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An Investigation of the Perceived Leadership Behavior of First-Line Supervisors in Selected Manufacturing Plants

Robert Edward Holmes

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AN INVESTIGATION OF THE PERCEIVED LEADERSHIP BEHAVIOR
OF FIRST-LINE SUPERVISORS IN SELECTED
MANUFACTURING PLANTS

AN INVESTIGATION OF THE PERCEIVED LEADERSHIP BEHAVIOR
OF FIRST-LINE SUPERVISORS IN SELECTED
MANUFACTURING PLANTS

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

By

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CHAPTER I

INTRODUCTION

The problem of effective leadership has been one of man's major areas of concern since early recorded history. However, concern with effective leadership has become of crucial significance in the present modern era of rapid social and technological change. Since World War II, the rate of technological advancement has accelerated and as a consequence the role of effective industrial leaders has become increasingly important to sustained prosperity. We are made continually aware of the fact that the success or failure of industrial, governmental, and social organizations are dependent upon effective leadership. It seems fairly clear that organizations survive and prosper under good leadership and that organizations decline and disintegrate under ineffective or poor leadership.¹

THE PROBLEM

Significance

The literature in the field of management and organization theory reflects the continuing interest in and need for effective leadership in all forms of business, military, government, and educational organizations. Even though a considerable amount of research on leadership has been conducted, the area of leadership continues to be one of the least understood

¹Fred E. Fiedler, A Theory of Leadership Effectiveness (New York: McGraw-Hill Company, 1967), p. 235.

aspects in the field of management. Fiedler commented that:

the list of research problems which remain in leadership theory is far from exhausted...we are far from possessing a theory of leadership to end all leadership theories.²

It seems clear that increased knowledge of the findings of leadership research can be of significant importance to both practicing managers and other researchers in the field. The findings of studies can aid the manager by providing him with the necessary knowledge and the broadened perspective essential for the formulation of practical decisions about the manner in which he relates to the people in his organization.

A key member of management in manufacturing organizations is the first-line supervisor. He appears to be in a dilemma between the differing perceptions of his behavior by management and by his subordinates. The first-line supervisor has often been referred to as "the man in the middle"³ or the "linking pin"⁴ since he has a dual obligation. The first-line supervisor is the one member of management capable of linking management to operation personnel. The supervisor must perform certain activities to accomplish the organizational objectives while at the same time he must be responsive to the needs of his employees. Both the subordinates and the superiors of the first-line supervisors have certain perceptions and expectations of the supervisor's leadership behavior. The supervisor plays a very strategic role in seeing that the employees understand and support the goals adopted by the management of a firm. In addition, the supervisor

²Ibid., p. 261.

³B. B. Gardner and W. F. Whyte, "The Man in the Middle: Positions and Problems of the Foreman", Applied Anthropology, Vol. IV (Winter, 1945) pp. 1-28.

⁴Rensis Likert, New Patterns of Management (New York: McGraw-Hill Book Company, 1961), p. 113.

must supply support for his workers and their personal objectives.

Roethlisberger has described the first-line supervisor as "the master and victim of double talk" who is often praised in one breath and ridiculed in the next.⁵ However, the first-line supervisor's impact on work group performance and satisfaction is well established.^{6,7}

Organizational objectives, policies and programs may be susceptible to failure at the point of implementation if there is a lack of understanding of the leadership behavior of the first-line supervisor.

the supervisor, existing as he does between the workers at the performance level and the rest of the superstructure of management, plays a unique and difficult role. His position is significant because, ...regardless of how good the plans of higher management are in theory, they are worthless in practice unless supervisors and their workers are effective in their performance.⁸

Since the supervisor occupies a significant but difficult position, it is crucial to understand the leadership behavior of supervisors. The supervisor's leadership behavior as perceived by his superiors, by his subordinates and by himself should realistically reflect the unique role confronting first-line supervisors. Hollander and Julian suggest that, in particular, the perception of supervisors by their followers "needs closer scrutiny".⁹ The way in which a supervisor is perceived may be more

⁵Fritz Roethlisberger, "The Foreman: Master and Victim of Double Talk", Harvard Business Review, Vol. 23 (May, 1945), pp. 283-298.

⁶Abraham Zalesnik, C. R. Christensen and Fritz Roethlisberger, The Motivation, Productivity and Satisfaction of Workers (Boston: Harvard University, Graduate School of Business Administration, 1958).

⁷Likert, op. cit.

⁸Aaron Q. Sartain and Alton W. Baker, The Supervisor and His Job, (New York: McGraw-Hill Book Company, 1965), p. 20.

⁹Edwin P. Hollander and James W. Julian, "Contemporary Trends in the Analysis of Leadership Processes", Psychological Bulletin, Vol. 71, No. 5, (1969), p. 395.

important than the objective reality of his behavior since perceptions of the supervisor by others greatly influence their relationship with the supervisor. Beyond oversimplified assertions, there continues to be little to suggest what distinguishes between "effective" and "ineffective" supervisors as determined from the perceptions of others and the self-perceptions of the supervisors. Thus, there would seem to be a need for research to investigate the perceived leadership behavior of "most" effective and "least" effective supervisors.

Purpose

The basic purpose of this study was to describe and analyze the leadership behavior of most and least effective first-line supervisors. The study was based upon the perceptions of superiors and subordinates and the self-perceptions of supervisors in twenty-three Arkansas manufacturing plants.

This study was primarily concerned with the following questions:

1. What biographical and attitudinal factors distinguish the "most" effective from the "least" effective supervisor?
2. What type of leadership behavior distinguishes the "most" effective supervisor from the "least" effective supervisor?
3. What is the relationship between the self-ratings of the superior of the first-line supervisor and the self-ratings of the "most" and "least" effective supervisors?
4. What is the relationship between the subordinates' and superior's perceptions of the supervisor's leadership behavior?
5. What is the relationship between the superior's perceptions of the first-line supervisor and the supervisor's self-perception?
6. What is the relationship between the subordinates' perceptions of the supervisor's leadership behavior and the supervisor's self-perception?

