A Study of the Relation of Certain Personal Traits to the Reputation for Leadership Behavior and Supervisory Effectiveness of Clerical Supervisors

Patrick Joseph Mulvihill
University of Nebraska at Omaha

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A STUDY OF THE RELATION OF CERTAIN PERSONAL TRAITS TO THE REPUTATION FOR LEADERSHIP BEHAVIOR AND SUPERVISORY EFFECTIVENESS OF CLERICAL SUPERVISORS

by

Patrick Joseph Mulvihill

A Thesis
Presented to
the Graduate Faculty of the Department of Psychology
University of Omaha

In Partial Fulfillment of the Requirements for the Degree
Master of Arts

June 1963
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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

I. THE PROBLEM

Statement of the problem. The purpose of this study was to investigate the relationship of certain personal traits of a selected group of first-level supervisors to the reputations for leadership behavior and supervisory effectiveness which the first-level supervisors had established with their superiors. Only those traits measured by the How Supervise Test, the Gordon Personal Profile, and an adjective scale were investigated. The hypothesis tested by the study was stated as follows: The first-level supervisor's reputation for leadership behavior and supervisory effectiveness with his superior will be related to one or more of the measured traits to a statistically significant degree.

The effect of the environment in influencing the development of a person's total personality was not denied. It was not considered pertinent to the investigation.

The influence of the situation on the behavior and the effectiveness of persons in supervisory positions was not investigated. The effect
of variables in the situation was considered beyond the scope of the study.

Statement of the secondary problem. Can reasonably intelligent individuals make predictions of reputation for leadership behavior from test results which are better than the predictions of the test results alone? The test results collected for investigating the primary problem were used in studying the secondary problem. Given the test results of each first-level supervisor and the distribution by stanines of reputation on two dimensions of leadership behavior, can independent judges predict a supervisor's actual stanine position on each dimension of reputation for leadership behavior? Can they do such predicting better than the tests? These were the specific questions considered. It seemed that without the opportunity to use additional tests and biographical information or to have face-to-face contact with the subjects, judges would not do better than the tests in predicting reputation for leadership behavior. The hypothesis pertaining to the secondary problem was stated as follows: Independent judges will not add to the predictive value of the tests used in this study.

Importance of the study. The study was important for several reasons:
A. It was an attempt to add to existing knowledge concerning the relationship of traits to measures of leadership behavior. While such surveys of the literature as that of Stogdill showed that numerous studies of personal traits have failed to reveal any consistent pattern of traits which characterize leaders, there have been other approaches to investigating the influence of personal traits.¹ Fiedler, for example, proposed the possibility of traits which differentiate effective from ineffective leaders.² It seemed that further investigation of the relationship of personal traits to leadership behavior could be valuable in furthering an understanding of leadership. Related research will be discussed in Chapter II.

B. Findings of the Ohio State Leadership Studies were related to research done by Fiedler and others, on a contract between


the University of Illinois and the Office of Naval Research. A review of the literature did not indicate that this had been attempted. In view of the important findings resulting from both sets of studies, it seemed that this one objective made this thesis study worth the effort.

C. This study involved female supervisors at the first-level of management. Twenty-four of the twenty-six subjects reported to female superiors. The usual study of leadership in a business organization has been of male subjects. Hence, this study added in a small way to the scope of the work done in the field of leadership research.

D. The secondary problem was important because it tested a possible technique for increasing the predictive value of test results in similar studies.

II. DEFINITIONS OF TERMS USED

Personal trait. In this study, a trait is defined as any personal characteristic which can be observed or measured. 3 This is a broad

definition which includes within its limits those variables measured by the tests used in this investigation.

Reputation for leadership behavior. This term refers to the kind of behavior ascribed to the first-level supervisors included in the study by the persons to whom they reported. The kinds of behavior of the first-level supervisors are stated in terms of Structure and Consideration. The second-level supervisors used the Leadership Opinion Questionnaire to describe the behavior of their subordinates.  

Structure. This kind of leadership behavior is also called Initiating Structure. It is defined as follows:

Reflects the extent to which an individual is likely to define and structure his own 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, criticizing, trying out new ideas, etc.  

Consideration. This kind of leadership behavior is defined as follows:

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5 Ibid.
Reflects the extent to which an individual is likely to have job relationships characterized by mutual trust, respect for subordinates' ideas, consideration of their feelings, and a certain warmth between supervisor and subordinates. 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.  

First-level supervisor. This term refers to a person appointed by the organization to direct and control the work of a group of non-supervisory employees. A person at this level of management was one step removed from the ranks of the workers.

Second-level supervisors. This phrase refers to persons to whom the first-level supervisors reported as subordinates. The second-level supervisor was appointed by the organization. Each first-level supervisor had only one superior at the second-level of supervision. A second-level supervisor may have several subordinates at the first-level.

Reputation for supervisory effectiveness. This term refers to the judgments made by the second-level supervisors as to the relative ranking of all first-level supervisors reporting to them. The rankings were done in terms of over-all performance in the first-level supervisory job. Each second-level supervisor ranked only those first-level supervisors who reported to him.

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6 Ibid.
CHAPTER II

RELATED RESEARCH

I. THE OHIO STATE LEADERSHIP STUDIES

Background. These studies were an interdisciplinary undertaking by the Personnel Research Board of Ohio State University. Psychologists, sociologists and economists were the major contributors. While the approach used was interdisciplinary, all projects did not use the same methods.

The topic of leadership was approached by the examination and measurement of performance or behavior rather than human traits. One of the principal objectives of the studies was to test hypotheses concerning the situational determination of leader behavior. A major hypothesis stated that performance in a position of leadership is determined in a large part by demands made upon the position. 1

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When the studies were initiated in 1945, no satisfactory theory or definition of leadership was available. A decision was made to study leadership, "... however defined, and whether effective or ineffective." 2

Description of leadership behavior and evaluation of such behavior were conducted as separate research operations. The objective of this decision was to learn something about the nature of leadership before trying to determine how it is related to measures of criterion. 3

The Ohio State Leadership Studies were conducted over a ten year period and many research projects were conducted to investigate the relationship of group variables and personal characteristics to leader behavior. Only the results pertinent to this paper will be reviewed.

Findings. Some of the findings and conclusions of the Ohio State studies are as follows:

A. A start was made toward the development of a leader description instrument. Ten dimensions of leader behavior were hypothesized by the research staff.

