITION	LPC	SBDQ C	SBDQ S	D_{LPC}	D_c	D_s	JDI GA	JDI CO	JDI S	JDI W	JIG	RIS	RGS
Group V.P.	76	69	27										
Gen. Mgr.	43	63	50	33	6	23	53	35	37	43	5	7	
Mgr. Mfg.	43	85	53	0	22	3	69	54	40	44	5	7	7
Prod. Mgr.	38	84	49.6	5	1	3.4	74	48	49	46	6	7	6
Gen. Foreman	64	59	55	26	25	6.4	69	42	39	27	2	6	6
" "	73	81	54	35	22	1	65	39	49	28	2	8	7
Foreman	30			8			76	51	54	42	5	2	2
"	36			37			62	49	47	35	4	2	2
"	52			14			46	37	47	33	4	2	2
"	80			42			62	51	45	30	4	3	3
"	75			11			71	54	45	33	4	5	3
"	60			13			68	54	48	36	5	3	3

MEASURES OF SUPERVISORY STYLE:

LPC - Least Preferred Co-Worker Score

SBDQ - Supervisory Behaviour Description Questionnaire

C - "Consideration" dimension of SBDQ

S - "Initiating Structure" dimension of SBDQ

MEASURES OF SIMILARITY OF SUPERVISORY STYLE:

D_{LPC} - Similarity of supervisory style at adjacent levels of supervision as indexed by the difference between "LPC" scores

D_{C} - Similarity of supervisory style at adjacent levels of supervision as indexed by the difference between "Consideration" scores

D_{S} - Similarity of supervisory style at adjacent levels of supervision as indexed by the difference between "Structure" scores

NOTE: Low scores on the above 3 measures indicate greater similarity of supervisory style.

G.A. - Group Atmosphere Score

MEASURES OF JOB SATISFACTION:

J.D.I. - Job Descriptive Index

CO - "Co-Worker" scale of J.D.I.

W - "Work" scale of J.D.I.

S - "Supervision" scale of J.D.I.

J.I.G. - Satisfaction score for the "Job-In-General"

MEASURES OF SUPERVISORY PERFORMANCE:

R.I.S. - Performance rating by the immediate supervisor

R.G.S. - Performance rating by the next higher supervisor