It is the intended purpose of this study to provide an increased understanding of the leadership behavior of the first-line supervisor as perceived in a manufacturing environment. This increased understanding and insight into supervisory behavior should at least indirectly suggest methods to improve the identification and training of more effective supervisors, thereby leading to a more efficient utilization of human resources.

DEFINITION OF TERMS

The following terms or phrases were determined to be basic to the development of a common frame of reference:

1. Leadership is the process by which people are influenced, guided, and directed toward the achievement of goals.¹⁰
2. Leader is a person with recognized authority over others and who exercises this authority for the purpose of influencing their behavior positively toward the achievement of organizational goals.
3. Leadership Behavior represents the activities of the first-line supervisor as perceived by the supervisor's immediate superior, by a sample of the subordinates reporting to the supervisor and by the supervisor himself.
4. First-line Supervisor refers to the person with formally assigned authority and responsibility for planning, directing and controlling the activities of nonsupervisory employees usually on a direct face-to-face basis.¹¹ As used in this study the first-line supervisor

¹⁰Theo Haimann and William G. Scott, Management in the Modern Organization, (Boston: Houghton Mifflin Company, 1970), p. 406.

¹¹Sartain and Baker, op. cit., p. 6.

represents management to rank and file employees at the point of physical production.

5. Most Effective Supervisor refers to the first-line supervisor perceived by his immediate superior as most effective among the supervisors reporting to the superior in terms of overall leadership capability.

6. Least Effective Supervisor refers to the first-line supervisor perceived by his immediate superior as least effective among the supervisors reporting to the superior in terms of overall leadership capability.

7. Perceived Leadership Effectiveness refers to supervisory effectiveness as viewed by three distinct groups--the supervisor's superior, the supervisor himself, and the subordinates of the supervisor.

8. Perception is a complex process by which a person selects, organizes, and interprets sensory stimulation into a meaningful and coherent picture.¹² As such, perception represents an immediate or intuitive judgment which is influenced by all past experiences and values.¹³ As used in this study, perception refers to an estimate of how frequently the supervisor engages in prescribed leadership behavior.

9. Superior refers to that person to whom the first-line supervisors report. The title "plant manager" will often be used instead of the term "superior".

10. Subordinates refers to operative personnel reporting directly to the first-line supervisors.

¹²Bernard Berelson and Gary A. Steiner, Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, Brace and World, Inc., 1964), p. 38.

¹³Blair J. Kolasa, Introduction to Behavioral Science for Business (New York: John Wiley and Sons, Inc., 1969), p. 212.

11. Manufacturing Plant is a selected company having at least five first-line production supervisors and from 100 to 500 production employees.

12. Consideration-Sensitivity is that dimension of leadership behavior that conveys "mutual trust, friendship, respect and a certain warmth and rapport between the supervisor and his group."¹⁴ As used in this study consideration-sensitivity includes giving praise, encouraging suggestions, being patient with others and displaying confidence in others.

13. Power-Structure refers to that dimension of leadership behavior in which the supervisor organizes and defines group activities and his relations to the group . The supervisor defines the role of each worker, "assigns tasks, plans ahead, establishes ways of getting things done, and pushes for production."¹⁵ As used in this study, power-structure includes the use of position to influence a high level of performance and compliance with uniform procedures, making decisions rapidly, and keeping group attention focused on goal accomplishment.

PROCEDURE

The initial step in this study was to survey the literature to present the findings of leadership research. The review of leadership research was undertaken to review what other researchers have determined as effective leadership behavior or characteristics of successful leaders in a variety of leadership situations.

¹⁴Edwin A. Fleishman and Edwin F. Harris, "Patterns of Leadership Behavior Related to Employee Grievances and Turnover", Personnel Psychology, Vol. 15, (Spring, 1962), pp. 43-44.

¹⁵Ibid.

After the review of the literature had been completed, the next step was to devise an effective research design. This design involved the development of the research instruments to be used in collecting the data and the selection of the participating companies. A twenty-item leadership rating questionnaire was developed and tested to measure the perceived leadership behavior of first-line supervisors. The leadership rating questionnaire (LRQ) was the primary instrument used to collect the data. Also, a brief biographical classification form was administered to the participants. Twenty-three Arkansas manufacturing plants participated in the study. The firms were drawn from the Directory of Arkansas Industries. The participating firms were required to have at least five first-line production supervisors and from one hundred to five hundred production employees. In order to qualify for the study, a company was required to be engaged in repetitive and routine production activities. The supervisors represented in this study were primarily engaged in the direction of assembly-line operations. Greater detail of these procedures and the selection of companies will be presented in Chapter III.

In each participating plant three levels in the organization completed the research instruments. Essentially, the study presents an analysis of the perceptions of supervisory behavior as viewed by the first-line supervisor's immediate superior (plant manager), his subordinates, and by himself. In the participating firms, the individuals responsible for directing the activities of the first-line supervisors (hereafter referred to as plant managers) were asked to complete:

1. a biographical classification on himself;
2. a leadership rating questionnaire on himself;
3. a leadership rating questionnaire on the most effective

supervisor reporting directly to him; and

4. a leadership rating questionnaire on the least effective supervisor reporting directly to him.

The usual number of participating supervisors in each plant was three. Most of the companies preferred to have at least one "middle" supervisor to participate as well as the supervisors designated as "most" and "least" effective. In each instance the plant manager had at least five supervisors from which to choose his "most" and "least" effective.

The first-line supervisors were asked to complete:

1. a biographical questionnaire; and
2. a leadership self-rating questionnaire.