2 Ibid., p. 2.

3 Ibid.
Items of behavior related to the dimensions were described by the staff and the Leader Behavior Description Questionnaire was constructed. A factor analysis was made of the intercorrelations of the dimensions. Three general factors were identified. They were designated as Maintenance of Membership Character, Objective Attainment Behavior, and Group Interaction Facilitation. Thus a beginning was made toward the development of an instrument to describe leadership behavior.4

B. The Leader Behavior Description Questionnaire was modified for a study of Air Force personnel manning bombardment aircraft. Intercorrelations among 8 hypothesized dimensions of leader behavior were subjected to factor analysis. Four factors emerged. Consideration and Initiating Structure, defined in Chapter I of this study, accounted for 83 per cent of total factor variance. Unsuccessful attempts were made to improve the contribution of the two other factors. Short scales were then developed for describing Consideration and Initiating Structure. Halpin and Winer et al. found that the

4 Ibid., pp. 6-38.
reliabilities of the two short scales were sufficiently high for practical use. The scales were also judged to be sufficiently independent to serve as measures of different kinds of behavior. Persons describing the same leader showed significant similarity in their descriptions. Another important finding pertained to the relation of ratings of leadership effectiveness by superiors to leader behavior of air crew commanders as seen by their subordinates. Consideration was correlated negatively with effectiveness ratings by superiors while Initiating Structure was positively related to such ratings. Consideration was found to be more highly related than Initiating Structure to an index of crew satisfaction.  

C. The findings that the ratings of aircraft commanders by his superiors are correlated significantly with Initiating Structure scores and that his ratings by his crew members are correlated highest with Consideration scores were repeated in another study by Halpin. The aircraft commander's behavior was again described by members of his crew in the Leadership Behavior Description Questionnaire.

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5 Ibid., pp. 39-51.  
6 Ibid., pp. 52-64.
D. The International Harvester Company study was administered through the Personnel Research Board of Ohio State University. A Supervisory Behavior Description Questionnaire to measure Consideration and Initiating Structure was developed for use with an industrial population. A questionnaire titled, The Leadership Opinion Questionnaire for the measurement of leadership attitudes was also developed. It measures the same two dimensions of Consideration and Initiating Structure and is parallel to the Supervisory Behavior Description. The intercorrelation between the two dimensions in each of these instruments was -.02 and -.01 respectively. The International Harvester Company study showed that first-level supervisors who worked under Leadership climate high in Consideration scored significantly higher themselves in both

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8 Bureau of Business Research, op. cit., pp. 120-133.

9 Bureau of Business Research, op. cit., p. 110.

10 Ibid., p. 123.
Consideration attitudes and behavior. The trend was the same in regard to Initiating Structure attitudes and behavior.\textsuperscript{11} Such background factors as age, education, time with company, time as a supervisor, and number of men supervised were not related to the leadership attitudes of the first-level supervisors.\textsuperscript{12} It was also found that proficiency ratings of the first-level supervisors in production divisions were significantly correlated to Initiating Structure. In the non-production divisions there was a correlation between proficiency ratings and Consideration.\textsuperscript{13}

E. In discussing the available evidence on the Supervisory Behavior Description, Fleishman commented, "Only scanty data exist regarding the relationship between Supervisory Behavior Description scores and aptitude and personality measures."\textsuperscript{14}

He also summarized the results of attempts to relate ACE

\textsuperscript{11} Fleishman, Harris and Burtt, \textit{op. cit.}, p. 94.
\textsuperscript{12} Ibid., p. 35.
\textsuperscript{13} Ibid., p. 78-79.
\textsuperscript{14} Bureau of Business Research, \textit{op. cit.}, p. 116.
Quantitative plus Language Scores, and scores from the Gestalt Completion Test, the Concealed Figures Test, and the F Scale (a measure of authoritarianism) to the Consideration and Initiating Structure scores. The Concealed Figures Test had a low (0.19), but significant, correlation with the Initiating Structure Score. A correlation figure of -0.29, significant at the .01 level, was found between the F Scale and the Initiating Structure scale. The other measures did not correlate significantly with either Consideration or Initiating Structure scores. ROTC cadets made up all samples.

Fleishman also summarized the correlations of Leadership Opinion Questionnaire dimensions and various measures. Bakery supervisors made up the only samples from a business setting. The following test results of bakery supervisors were involved in his summary: Empathy Test, Guilford-Holley Leadership Scales, Guilford-Martin Personnel Inventory, Johnson Temperament Schedule, and the Bernreuter Personality Inventory. Correlations between these measures

15 Ibid., pp. 115-117.
16 Ibid., pp. 128-131.
and the dimensions of Consideration and Structure on the Leadership Opinion Questionnaire were low or insignificant.

The Ohio State Leadership Studies were considered pertinent to the present investigation in that they presented evidence that two independent dimensions of leadership behavior have been identified and measured. They indicated that superiors tended to rate subordinate supervisors higher when the subordinate was perceived as being high in Initiating Structure. This relationship was evident in the studies of aircraft commanders and in the rating of production foremen in the International Harvester Study. The relationship did not seem to exist in regard to ratings of non-production foremen. The study conducted in the International Harvester Company indicated that climate is of primary importance in determining leadership attitudes and behavior. A review of the Ohio State Leadership Studies also indicates that while research has been conducted in relating personal traits to the dimensions of leadership behavior, there is room for more work in this area of investigation.
II. SOCIAL PERCEPTION AND GROUP EFFECTIVENESS

PROJECT

Background. This research was initiated in September, 1951, and terminated in August, 1957. The research program was designed to identify psychological factors underlying group effectiveness. A specific aim was the development of a theory concerning the effect of interpersonal perception in making groups effective. The work on the project was concerned with only natural groups which had a purpose for existence exclusive of the research. All criteria of group effectiveness were based on the objectives for which the groups were formed to accomplish. Groups studied included basketball teams, B-29 bomber crews, tank crews, open hearth steel shop crews, and consumer cooperatives. This thesis study utilized a measure of interpersonal perception which was developed as part of the Social Perception and Group Effectiveness Project. An assumption tested by this thesis study was: The kind of leadership behavior adopted by a


18 Ibid., p. 3.

19 Ibid., p. 5.
leader and measured along the dimensions of Consideration and Initiating Structure will be influenced by the leader's perception of others. The measure of interpersonal perception used in this investigation was one that was developed by Fiedler et al. A survey of the literature did not uncover any study in which the investigation of such a relationship was attempted.