As a final phase of the three-level perception, a sample of five of the subordinates of the first-line supervisors were asked to complete a leadership rating on their respective supervisor. These employees were selected at random from personnel rosters.

After the questionnaires had been collected, the data were subjected to non-parametric statistical analysis. Non-parametric statistical techniques were utilized primarily because the data could not be assumed to come from a normally distributed population. The Goodman-Kruskal measure of association between responses to the questions on the leadership rating form were then computed. The Goodman-Kruskal measure of association was utilized to determine the degree of agreement or disagreement between the perceptions of the leadership behavior of the first-line supervisor by superiors, subordinates and the self-perceptions of the supervisors. A detailed description of the statistical methodology is presented in Chapter III.

SCOPE AND LIMITATIONS

The data collected regarding the perceived leadership behavior of the first-line supervisor were obtained from managers, supervisors, and employees at twenty-three manufacturing plants in Arkansas. Since the study dealt with perceived leadership behavior rather than specific performance criteria such as productivity, absenteeism and turnover, no attempt was made to objectively evaluate the production efficiency of the participating supervisors and their work groups. However, it seems logical that performance criteria strongly influenced the selection of the "most" and "least" effective first-line supervisors.

The study was further limited to Arkansas manufacturing companies employing from one hundred to five hundred production workers and five or more first-line supervisors.

OUTLINE OF STUDY

Chapter One of this study includes a statement of the purpose of the study, significance of the problem, definition of important terms, a brief explanation of the research procedure and scope and limitations of the research. A review of the related literature is presented in Chapter Two in order to summarize significant research on what other researchers have discovered regarding leadership. A detailed explanation of the methodology and procedure employed in this study is the subject of Chapter Three. The primary objective of Chapter Three is to provide a specific outline of the research design. Chapter Three documents the derivation of the research instruments and explains how the companies participating in the study were selected as well as how the research instruments were

administered. In addition, statistical procedures are discussed in the third chapter. Chapter Four presents the analysis of the perceived leadership effectiveness of the first-line supervisor as viewed from three perspectives--superior ratings, self-ratings, and subordinate ratings. The primary purpose of such an analysis is to derive meaningful conclusions regarding leadership attributes of first-line supervisors. Also, the biographical data on plant managers and first-line supervisors is analyzed in order to describe the background of the participants. The summary, conclusions and recommendations of the study are presented in Chapter Five.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to present a review of prior leadership research. This chapter is not intended to present an all-inclusive review of leadership research, but to survey only those areas that serve to provide essential background for this study. Chapter Two is divided into the following major sections:

1. a discussion of the trait approach to the study of leadership;
2. a review of the situational approach to leadership;
3. a review of the behavioral approach to leadership; and
4. a brief discussion of the process of perception and a review of studies concerned specifically with the leadership behavior of first-line supervisors.

The above sections serve as the basis for understanding the perspective of the study as well as providing the framework for the construction of the research instruments.

"Behavioral scientists have discovered much over the past few decades regarding the leadership process."¹ While leadership is one of the most researched areas, it continues to be one of the least understood variables of the management process.² Several theories have emerged from leadership research which attempt to explain the leadership process. Three

¹Dale S. Peach, Personnel, the Management of People at Work, (New York: The MacMillan Company, 1970), p. 522.

²Ibid.

of these approaches³ are:

1. Trait theory;
2. Situational theory; and
3. Behavioral theory.

TRAIT THEORY

The majority of the research on leadership prior to 1950 was concentrated on the discovery and explication of personal characteristics or traits of leaders. Many of the early trait studies attempted to find characteristics that distinguished between leaders and non-leaders. In these "trait studies" leaders were identified among almost every conceivable type of group. Leadership studies were conducted using school children, prison inmates, armed services personnel, church groups, hospital workers, etc. The majority of the early trait research used children and high school and college students as subjects. In general, trait studies were designed to determine the leader's physical, psychological, intellectual, and social characteristics in order to determine if there existed any universal traits in effective leaders that distinguishes them from ineffective leaders.⁴

Bird⁵ surveying the trait research conducted to 1940 concluded that only five per cent of the "discovered leadership traits" were common to four or more studies. Jenkins's⁶ 1947 review of leadership studies found

³Allan C. Filley and Robert J. House, Managerial Process and Organizational Behavior, (Dallas: Scott Foresman, 1969), pp. 391-392.

⁴Ibid., p. 393.

⁵Cited in Filley and House, op. cit., p. 398.

⁶William O. Jenkins, "A Review of Leadership Studies with Particular Reference to Military Problems", Psychological Bulletin, Volume 44, 1947, pp. 74 and 75.

that "no single trait or group of characteristics has been isolated which sets off the leader from members of his group." Jenkins also points out:

Leadership is specific to the particular situation under investigation...in practically every study reviewed leaders showed some superiority over the members of their group in at least one of a variety of abilities;...leaders tend to exhibit certain characteristics (interests and social background) in common with the members of their group...A number of studies suggest superiority of leaders over those in their groups in physique, age, education, and socio-economic background, but the need for further research in this connection is evident.⁷

Jenkins was one of the early writers who recognized the situational aspects of leadership. He was not the first to point to this conclusion though, as Murphy and Murphy (1931)⁸ and Krout (1942)⁹ stressed the cultural and situational dimensions of leadership.

Research on traits progressed from the identification of physical characteristics of leaders to the analysis of the leader's personality attributes.¹⁰ Extensive reviews of research on leadership traits have been conducted by Stogdill,¹¹ Gibb,¹² Mann,¹³ Bass,¹⁴ and McGrath and Altman¹⁵.

⁷Ibid., p. 75.

⁸G. Murphy and L. B. Murphy, Experimental Social Psychology, (New York: Harper, 1931).

⁹M. H. Krout, Introduction to Social Psychology, (New York: Harper 1942).

¹⁰Phillip B. Applewhite, Organizational Behavior, (Englewood Cliffs: Prentice-Hall, Inc., 1965), p. 114.

¹¹Ralph M. Stogdill, "Personal Factors Associated with Leadership: A Survey of the Literature", The Journal of Psychology, 1948, Volume 25, pp. 35-71.

¹²Cecil A. Gibb, "Leadership", Chapter 24 in Handbook of Social Psychology, Volume II edited by Gardner Lindzey, Addison-Wesley, 1954, pp. 877-917.

¹³R. D. Mann, "A Review of the Relationships between Personality and Performance in Small Groups," Psychological Bulletin, Volume LVI, July, 1959.

These reviews, particularly Stogdill's, provide an excellent classification and summary of the more commonly studied leadership traits. While it is beyond the scope of this study to present a comprehensive review of trait research, the following paragraphs will summarize the more important findings of the trait approach.

Much of the early trait research concentrated upon identifying the relationship between physical factors investigated were weight, height, physique, athletic ability, health, and appearance. In general, research on these factors yielded few consistent relationships. However, research did suggest that under many conditions studied, leaders tended to be taller and possess greater athletic ability than non-leaders.

Although the early emphasis of the trait approach centered upon the physical factors discussed above, the majority of trait research has emphasized the mental and personality attributes of leaders.

From an extensive review of trait research, a number of factors appear to be the most significant leadership attributes. These factors are the following:

- | | |
|--------------------|--|
| 1. intelligence | Cited in studies by
(Stogdill, Gibb, Mann, Bass,
Ghiselli) |
| 2. self-confidence | (Stogdill, Gibb, Ghiselli) |
| 3. judgment | (Stogdill, Gibb) |
| 4. initiative | (Stogdill, Gibb, Ghiselli) |

¹⁴Bernard M. Bass, Leadership Psychology and Organizational Behavior, (New York: Harper and Row, 1960).

¹⁵Joseph E. McGrath and Irwin Altman, Small Group Research: A Synthesis and Critique of the Field, (New York: Holt, Rinehart, and Winston, 1966).

- | | |
|------------------------------|------------------------|
| 5. social participation | (Stogdill, Gibb, Mann) |
| 6. interpersonal sensitivity | (Stogdill, Mann) |
| 7. dependability | (Stogdill) |
| 8. persistence | (Stogdill, Gibb) |
| 9. popularity | (Stogdill, Mann) |

Rather than citing the specific studies conducted which support the above factors, it would seem more appropriate to briefly present a summary of the findings of the research of Stogdill, Gibb, and Mann.

Stogdill's¹⁶ comprehensive review of leadership research included more than one hundred trait studies. For the most part, these studies used children and high school and college students as research subjects. Stogdill classified the factors that research had identified as being associated with leadership into five general categories. This classification is as follows:

1. Capacity (intelligence, alertness, verbal facility, originality, judgment);
2. Achievement (scholarship, knowledge, athletic accomplishments);
3. Responsibility (dependability, initiative, persistence, aggressiveness, self-confidence, desire to excel);
4. Participation (activity, sociability, cooperation, adaptability, humor); and
5. Status (socio-economic position, popularity).¹⁷

As a result of his extensive analysis, Stogdill concluded that a person does not become a leader by virtue of some combination of traits, but the pattern of personal characteristics of the leader must bear some relevant relationship to the characteristics, activities, and goals of the followers.¹⁸

¹⁶Stogdill, Loc. cit.

¹⁷Ibid.

¹⁸Ibid.

Gibb¹⁹ after completing a review of leadership research, developed similar conclusions to that of Stogdill. Gibb, like Stogdill, also noted the situational determinants of leadership.

Early attempts at the description of leader behavior tended to concentrate upon the recognition of personality traits which could be said to characterize all leaders. A very wide variety of such traits was explored and while correlations are, in general, positive they are rarely large, and it is clear that only a little of the variance in leader behavior can be accounted for in this way. There are indications that certain traits, such as intelligence, surgency, dominance, self-confidence, and social participation are frequently found to characterize leaders of various types, in a variety of situations. But, in every instance, the relation of the trait to the leadership role is more meaningful if consideration is given to the detailed nature of the role.²⁰

In conclusion, Gibb asserts that "the numerous studies of the personalities of leaders have failed to find any consistent pattern of traits which characterize leaders."²¹

Mann²² in summarizing leadership research suggests that a number of relationships exists between an individual's personality and his leadership status in groups. This conclusion appears to be well established.

The positive relationships of intelligence, adjustments, and extroversion to leadership are highly significant. Also, dominance, masculinity, and interpersonal sensitivity are found to be positively related to leadership, while conservatism is found to be negatively related to leadership...Finally, evidence suggests that the relationship between personality factors and leadership varies with the technique of measuring leadership.²³

¹⁹Gibb, op. cit.

²⁰Ibid.

²¹Ibid., p. 916

²²R. D. Mann, "A Review of the Relationship Between Personality and Performance in Small Groups", Psychological Bulletin, July, 1959, pp. 241-270.

²³Ibid., pp. 246-253.

Even though the trait approach has been criticized for failing to conclusively identify and specify traits that characterize all successful leaders, the theory does suggest that such traits as intelligence, self-confidence, initiative, social participation, responsibility and interpersonal sensitivity are frequently found to be closely related to successful leadership. The research conducted by Ghiselli, Fran, and Fiedler seem to suggest that all trait research is not useless and that previous inability to conclusively identify universal traits may be a result of the researchers' selection of improper methods and instruments to measure so-called traits.

Recent research on leadership traits has in general been much more sophisticated and unlike the majority of the trait research reported by Stogdill, Gibb, and Mann which was conducted primarily on children, and high school and college students, there has been increased emphasis on research in business organizations.