**Findings.** The studies included in the project indicated that psychologically distant leaders are more effective in stimulating productivity of task groups than are leaders with psychologically closer interpersonal relations with group members. The leadership trait problem was revived, but given another interpretation in that it was proposed that leadership traits can operate to influence group productivity only when the leader has considerable power in the group.

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21 Ibid.
CHAPTER III

BACKGROUND OF THE STUDY AND THE TECHNIQUES USED

1. BACKGROUND OF THE STUDY

Study location. The scene of the study was the home office of two large insurance companies, Mutual of Omaha and United of Omaha. The working areas were open and neither the first-level supervisors included in the study nor their superiors had offices whose walls restricted observation. Except in the instance of one first-level supervisor, the desks of the first-level supervisors were within forty to fifty feet of the superiors to whom they reported.

When the study was conducted. Data were collected during the months of May, June and July in 1959.

Work groups included in the study. The basic organizational unit in the companies was the section. Several sections were grouped together into a department. Twenty-six female section supervisors (first-level supervisors) were the subjects of this thesis study. The twenty-six sections were drawn from eleven different departments. All sections of six of the departments were included in the investigation. In two of the other five departments, only the clerical support
sections were included. Other portions of these two departments were made up of male employees who performed non-clerical duties. Another department was made up of two sections. One of these sections was a training section which was not included because of the rapid turnover of employees. The fourth and fifth departments which did not have all sections involved in this thesis investigation did not have all sections under work measurement. Only those sections which were under the work measurement program were utilized. Other pertinent factors about the work groups are as follows:

A. The employees in each of the twenty-six sections of the twenty-six female first-level supervisors were subject to a work measurement program. An individual employee and a section productivity score was calculated monthly which showed actual production against that expected. Standards were established by skilled analysts using timing techniques and by individual employees who used self-timing techniques controlled by the analysts. Individual production records were kept by the employees themselves and their records were used in calculating productivity. All but four sections included in the study had been under work measurement for at least one year. Of these four, two sections had been
measured for six months, one section for four months, and one for three months. In addition to work measurement, all sections included in the study were under pressure to meet specific schedules for service to field agents and policy-holders.

B. The number of employees per section ranged from five to thirty-eight. The mean number of employees per section was 15.42. The median number per section was fifteen employees. A total of 401 female employees made up the work force of the twenty-six sections included in the study.

C. The supervisory experience of the first-level supervisors ranged from seven years down to six months. However, the records were not always clear as to when a person became a first-level supervisor.

D. The ages of the first-level supervisors ranged from twenty-four to forty approximately. Complete data were not available on ages.

E. Twenty-four of the twenty-six first-level supervisors reported to female second-level supervisors.
F. The type of work done by the sections represented a general cross section of clerical work. Such jobs as typing, transcribing, filing, posting, checking, completing forms, and calculating were typical.

II. TECHNIQUES USED

Individual first-level supervisor data. The second-level supervisors administered two tests to the first-level supervisors who reported to them. In each case, the second-level supervisor was furnished with test booklets and was instructed in proper procedure for administering the tests in a standardized manner. While tests were taken by different groups of first-level supervisors at different times, all first-level supervisors reporting to a common second-level supervisor took the two tests at the same time. A third test, for which a test booklet did not exist, was administered by the author department by department. All tests were scored and checked by the author. More details about each test will be given in the paragraphs that follow:

A. The How Supervise test, Form B, published by the Psychological Corporation of New York, New York was administered by the second-level supervisors to their first-level supervisors. The test was constructed by Cuentin W. File and H. H. Remmers.
Forms A and B were first released in 1943. A revision of the test manual was issued and copyrighted in 1948. It replaces the 1945 edition and 1947 extension. The test is a power test and is divided into three parts:

1. **Supervisory Practices** - This is a seventeen-item portion of the test which contains statements of specific actions the supervisor would endorse as desirable or reject as undesirable for installation in his organizational unit. A third alternative for each item is to check the "uncertain" response.

2. **Company Policies** - This part of the test contains twenty-four statements of methods used by different companies in handling relations with employees. The supervisor is asked to express his opinion of the value of each method in producing good employer-employee relations. Opinion is expressed by checking one of three responses: desirable, uncertain, or undesirable.

3. **Supervisor Opinions** - This section is concerned with the human relations problem of handling workers. Twenty-nine items are presented as representing opinions held
by various supervisors. The person taking the test is asked to indicate whether he agrees, disagrees, or is uncertain about each item.

The test is designed to measure understanding of the general aspects of supervision. It deals with management-worker relations and the relation of the supervisor to both the employees and the company. In one sense it is measuring knowledge and in another it is measuring attitude. Each of the three portions of the test is scored. The sum of these scores yields the score on the form.

B. The Gordon Personal Profile test published by the World Book Company of Yonkers-on-Hudson, New York was also administered by the second-level supervisors to their first-level supervisors. The test was constructed by Leonard V. Gordon and was copyrighted in 1953. The test is designed to give a measure of five aspects of personality as follows:

1. Ascendancy - Individuals who take an active role in group situations, who tend to make independent decisions, and who are self-assured and assertive in dealing with others score high on this part. Conversely, those who
are passive in groups, who lack self-confidence, and who tend to be dependent score low. Such bipolarity is also typical of the other scores on this test.

2. Responsibility - This portion of the test measures the degree of a person's perseverance and determination in getting a job done and the seriousness with which he regards his responsibilities. Persons who are unable to stick to tasks and who tend to be flighty or irresponsible usually make low scores. Those persons who take responsibilities seriously and who are persevering and determined score high.

3. Emotional Stability - Those individuals who are characterized as being relatively free from anxiety, nervous tension, and who are emotionally well-balanced score high on this portion of the test. Persons who are excessively anxious, tense, hypersensitive, and nervous tend to score low on this scale.

4. Sociability - This part of the test measures the degree to which a person is sociable, gregarious, and likes to be with and work with people. Low scores indicate a lack
of gregariousness, restriction in social contacts, and in a extreme, an avoidance of social relationships.

5. Total Score - This score is the total number of favorable responses minus the total number of unfavorable responses. Very low scores are associated with feelings of inferiority.

The test consists of eighteen sets of tetrads. The forced-choice technique is utilized in that a person is asked to mark one phrase in each tetrad as being most like himself and one phrase as being least like himself. This test was selected for the study because the forced-choice technique is less subject to faking than self-descriptions.