An example of this type of research is represented by the recent research conducted by Ghiselli, et. al.^{24,25,26} Ghiselli's studies tend to confirm the fact that the trait approach is not completely fruitless. Ghiselli's research revealed that traits such as "intelligence, supervisory ability, initiative, self-assurance, and perceived occupational level", were significantly correlated with managerial performance ratings

²⁴Edwin E. Ghiselli, "Traits Differentiating Management Personnel", Personnel Psychology, 1959, Vol. 12, pp. 535-544.

²⁵Edwin E. Ghiselli, "Managerial Talent", American Psychologist, Vol. 18, 1963, pp. 631-642.

²⁶Edwin E. Ghiselli, "Interaction of Traits and Motivational Factors in the Determination of the Success of Managers", Journal of Applied Psychology, 1968, Vol. 52, pp. 480-483.

and organizational level in several different organizations.²⁷

Eran²⁸ in a study of lower-middle level management investigated the relationship of leadership traits to specific organizational criteria and job satisfaction. Eran found that the managers who score lower on the managerial traits of intelligence, initiative and level of aspiration report less need fulfillment and need satisfaction than managers who have higher scores on these traits. It was concluded from this study that "neither of the two variables--job situation nor perceived personality traits--can explain by itself the variations in the perception of fulfillment and satisfaction of psychological needs."²⁹ In other words, Eran's study reveals that neither the trait or situational explanations if taken separately can adequately explain the leadership process.

Fred Fiedler³⁰ has conducted extensive research on the determination of the "kind of personality traits or behavior that makes a person an effective leader."³¹ From this statement it would appear that Fiedler's research can best be classified as trait theory. However, there appears to be some controversy on this issue. For example, Applewhite³² (1965)

²⁷Ibid., p. 635.

²⁸Mordechai Eran, "Relationship Between Self-Perceived Personality Traits and Job Attitudes in Middle Management", Journal of Applied Psychology, Vol. 50, Number 5, 1966, pp. 424-430.

²⁹Ibid., p. 430.

³⁰Fred F. Fiedler, A Theory of Leadership Effectiveness, (New York: McGraw-Hill Company, 1957).

³¹Ibid., p. 261.

³²Phillip B. Applewhite, "Leadership" in Organizational Behavior, (Englewood Cliffs, New Jersey: Prentice-Hall, 1965), p. 119.

and Kolasa³³ (1969) consider Fiedler's theory as falling within the trait approach, while Filley and House³⁴ (1969) include Fiedler's work within the situational approach. Since there is some disagreement on the classification of Fiedler's research, this writer's contention is that Fiedler's research can best be described as combining the essential elements of both the trait and situational approaches to leadership. The reason for this view of Fiedler's research is that his research takes account of the personality of the leader as well as the situational factors in the leadership process.

Hollander and Julian seem to concur with the above statement. They suggest that Fiedler has accomplished an integration of the trait and situational approaches.³⁵

Since Fiedler's work seems to combine the trait and situational theories, a review of his research would more logically be presented after the discussion of situational research.

SITUATIONAL THEORY

Since reviews of trait research by Stogdill, Gibb, et. al. revealed few consistent results, much of the leadership research has centered upon the so-called situational approach. The basic proposition of situational theory is that leadership is a dynamic multidimensional process. According

³³Blair J. Kolasa, Introduction to Behavioral Science for Business, (New York: John Wiley and Sons, 1969), pp. 515-536.

³⁴Filley and House, op. cit., p. 409.

³⁵Edwin P. Hollander and James W. Julian, "Contemporary Trends in the Analysis of Leadership Processes", Psychological Bulletin, Vol. 71, No. 5, 1970, p. 389.

to situational theory, the leadership process reflects a complicated relationship between the leader, the followers, and the situation. The significant components of the situational theory of leadership are summarized as follows by Gibb:

First, leadership is always relative to the situation. This relativity may be broken down with respect to each of the major variables in the situation: (a) It is relative to the group task and goal. Individual accession to the leader role is dependent upon the group goal, in the sense that the goal determines the needs which he must appear to satisfy by virtue of his particular combination of relevant attributes. (b) It is relative to group structure or organization. Leader behavior is determined in large part by the nature of the organization in which it occurs. (c) It is relative to the population characteristics of the group or, in other words, to the attitudes and needs of the followers. The leader inevitably embodies many of the qualities of the followers, and the relation between the two may be so close that it is often difficult to determine who affects whom and to what extent. For this reason it is possible for leadership to be nominal only.

Secondly, the basic psychology of the leadership process is that of social interaction. It is distinctly a quality of a group situation. No individual can be conceived of as a leader until he shares a problem with others, until he communicates with them about the problem, until he has succeeded in enlisting their support in giving expression to his ideas. Leader and follower must be united by common goals and aspirations and by a will to lead, on one side, and a will to follow on the other, i.e., by a common acceptance of each other. It is a corollary of this principle that the leader must have membership character in the group which sponsors him for that role, because leader and followers are interdependent. The leader must be a member of the group, and must share its norms, its objectives, and its aspirations.

Finally, given group-membership character, election to leader status depends upon perception of individual differences. It is because there are individual differences of capacity and skill that one of a group emerges as superior to others for meeting particular group needs. Followers subordinate themselves, not to an individual whom they perceive as utterly different, but to a member of their group who has superiority at this time and whom they perceive to be fundamentally the same as they are, and who may, at other times, be prepared to follow.³⁰

³⁰Gibb, op. cit., p. 915.

The general dimensions of the situational theory appears to have emerged from the research of Hemphill (1949)³⁷, Gouldner (1950)³⁸, Cattell (1951)³⁹, Gibb (1954)⁴⁰, Davis (1954)⁴¹, Stogdill (1956, 1959)^{42,43}, Bass (1960)⁴⁴, Likert (1961)⁴⁵ and Hollander (1964)⁴⁶. These general dimensions of the theory are:

1. the personality attributes of the leader;
2. the attitudes, needs, perceptions, and expectations of the followers;
3. the requirements of the job;
4. the situations as determined by the organizational and physical environment.⁴⁷

³⁷J. K. Hemphill, Situational Factors in Leadership, (Columbus: Ohio State University, Bureau of Educational Research, 1949).

³⁸A. W. Gouldner, editor, Studies in Leadership, (New York: Harper, 1950).

³⁹R. B. Cattell, "New Concepts for Measuring Leadership in Terms of Group Syntality", Human Relations, Vol. 4, 1951, pp. 161-184.

⁴⁰Gibb, op. cit.

⁴¹R. C. Davis, The Fundamentals of Top Management, (New York: Harper and Row, 1954.)

⁴²Ralph M. Stogdill and Carroll L. Shartle, editors, Patterns of Administrative Performance, (Columbus: Bureau of Business Research, The Ohio State University, 1956).

⁴³Ralph M. Stogdill, Individual Behavior and Group Achievement, (New York: Oxford University Press, 1959).

⁴⁴Bass, op. cit.

⁴⁵Rensis Likert, New Patterns of Management, (New York: McGraw-Hill, 1961).

⁴⁶Edwin P. Hollander, Leaders, Groups and Influence, (New York: Oxford University Press, 1964).

⁴⁷Filley and House, op. cit., p. 408.

It is beyond the scope of this review of leadership research to discuss each of the above theories. It would seem more relevant to briefly highlight several specific studies related to situational leadership theory.

It might be helpful at this point to present a summary of several major variables that have been researched. These situational factors are:

1. Size of the group being led;
2. Expectations of subordinates;
3. Type of job which the leader holds;
4. History of the organization;
5. Previous experience of the leader in operative and supervisory functions;
6. Community environment;
7. The particular work requirements of the group;
8. The degree to which group-member cooperation is required;
9. Psychological climate of the work group;
10. Time required and allowed for decision-making;
11. Amount of influence the leader has on his superiors;
12. The educational and skill level of the followers;
13. The stage of growth of the company;
14. Group-member personalities;
15. Type and size of company.

Studies illustrating the research on the majority of the above fifteen variables are presented in the following paragraphs.

Size of Group Being Led

Hemphill⁴⁸ in an early situational study concluded that the size of the group is an important factor affecting the leadership process. Hemphill's study revealed that as the number of workers reporting to any one leader becomes larger, the leader's role in the group becomes more significant and the tolerance for "leader-centered"⁴⁹ direction of group activities becomes greater.

Expectations of Subordinates

Several researchers have found that the expectation of the subordinates represents an important situational factor. Foa⁵⁰ in a study of the "Relation of Worker's Expectation to Satisfaction with Supervisor", found that expectations of workers is an important situational variable. This study, using Israeli workers as subjects, revealed that "a certain supervisory attitude might lead to different levels of worker's satisfaction according to whether such an attitude conforms or not with the expectation of the worker."⁵¹

French et. al.⁵² used a Norwegian factory in a study designed to replicate the Coch and French experiments. It was found that the effects of

⁴⁸John K. Hemphill, "Relations Between the Size of the Group and the Behavior of 'Superior Leaders'", The Journal of Social Psychology, Vol. 32, 1950, pp. 11-22.

⁴⁹Ibid., p. 21.

⁵⁰Uriel G. Foa, "Relation of Workers' Expectation to Satisfaction with Supervisor", Personnel Psychology, Vol. 10, 1957, pp. 161-168.

⁵¹Ibid., p. 161.

⁵²John R. P. French, Jr., Joachim Israel, and Dagfinn As, "An Experiment on Participation in a Norwegian Factory", Human Relations, Vol. 13, No. 1, 1960, pp. 3-19.

participation in terms of productivity and job satisfaction depended upon the expectations of the workers as to how much participation was "legitimate". Thus, it appeared that there were cultural differences in terms of the amount of participation perceived as legitimate by the Norwegian workers. This difference affected the replication of the Coch and French⁵³ studies in Norway. The Norwegian workers had a stronger tradition of unionization than had the American workers studied. This tradition would tend to produce an attitude that the legitimate pattern of participation is through the union rather than direct participation.⁵⁴

Type Job the Leader Holds

Stogdill⁵⁵ cited numerous studies supporting the contention that the type of job which the leader holds bears a very important relationship to the type of leadership style or behavior. The technical knowledge needed and the amount of face-to-face confrontations between the leader and followers is a significant component of the job situation.

History of the Organization, Length of Time the Company Had Been Operating in the Territory, and Previous Experience of Leader in Work Activity

William H. Banaka in his Doctoral Dissertation "A Study of Situational Factors Related to the Performance of Insurance Sales

⁵³L. Coch and J. R. P. French, Jr., "Overcoming Resistance to Change", in Dorwin Cartwright and Alvin Zander, editors, Group Dynamics: Research and Theory (Evanston, Illinois: Row Peterson and Company, 1960).

⁵⁴French et. al., op. cit., p. 18.

⁵⁵Ralph M. Stogdill, Individual Behavior and Group Achievement, (New York: Oxford University Press, 1959.)

Supervisors"⁵⁶ estimated the extent to which job performance of a group of insurance sales supervisors was related to certain situational variables. The situational factors investigated by Banaka were: sales history of the organization; the length of time the company had been operating in the specified territory; the age of the previous incumbent in the leader's position; the age of the leader and his previous experience as a sales agent and as a sales supervisor. Banaka confirmed the often cited hypothesis that leadership is affected by situational conditions.