C. An adjective scale which yields an interpersonal distance score D, was administered to the first-level supervisors by the author. This score is a measure of assumed similarity between opposites; the person's most preferred and least preferred co-workers. This measure is designated ASo. A person with a low ASo strongly rejects the least preferred co-worker. Such

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a person is more distant and rejecting to potentially poor co-workers. A high ASo person tends to accept and have greater feelings of warmth toward those who are poor co-workers than does the low ASo person. A low ASo person also perceives relatively large differences between himself and his fellow workers even if he likes all of them. The split-half reliabilities of ASo measures on the adjective scale was found to be .93 in one study. ² Twenty-four pairs of adjectives were included in the scale used. ³ The scale was first used by the first-level supervisors to describe the most preferred co-worker and then an identical scale was used to describe the least preferred co-worker. A sample pair of adjectives is shown below:

```
Friendly:  _____! _____! _____! _____! _____! _____! Unfriendly
```

Each item scale is scored from 1 to 6. The difference in each item between most preferred and least preferred co-worker on each item is squared. The squared differences were added to yield $\sum D^2$. $D$ was used to represent the square root of $\sum D^2$. In dealing with $D$ scores it must be remembered that higher $D$ scores indicate a lower ASo measure.

² Ibid., p. 15.
³ Ibid., pp. 64-65.
Reputational measures for leadership behavior. The Leadership Opinion Questionnaire mentioned in Chapter II was used as a descriptive instrument to describe the leadership behavior of first-level supervisors. Each second-level supervisor described only the behavior of first-level supervisors reporting to him. This process resulted in scores for each first-level supervisor along the dimensions of Consideration and Structure. Both of these terms were defined in Chapter I and discussed in Chapter II in conjunction with the Ohio State Leadership Studies.

Reputational measure for supervisory effectiveness. This measure was acquired by asking the second-level supervisors to rank the first-level supervisors reporting to them in order of their over-all performance as a supervisor. Five of the original twenty-six first-level supervisors were not included in these rankings since each reported to a different individual. The remaining twenty-one supervisors were distributed by departments as follows:

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<th>Number of First-level Supervisors</th>
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Each second-level supervisor ranked only those first-level supervisors in his department. All rankings were transmitted to values or scores on a continuous scale using the method described by Ghiselli and Brown. This technique assumes that supervisory performance is distributed normally. Errors of unknown extent were introduced by this method. Hence, results have to be viewed with caution. Since the findings might point the direction for further research, the inclusion of this measure in the study was thought to be worthwhile.

Predictions of independent judges. A 4" x 6" card was prepared for each of the twenty-six first-level supervisors. The Gordon Personal Profile scores, the How Supervise scores, and the D score were entered on each individual's card. Each first-level supervisor was given a letter designation and his card was so labeled. A card was also prepared for the Consideration score distribution by stanine. The number of first-level supervisors in each stanine on the Consideration distribution was shown. A similar card was also prepared for the Structure scores. Two men, who were labeled Mr. A and Mr. B, for the purposes of this study, agreed to serve as independent judges. Mr. A was granted a Doctor of Philosophy degree by Michigan State University in 1960.

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Mr. B was awarded a Doctor of Philosophy degree by John Hopkins University in 1959. Psychology was the major field of study for both men. Mr. A and Mr. B have had clinical experience and both are now presently employed as staff psychologists at a plant location of a large corporation.

The setting of the study was described for the judges. The type of work done by the work groups supervised was also described. The judges were also told: the approximate age range of the first-level supervisors, that promotion was based mostly on technical competence, that all of the first-level supervisors were at least high school graduates, that only female employees were supervised, that most of the supervisors had completed a ten hour human relations course, and that all the first-level supervisors had been in their jobs a minimum of six months. Each judge was furnished with a form which contained the letter designations of the first-level supervisors and spaces to enter the judge's prediction of each supervisor's stanine position on the Consideration and Structure distributions. In addition to this form, each judge was supplied with the twenty-six 4" x 6" cards containing individual test scores plus the cards showing the actual stanine distributions of Consideration and Structure scores. Only the number of first-level supervisors in each stanine was shown. The judges were also furnished with descriptive literature for each of the tests. They were asked to make their predictions.
independently on the basis of the test scores, their knowledge of the tests, and their knowledge of the situation.

**Correlations.** All correlations were of the product moment type. Twenty-six bivariate observations (one for each first-level supervisor) were involved in every correlation computation except those involving the ranking scale scores. Twenty-one bivariate observations were included in calculations concerning the ranking scale scores. All test scores, reputational measures, and judges' estimates were intercorrelated.
CHAPTER IV

RESULTS

1. RELATIONS OF TEST SCORES AND JUDGES PREDICTIONS TO REPUTATIONAL MEASURES

Correlations of test scores with reputational measures for leadership behavior. The test scores (See Table 1) which were related to reputational measures for leadership behavior at the five per cent level of significance or better were the following:

<table>
<thead>
<tr>
<th>Factor Correlated with Consideration</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordon Personal Profile &quot;R&quot; score</td>
<td>.627</td>
</tr>
<tr>
<td>Gordon Personal Profile &quot;E&quot; score</td>
<td>.417</td>
</tr>
</tbody>
</table>

The correlation figure of .627 was significant at the one per cent level. The correlation figure of .417 was significant at the five per cent level. The intercorrelation of the two factors was .226. The multiple correlation of the two factors with the Consideration score was .688. When this figure was corrected for shrinkage, the multiple correlation figure was .653.¹ This was significant at the one per cent level.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordon Personal Profile 'A' Score</td>
<td>.343</td>
<td>-.106</td>
<td>.744</td>
<td>.785</td>
<td>-.049</td>
<td>-.387</td>
<td>-.175</td>
<td>-.285</td>
<td>-.212</td>
<td>-.110</td>
<td>.046</td>
<td>.081</td>
<td>-.305</td>
<td>.367</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gordon Personal Profile 'B' Score</td>
<td>.343</td>
<td>.226</td>
<td>.353</td>
<td>.694</td>
<td>-.001</td>
<td>-.175</td>
<td>-.010</td>
<td>-.086</td>
<td>.211</td>
<td>.168</td>
<td>.627</td>
<td>.158</td>
<td>.007</td>
<td>.007</td>
<td>-.107</td>
<td>.053</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gordon Personal Profile 'E' Score</td>
<td>-.106</td>
<td>.226</td>
<td>-.340</td>
<td>.341</td>
<td>-.032</td>
<td>.103</td>
<td>.147</td>
<td>.082</td>
<td>-.162</td>
<td>.338</td>
<td>.417</td>
<td>.040</td>
<td>-.090</td>
<td>.136</td>
<td>.024</td>
<td>.067</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gordon Personal Profile 'T' Score</td>
<td>.744</td>
<td>.353</td>
<td>-.340</td>
<td>.704</td>
<td>.039</td>
<td>-.269</td>
<td>-.216</td>
<td>-.235</td>
<td>-.017</td>
<td>-.178</td>
<td>-.040</td>
<td>-.233</td>
<td>.354</td>
<td>.074</td>
<td>.189</td>
<td>.120</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Supervise? Supervisor Opinions Score</td>
<td>.785</td>
<td>.694</td>
<td>.341</td>
<td>.704</td>
<td>-.015</td>
<td>-.319</td>
<td>-.103</td>
<td>-.207</td>
<td>-.097</td>
<td>.089</td>
<td>.245</td>
<td>-.109</td>
<td>.298</td>
<td>.120</td>
<td>-.226</td>
<td>.244</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Supervise? Survey Practices Score</td>
<td>-.049</td>
<td>-.001</td>
<td>-.032</td>
<td>.039</td>
<td>-.015</td>
<td>.405</td>
<td>.502</td>
<td>.684</td>
<td>-.067</td>
<td>.141</td>
<td>.096</td>
<td>-.003</td>
<td>.452</td>
<td>.460</td>
<td>.731</td>
<td>.111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Supervise? Company Policies Score</td>
<td>-.387</td>
<td>-.175</td>
<td>.103</td>
<td>-.269</td>
<td>-.319</td>
<td>.405</td>
<td>.450</td>
<td>.799</td>
<td>-.210</td>
<td>.025</td>
<td>.049</td>
<td>-.384</td>
<td>.261</td>
<td>.510</td>
<td>.790</td>
<td>.370</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Supervise? Supervisor Opinions Score</td>
<td>-.175</td>
<td>-.010</td>
<td>.147</td>
<td>-.216</td>
<td>-.103</td>
<td>.502</td>
<td>.450</td>
<td>.870</td>
<td>-.134</td>
<td>-.027</td>
<td>.098</td>
<td>.011</td>
<td>.485</td>
<td>.565</td>
<td>.802</td>
<td>.220</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Supervise? Total Score</td>
<td>-.285</td>
<td>-.086</td>
<td>.082</td>
<td>-.235</td>
<td>-.207</td>
<td>.684</td>
<td>.799</td>
<td>.870</td>
<td>-.186</td>
<td>.027</td>
<td>.098</td>
<td>-.172</td>
<td>.488</td>
<td>.649</td>
<td>.968</td>
<td>.126</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D Score</td>
<td>-.212</td>
<td>.211</td>
<td>-.162</td>
<td>-.017</td>
<td>-.097</td>
<td>-.067</td>
<td>-.210</td>
<td>-.134</td>
<td>-.186</td>
<td>.161</td>
<td>.180</td>
<td>.177</td>
<td>-.553</td>
<td>-.582</td>
<td>-.163</td>
<td>-.339</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ranking's Scale Score</td>
<td>-.110</td>
<td>.168</td>
<td>.338</td>
<td>-.178</td>
<td>.089</td>
<td>.141</td>
<td>.025</td>
<td>-.027</td>
<td>-.027</td>
<td>.161</td>
<td>.507</td>
<td>-.051</td>
<td>-.035</td>
<td>.095</td>
<td>.028</td>
<td>.137</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consideration Score</td>
<td>.046</td>
<td>.627</td>
<td>.417</td>
<td>-.040</td>
<td>.245</td>
<td>.096</td>
<td>.049</td>
<td>.098</td>
<td>.180</td>
<td>.507</td>
<td>-.197</td>
<td>-.136</td>
<td>-.087</td>
<td>.105</td>
<td>.141</td>
<td>.141</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure Score</td>
<td>.081</td>
<td>-.158</td>
<td>.040</td>
<td>-.233</td>
<td>-.109</td>
<td>-.003</td>
<td>-.384</td>
<td>.011</td>
<td>-.172</td>
<td>.177</td>
<td>-.051</td>
<td>-.197</td>
<td>-.031</td>
<td>-.156</td>
<td>-.175</td>
<td>-.033</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judge A's Estimate</td>
<td>.344</td>
<td>.007</td>
<td>-.090</td>
<td>.354</td>
<td>.298</td>
<td>.452</td>
<td>.261</td>
<td>.485</td>
<td>.488</td>
<td>-.653</td>
<td>-.035</td>
<td>-.136</td>
<td>-.035</td>
<td>.820</td>
<td>.517</td>
<td>.238</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judge B's Estimate</td>
<td>.305</td>
<td>-.107</td>
<td>.024</td>
<td>.189</td>
<td>-.226</td>
<td>.731</td>
<td>.790</td>
<td>.802</td>
<td>.968</td>
<td>-.163</td>
<td>.028</td>
<td>.105</td>
<td>.517</td>
<td>.668</td>
<td>.289</td>
<td>.266</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judge A's Estimate</td>
<td>.367</td>
<td>.053</td>
<td>.067</td>
<td>.120</td>
<td>.244</td>
<td>.111</td>
<td>.370</td>
<td>.220</td>
<td>-.339</td>
<td>.137</td>
<td>-.033</td>
<td>.238</td>
<td>.289</td>
<td>.266</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Company Policies score in the How Supervise test correlated
-.384 with the Structure measure. A correlation of +.386 is required
for significance.  

**Correlations of test scores with the reputational measure for**
supervisory effectiveness. None of the test scores showed a significant
correlation with the scale scores of the effectiveness rankings at either
the one per cent or five per cent level (See Table I on page 31).

**Correlations of the judges' predictions to leadership behavior measures.**
Neither of the judges succeeded in improving upon the tests in predicting
the first-level supervisor's positions on the dimensions of Consideration
and Structure. All correlations were either low, positive and not
significant or slightly negative and not significant (See Table I on page 31).

II. INTERRELATIONS OF TEST SCORES, REPUTATIONAL MEASURES
AND JUDGES' PREDICTIONS

**Interrelations of test scores.** The scores from any one test were
not significantly related within the five per cent level to the score or
scores from other tests (See Table I on page 31). However, the
Ascendancy score from the Gordon Personal Profile correlated -.387
with the Company Policies score from the How Supervise test. A

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2 Ibid., p. 539.
correlation of + .388 was required for significance at the five per cent level.