The Particular Work Requirements of the Group
The Degree to which Group-Member Cooperation Is Required

Another situational variable was researched by Lodahl and Porter.⁵⁷ They found that the particular work requirements of the group to be important situational factors affecting the leadership process. From their study involving small industrial work groups, Lodahl and Porter conclude that essentially social variables, such as necessary group cooperation and leader popularity are significant situational determinants of leadership.

It was concluded that patterns of psychometric scores in industrial work groups may bear some relation to group productivity, but this relation is affected by social characteristics of the group and the relation of the group to the leader....social influences on productivity are strongest in groups where the work situation requires a high degree of cooperation among group members."⁵⁸

⁵⁶William H. Banaka, "A Study of Situational Factors Related to the Performance of Insurance Sales Supervisors", Unpublished Doctoral Dissertation, University of Houston, 1959.

⁵⁷Thomas M. Lodahl and Lyman W. Porter, "Psychometric Score Patterns Social Characteristics, and Productivity of Small Industrial Work Groups", Journal of Applied Psychology, 1961, Vol. 45, No. 2, pp. 73-79.

⁵⁸Ibid., p. 78.

Time Required and Allowed for Decision-making

Dubno⁵⁹ found that the time required and allowed for decision-making was an important situational factor. The relative speed or slowness of decision-making was related to group performance. In general, "groups tended to function more effectively under those conditions which were free from time pressures and which encouraged careful planning than under conditions emphasizing speed of performance".⁶⁰

Amount of Influence the Leader Has on His Superiors

Rowland⁶¹ investigated among other variables the amount of influence the leader has on his superiors. He described his study as falling "within the general realm of the situational approach as it investigates both leader behaviors, which occur in the process of leader interaction in the organization and leader characteristics".⁶² He found a strong relationship between the measures of influence a leader has on his superiors and work group performance as perceived by superiors. Contrary to what was expected, there was little relationship between the measures of influence and subordinates' satisfactions with the supervisor.⁶³

⁵⁹Peter Dubno, "Decision Time Characteristics of Leaders and Group Problem-Solving Behavior", The Journal of Social Psychology, Vol. 59, 1963, pp. 259-282.

⁶⁰Ibid., p. 278.

⁶¹Kendrith M. Rowland, "Selected Determinants of Effective Leadership", Unpublished Doctoral Dissertation, Graduate School of Business, Indiana University, 1966.

⁶²Ibid., pp. 5-6.

⁶³Ibid., p. 99.

Department Size, Working Conditions, Employee Education and Skills

Skinner⁶⁴ conducted a study to examine the relationships between supervisory behavior and three selected organizational criteria (turnover, grievance rates and supervisory ratings) and three situational variables. The situational variables included in this study were department size, working conditions and employee skills. While no firm conclusions resulted, the research did indicate that situational factors do influence the leadership behavior of foremen.

As evidenced by the above discussion, a number of studies have postulated unique situational factors. However, these studies for the most part have concentrated upon fairly divergent types of variables. While these studies do not contradict each other, their findings appear to show little replication.

EVALUATION OF TRAIT AND SITUATIONAL APPROACHES

While the situational approach to the study of leadership avoids some of the major pitfalls of the older trait approach, the situational research often appeared to view the leader and the situation separately. This notion was elaborated on in a recent article.⁶⁵ In the trait approach the central focus was on the leader to the exclusion of important situational variables, whereas in the situational approach the leader was often excluded.⁶⁶ Commenting on the trait and situational theories, the

⁶⁴Elizabeth Skinner, "Relationships Between Leadership Behavior Patterns and Organizational-Situational Variables", Personnel Psychology, Vol. 22, 1969, pp. 489-494.

⁶⁵Hollander and Julian, op. cit.

⁶⁶Ibid.

authors state:

Though they may be separable for analytic purposes, they also impinge on one another in the perceptions of followers. Thus, the leader, from the follower's vantage point, is an element in the situation, and one who shapes it as well. As an active agent of influence he communicates to other group members by his words and his actions, implying demands which are reacted to in turn. In exercising influence, therefore, the leader may set the stage and create expectations regarding what he should do and what he will do. Rather than standing apart from the leader, the situation perceived to exist may be his creation.⁶⁷

Based upon the above discussion of trait and situational research, it seems reasonable to conclude that both approaches have merit and both theories emphasize essential inseparable components of the leadership process.

FIEDLER'S RESEARCH

Fiedler's research (although classified by Applewhite⁶⁹ and Kolasa⁷⁰ as being trait research, while Filley and House⁷¹ consider it situational) recognizes the basic elements of both approaches.

Fiedler suggests that there must be some attributes which distinguish effective leaders from ineffective leaders. He lends support to the trait approach by commenting that:

We know of men who consistently managed to build up ineffective groups and sick organizations, while there are others who could not lead a troop of hungry girl scouts to a hamburger stand. Unless we close our eyes to these cases, we are forced to the conclusion--long held by laymen--that there must be some abilities or personality attributes which distinguish the good leaders from the poor ones.⁷²

⁶⁷Ibid. ⁶⁸Fiedler, op. cit. ⁶⁹Applewhite, op. cit.

⁷⁰Kolasa, op. cit. ⁷¹Filley and House, op. cit.

⁷²Fred E. Fiedler, "Leadership and Leadership Effectiveness Traits: A Reconceptualization of the Leadership Trait Problem," in Leadership and Interpersonal Behavior edited by Luigi Pettrullo and Bernard M. Bass, (New York: Holt, Rinehart and Winston, 1961), pp. 180-186.