The scores on the Gordon Personal Profile were intercorrelated significantly in several instances (See Table II). The Ascendancy score, the Responsibility score and the Sociability score were correlated to Total Score significantly at the one per cent level. As was expected, the Ascendancy score correlated with the Sociability score. The figure of .744 was significant at the one per cent level. The expected relationship between the Responsibility and Emotional Stability scores did not materialize.

The scores on the How Supervise test were all correlated with each other significantly at the five per cent level or better (See Table III). The authors of the test did not indicate in the test booklet whether or not the scales were independent or interdependent measures.

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4 Ibid.

### TABLE II

**INTERCORRELATIONS OF GORDON PERSONAL PROFILE SCORES**

<table>
<thead>
<tr>
<th></th>
<th>Ascendancy</th>
<th>Responsibility</th>
<th>Stability</th>
<th>Sociability</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascendancy</td>
<td></td>
<td>.343</td>
<td>-1.06</td>
<td>.744*</td>
<td>.785*</td>
</tr>
<tr>
<td>Responsibility</td>
<td>.343</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional</td>
<td>-1.06</td>
<td>.226</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociability</td>
<td>.744*</td>
<td>.353</td>
<td>-1.340</td>
<td></td>
<td>.704*</td>
</tr>
<tr>
<td>Total Score</td>
<td>.785*</td>
<td>.694*</td>
<td>.341</td>
<td>.704*</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the one per cent level.*
### TABLE III

**INTERCORRELATIONS OF HOW SUPERVISE**

**TEST SCORES**

<table>
<thead>
<tr>
<th></th>
<th>Supervisory Practices</th>
<th>Company Policies</th>
<th>Supervisor Opinions</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisory Practices</td>
<td></td>
<td>.405*</td>
<td>.502*</td>
<td>.684*</td>
</tr>
<tr>
<td>Company Policies</td>
<td>.405*</td>
<td></td>
<td>.450*</td>
<td>.799*</td>
</tr>
<tr>
<td>Supervisor Opinions</td>
<td>.502*</td>
<td>.450*</td>
<td></td>
<td>.870*</td>
</tr>
<tr>
<td>Total Score</td>
<td>.684*</td>
<td>.799*</td>
<td>.870*</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the one per cent level.

+Significant at the five per cent level.
The adjective scale D score did not correlate with other test scores to a degree which was significant within the five per cent level.

**Interrelations of reputational measures.** The following intercorrelations were found between reputational measures (See Table I on page 31).

<table>
<thead>
<tr>
<th>Consideration Score</th>
<th>Structure Score</th>
<th>Ranking's Scale Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consideration Score</td>
<td>-.197</td>
<td>.507</td>
</tr>
<tr>
<td>Structure Score</td>
<td>-.197</td>
<td>-.051</td>
</tr>
<tr>
<td>Ranking's Scale Score</td>
<td>.507</td>
<td>-.051</td>
</tr>
</tbody>
</table>

The correlation figure of .507 between the Consideration score and the Ranking's Scale score was significant at the five per cent level. None of the other relationships between reputational measures were statistically significant within the five per cent level.

**Interrelations of judges' predictions.** The predictions of the judges were found to be related to a significant degree in several instances (See Table IV). Judge A's prediction in regard to Consideration was correlated with Judge B's prediction. The correlation figure of .820 was significant at the one per cent level.
### TABLE IV

**INTERCORRELATIONS OF JUDGES' PREDICTIONS**

<table>
<thead>
<tr>
<th></th>
<th>Judge A Consideration</th>
<th>Judge B Consideration</th>
<th>Judge A Structure</th>
<th>Judge B Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judge A</td>
<td>0.517*</td>
<td>0.820*</td>
<td>0.238</td>
<td></td>
</tr>
<tr>
<td>Consideration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure</td>
<td>0.517*</td>
<td></td>
<td>0.668*</td>
<td>0.266</td>
</tr>
<tr>
<td>Judge B</td>
<td>0.820*</td>
<td>0.668*</td>
<td></td>
<td>0.289</td>
</tr>
<tr>
<td>Consideration</td>
<td>0.238</td>
<td>0.289</td>
<td></td>
<td>0.266</td>
</tr>
<tr>
<td>Structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the one per cent level.
+Significant at the five per cent level.
Judge A's prediction in regard to position on the Structure scale was not significantly related to Judge B's prediction of the same measure within the five per cent level.

Judge A's prediction of position on the Consideration scale correlated .517 with his own prediction of Structure. This correlation figure is significant at the one per cent level.

Judge B's prediction of Consideration was not significantly related to his own prediction of Structure within the five per cent level.

The prediction of Consideration made by Judge A was found to correlate significantly with the prediction of Structure made by Judge B. The correlation figure of .668 was significant at the one per cent level.

The Judges predictions did not correlate with any of the Gordon Personal Profile scores within the five per cent level. However, their predictions did correlate significantly with the scores from the How Supervise test and the adjective scale (See Table V).

Judge A's estimate of position on the Consideration scale was significantly related to the test scores as follows:
TABLE V

INTERCORRELATIONS OF JUDGES' PREDICTIONS

HOW SUPERVISE SCORES, AND D SCORE

<table>
<thead>
<tr>
<th></th>
<th>Judge A</th>
<th></th>
<th>Judge B</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consideration Stanine</td>
<td>Structure Stanine</td>
<td>Consideration Stanine</td>
<td>Structure Stanine</td>
</tr>
<tr>
<td>How Supervise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisory Practices</td>
<td>.452*</td>
<td>.731*</td>
<td>.460*</td>
<td>.111</td>
</tr>
<tr>
<td>How Supervise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Company Policies</td>
<td>.261</td>
<td>.790*</td>
<td>.510*</td>
<td>.370</td>
</tr>
<tr>
<td>How Supervise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor Opinions</td>
<td>.485*</td>
<td>.802*</td>
<td>.565*</td>
<td>.220</td>
</tr>
<tr>
<td>How Supervise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>.488*</td>
<td>.968*</td>
<td>.649*</td>
<td>.126</td>
</tr>
<tr>
<td>D Score</td>
<td>-.653*</td>
<td>.163</td>
<td>-.582*</td>
<td>-.339</td>
</tr>
</tbody>
</table>

*Significant at the one per cent level.
+Significant at the five per cent level.
The relationship with the How Supervise scores were significant at the five per cent level. The relationship with the D Score was significant at the one per cent level.

Judge A's prediction of position on the Structure scale was significantly related to the test score as follows:

<table>
<thead>
<tr>
<th>Scores</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Supervise Supervisory Practices</td>
<td>.731</td>
</tr>
<tr>
<td>How Supervise Company Policies</td>
<td>.790</td>
</tr>
<tr>
<td>How Supervise Supervision Opinions</td>
<td>.802</td>
</tr>
<tr>
<td>How Supervise Total Score</td>
<td>.968</td>
</tr>
</tbody>
</table>
The relationships with the How Supervise scores were significant at the one per cent level.

Judge B's estimate of position on the Consideration scale was correlated with the test scores as follows:

<table>
<thead>
<tr>
<th>Scores</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Supervise</td>
<td>.460</td>
</tr>
<tr>
<td>Supervisory Practices</td>
<td></td>
</tr>
<tr>
<td>How Supervise</td>
<td>.510</td>
</tr>
<tr>
<td>Company Policies</td>
<td></td>
</tr>
<tr>
<td>How Supervise</td>
<td>.565</td>
</tr>
<tr>
<td>Supervisor Opinions</td>
<td></td>
</tr>
<tr>
<td>How Supervise</td>
<td>.649</td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
</tr>
<tr>
<td>D Score</td>
<td>-.582</td>
</tr>
</tbody>
</table>

The correlation figure of .460 which expressed the relationship between the Supervisory Practices score and Judge B's prediction of Consideration was significant at the five per cent level. All other relationships with How Supervise scores and the relationship with the D score were significant at the one per cent level.

Judge B's prediction of position on the Structure scale did not correlate significantly within the five per cent level, with any of the test scores.
CHAPTER V

DISCUSSION

I. VALUE OF THE STUDY

The predictors. The results partially supported the major hypothesis. Two of the personal traits measured by the Gordon Personal Profile test were found to be related to the first-level supervisor's reputation for leadership behavior on the Consideration scale. The correlation figure of .627 for the Responsibility score was significant at the one per cent level. The Emotional Stability score correlated .417 with the reputational measure for leadership behavior on the consideration scale. This figure was significant at the five per cent level. The multiple correlation figure for these two predictors, corrected for shrinkage, was .653 which is significant at the one per cent level. The size of these correlations and their significance indicated a moderate gain over chance alone in predicting the first-level supervisor's reputation with his second-level supervisor for leadership behavior on the Consideration scale. This finding was a positive, but small, contribution of the thesis study.

None of the personal traits measured by the tests correlated with reputation for leadership behavior on the Structure scale or with the
measure for supervisory effectiveness to a degree of significance within
the five per cent level. These results indicated that the major hypothesis
was only weakly supported by this investigation.

The predictions of the judges. The investigation of the secondary
problem was exploratory in that it attempted to test the technique of
having judges make criteria predictions from test results. There was
hope that the predictive value of the tests could be increased by the
addition of judgement. The probability of such a finding was not viewed
optimistically as evidenced by the statement of the secondary hypothesis
in Chapter 1. It was stated that independent judges would not add to the
predictive value of the tests used. This hypothesis was supported by the
results. This finding was not particularly of value except as a small
bit of evidence that the technique was not effective. However, a definite
conclusion in that regard could not be made on the basis of this small
study.

Intercorrelations of test scores. The pattern of intercorrelations of
the Gordon Personal Profile scores was different than the pattern
described in the test booklet. The correlation figure of .744 (Table II
on page 34) between the Ascendancy score and the Sociability score
in this study was much higher than the .43 figure mentioned in the
test booklet.
The relationship between the Responsibility score and the Emotional Stability score in the thesis study was small, .226 (See Table II on page 34), and not significant within the five per cent level. The data in the test booklet indicated that approximately the same relationship could be expected between the Responsibility score and the Emotional Stability score as could be expected between the Ascendancy and Sociability scores. The intercorrelation data in the test booklet was based on a college population.

The findings of this thesis study in regard to the Gordon Personal Profile test were of value in that they indicated that the norms for employed, female, first-level supervisors might be different than the norms for a college population. Further study would be required to arrive at a conclusion on this point.

**Interrelation of reputational measures.** The correlation figure of .507 (See Table I on page 31) between the Consideration score and the Ranking's Scale score was significant at the five per cent level. This was based on a sample size of twenty-one first-level supervisors.

This result indicated that the first-level supervisor who was perceived by his superior to be high on the Consideration scale tended to be rated high in supervisory effectiveness. This finding of the thesis
study indicated the kind of first-level supervisor behavior which was valued by second-level supervisors. The predictors, discussed in the first paragraph of this chapter, became more valuable as a result of this finding.

Related research. The value of this investigation lay chiefly in its relation to the Ohio State Leadership Studies. As was mentioned in Chapter II the relationships of high ratings by superiors to leadership behavior high on Initiating Structure was evident in studies of aircraft commanders and in the study of production foremen in International Harvester. This relationship did not exist in regard to ratings of non-production foremen at International Harvester. Proficiency ratings of non-production foremen were related to Consideration behavior.

The first-level supervisors included in this study were involved in work situations which were more like those faced by production foremen than those faced by non-production foremen in the International Harvester Study. Fleishman et al. stated that perhaps the basic variable which separated production departments from non-production departments was the pressure of time. The first-level supervisors in this investigation

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were subjected to a work measurement program and demanding time schedules as described in Chapter III of this thesis. Time pressure seemed to be common to both situations. While this could not be proven conclusively, the similarity was a strong possibility and it raised the question: Why were proficiency ratings related to different dimensions of perceived leadership behavior in the two situations?

Perhaps the answer to this question was pertinent to still another variable. Both levels of supervisors in this study who were involved in effectiveness ratings were females. This was not the situation at the International Harvester Company. A positive contribution of this thesis study was the raising of the question: Do the relations between perceived effectiveness and reported leader behavior differ from male to female groups?

The importance of this question was evidenced by a recent article in the Wall Street Journal titled, "More Women Conquer Business World's Bias, Fill Management Jobs." The article stated that the Census Bureau classed 1,021,000 employed women in the managers, officials, and proprietors group as of 1960. This was more than double the 450,000 women in this category twenty years ago.\(^2\)

The correlations of test scores with reputational measures were described in Chapter IV. The correlation of the Consideration score with the Responsibility score and the correlation of the Consideration score with the Emotional Stability score were of a higher degree than those included in Fleishman's summary of past results mentioned in Chapter II. Since a female group did not seem to be included in the summary, the question was raised: Do the relations between self-descriptions and reported leader behavior differ from male to female groups? The raising of this question is a positive, but small, contribution of this study. It points out the way to further investigation.

The measure of interpersonal perception, ASO, from the Social Perception and Group Effectiveness Project showed only low negative or low positive relationships with other test scores. None of the correlation figures were significant at the five per cent level. Low positive relations were found with reputational measures but they were not significant within the five per cent level. These findings in regard to ASO were of little value.

II. THE FUTURE

Direction of future studies. This thesis study indicates the need for further research along several lines of investigation. First of all,
the workers' views of leadership behavior on the dimensions of Consideration and Structure should be included in future studies with a design similar to that of this investigation. If such data are available, another important source of information is utilized to further the understanding of leadership behavior in a specific situation.

The relationship of the Responsibility score and the Emotional Stability score from the Gordon Personal Profile to the Consideration scale of perceived leadership behavior should be investigated in a like situation. Perhaps the relationships found in this study were the result of internalizing lessons learned in the environment. If the subjects of this study had been tested prior to becoming first-level supervisors, the relationship to perceived behavior on the Consideration scale might not have existed.

The questions raised in regard to sex differences in the previous section of this Chapter seems to be an area which needs to be investigated. The growing number of women in positions of leadership was cited as indication of the importance of work in this area.

A statement of the need for future research on a broader scale is best left to a recognized authority. Dr. John G. Darley's critique of a symposium sponsored by the Office of Naval Research and Louisiana
State University stated that the problem of power and its use as a central issue in the psychology of groups and individuals has only been touched on lightly. He also says that the problem of organization and what it means in society needs more adequate attention. Other issues to which he thinks adequate attention has not been given are: the size variable in the study of groups or organizations, the interaction of individual traits and situational factors, the taxonomy of groups, and research on groups of young children.

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CHAPTER VI

SUMMARY AND GENERAL OBSERVATIONS

1. SUMMARY

The thesis study. The purpose of the thesis study was to determine if certain personal traits as measured by the Gordon Personal Profile test, the How Supervise test and an adjective scale are related to the first-level supervisor's reputation for leadership behavior and supervisory effectiveness in a formal organization. It was hypothesized that such a relationship would be found.

The personal traits of twenty-six female first-level supervisors were measured by the tests and the scores were correlated with measures of leadership behavior and effectiveness. The measures of leadership behavior, Consideration and Structure, were supplied by the superiors of the first-level supervisors as was the measure of supervisory effectiveness. All of the first-level supervisors except two reported to female superiors. Only twenty-one of the twenty-six first-level supervisors were involved with the supervisory effectiveness measure. All work units of the supervisors included in the study were under a work measurement program and were subject to pressure to meet certain schedules of service.
A correlation figure of .627, significant at the one per cent level, was found between the score on the Responsibility scale of the Gordon Personal Profile test and the Consideration dimension of leadership behavior. A correlation figure of .417, significant at the five per cent level, was found between the Emotional Stability score on the Gordon Personal Profile and the Consideration measure of leadership behavior. The multiple correlation figure of .688 was found between the Consideration score and these two factors. Corrected for shrinkage, this figure was reduced to .653. The Company Policies score from the How Supervise test correlated negatively with the Structure measure of leadership behavior. The figure was -.384 which was not significant within a five per cent level. It was however, extremely close to being significant at that level. No other correlations between personal factors and measures of leadership behavior or between personal factors and supervisory effectiveness were significant. Hence, the hypothesis was supported in regard to leadership behavior on the Consideration scale but not in regard to the Structure scale or supervisory effectiveness.

A relationship between the Consideration score and the supervisory effectiveness score was found. Since both of these measures were supplied by second-level supervisors, this finding indicated that those
first-level supervisors who were viewed as being high on the Consideration dimension of leadership were also rated higher by superiors.

A secondary problem was also investigated. An attempt was made to test the technique of having judges make criteria predictions from test results. The judges were given the test results of each first-level supervisor. The two judges then worked independently to predict the stanine position of each first-level supervisor on each dimension of leadership behavior. It was hypothesized that the judges would not be able to improve on the predictive value of the tests. When the judges' predictions were correlated with the actual positions, no significant relations were found.

Related Research. The proficiency ratings of the female first-level supervisors were related to perceived behavior on the Consideration scale of leadership behavior. In the Ohio State Studies, the proficiency ratings of foremen in production departments were related to perceived behavior on the Structure scale of leadership behavior. The two situations seemed to be similar in terms of the basic variable of time pressure which distinguished production departments from nonproduction departments in the International Harvester Study. These findings raised
an important theoretical question: Do the relations between perceived effectiveness and reported leader behavior differ from male to female groups?

A higher degree of correlation between personal traits and the Consideration scale of leadership behavior was found in the study than had been observed in the Ohio State Studies. Sex differences seemed to be a variable in this comparison and a question was raised: Do the relations between self-descriptions and reported leader behavior differ from male to female groups?

The measure of interpersonal perception, ASO, from the Social Perception and Group Effectiveness Project was not related to test scores or reputational measure to a degree of significance within the five per cent level.

II. GENERAL OBSERVATIONS

Methods of study. This study offers nothing new in method. The same general methods were used as have been utilized in past studies.

The problems of making a leadership study in a real, on-going organization are many. At this point in time it seems that there is much to be done not only in identifying important variables, but also in developing reliable criteria. The last twenty years has brought
progress in terms of new methods and new statistical techniques. The development of the forced-choice technique and its application to personality testing seems to hold promise for obtaining more accurate measures of personal factors. While progress has been made in measuring personal factors, there seems to be a need for reliable measures of situational variables so that a better job can be done in studying the interaction of personal factors and situational variables.

History of leadership studies. World War I, with its great need for the selection and development of leaders, gave impetus to the scientific study of leadership. Prior to that time, very little had been done. Industry became interested in the middle 1920's. In 1927 the Taylor Society and the Personnel Research Federation called a conference on leadership. The kind of research recommended was on interviews, questionnaires, analysis of leadership abilities, and training people in leadership techniques.

From the middle 1920's up until the time of World War II both trait-oriented research and situation-oriented research had been conducted. Neither approach produced very much in the way of positive results. During and after World War II and up to the present time, there was an awareness of the need for and attempt to do more experimental work on leadership. There was also an awareness of
and investigations into interpersonal and intrapersonal factors. Trait and situational research was also continued. Efforts were made to understand organizational and cultural influences on leadership behavior.

The present. The main requirement of the present seems to be to direct efforts to integrate the findings of research into theories of leadership. A few attempts have already been made. More effort will be required if research findings are going to be pulled together into useful theories for practical application.
BIBLIOGRAPHY


*The Wall Street Journal,* February 19, 1963