The type of trait research Fiedler is supporting is not the traditional approach. In earlier trait research, so-called leadership traits may not have been consistently recognized because of the "conceptualization of the problem has been based on inadequate assumptions".⁷³

Fiedler's research approach also recognizes the situational aspects of the leadership process. His central proposition is that the leader's effectiveness depends upon the structural properties of the group and the situation, including the interpersonal perceptions of both the leader and the followers. Thus, his theory, which is very briefly described below, attempts to bond the trait and situational theories of leadership into a more realistic framework.

On the basis of eighteen years of research Fiedler presents a theory of leadership which attempts to specify in more precise terms the conditions under which one leadership style or another will be more conducive to group effectiveness.⁷⁴ Fiedler and his associates were interested in determining the relationship between how strictly or leniently a leader evaluates his associates and the productivity of his group. Fiedler sought to determine whether a leader who saw little differences between his "most preferred" and "least preferred" coworkers was more or less likely to lead a highly productive group than was the leader who tended to perceive wide differences in his "most preferred" and "least preferred" associates.⁷⁵

⁷³Ibid.

⁷⁴Fiedler, Leadership Effectiveness, 1967.

⁷⁵Ibid., p. 29.

In an attempt to measure a leader's attitudes, Fiedler developed a "Least-preferred coworker scale (LPC) and an "Assumed similarity between opposites" (ASO) score. Both the LPC and the ASO relate to how a leader perceives his most and least preferred coworkers. In general, a leader who perceives his "least preferred" coworker in favorable terms tends to be people or "relationship oriented", while the leader who perceives his "least preferred" coworker in unfavorable terms is primarily production or task oriented.⁷⁶

The ASO scales measures the degree to which a leader perceives as very similar his "most" and "least" preferred coworkers. If a leader sees very little difference in his "most" and "least" preferred coworkers, he tends to be relationship oriented, whereas if he is very discriminating between his "most" and "least" preferred coworkers, the leader tends to be task oriented.⁷⁷

Research utilizing the LPC and the ASO scores indicates that leaders who do not perceive significant differences between their most and least preferred coworkers tend to be rated high by their subordinates on the Ohio State consideration dimension of leadership behavior.⁷⁸

Another study (Hawkins, 1962) found that leaders who perceived significant differences between their most and least preferred coworkers were more task-oriented than people-oriented and were more punitive

⁷⁶Ibid.

⁷⁷Ibid.

⁷⁸W. A. T. Meuruese, "The Effects of the Leader's Ability and Interpersonal Attitudes on Group Creativity under Varying Conditions of Stress", Doctoral Dissertation, University of Amsterdam, 1964.

toward their subordinates.⁷⁹ Hawkins's study found that leaders who see greater differences in their most and least preferred workers were high on initiating structure such as that measured by the Ohio State Leadership Behavior Description Questionnaire.

In summary, Fiedler's research identified three major factors that are useful in classifying group situations:⁸⁰

1. leader-member personal relationships;
2. task structure; and
3. position-power of the leader.

Both the trait and situational approaches to the study of leadership appear to have merit, and the findings of these theories have been significant in the development of the research instruments for this study. The development of the questionnaires used in this study. The development of the questionnaires used in this study will be presented in Chapter III, the Methodology.

Many writers who have been concerned with the field of leadership have concentrated upon the discussion of the trait and situational approaches. However, some writers⁸¹ present a third theory which has been referred to as behavioral. The behavioral approach to leadership and its implication for the present study will be discussed in the following section. This discussion will then lead into the final section of this chapter which is concerned with studies specifically related to the perceived leadership behavior of the first-line supervisor.

⁷⁹C. A. Hawkins, "Study of Factors Mediating a Relationship Between Leader Rating Behavior and Group Productivity", Doctoral Dissertation, University of Minnesota, 1962.

⁸⁰Fiedler, (1967) op. cit. ⁸¹Filley and House, op. cit., p. 391.

THE BEHAVIORAL APPROACH TO LEADERSHIP

The behavioral approach to the study of leadership, particularly in business organizations provides essential background for the present study of the perceived leadership behavior of the first-line supervisor. The basic proposition of the behavioral approach is that leaders are most appropriately characterized by behavior patterns rather than by individual traits.⁸² Unlike the trait approach, behavioral theory attempts to explain leadership on the basis of what a given leader does, as observed by others, rather than what he is, which is the essence of trait theory. It seems quite possible that traits such as intelligence, social sensitivity, dependability, etc. may not be readily observed, but behavior patterns may be capable of observation by others. The behavioral approach to leadership has been appropriately described by Halpin as follows:

First of all, it focuses upon observed behavior rather than upon a posited capacity inferred from this leadership. No presuppositions are made about a one-to-one relationship between leader behavior and an underlying or potentially presumably determinative of this behavior. By the same token, no a priori assumptions are made that the leader behavior which a leader exhibits in one group situation will be manifested in other group situations...nor does the term "leader behavior" suggest that this behavior is determined either innately or situationally.⁸³

This approach to the study of leadership is at least partially based upon the research of Roethlisberger and Mayo at Harvard during the late 1920's and upon Kurt Lewin's studies at the Group Dynamics Center at M.I.T.

⁸²Ibid., p. 393.

⁸³Andrew W. Halpin, The Leadership Behavior of School Superintendents (Chicago: Midwest Administration Center, University of Chicago, 1959), p. 12.

in the 1940's.⁸⁴ Much of the recent behavioral theory is the result of the leadership studies initiated by the Bureau of Business Research at Ohio State University beginning in about 1950. The researchers (Shartle, Stogdill, Coons, Halpin, et. al.) at Ohio State developed an instrument known as the Leader Behavior Description Questionnaire which was designed to describe how a leader carries out his activities. Halpin and Winer⁸⁵ using factor analysis identified four different dimensions of leadership behavior. The four dimensions were consideration, initiating structure, production emphasis, and social awareness. Other Ohio State leadership studies developed up to ten different leadership behavior dimensions, but the researchers at Ohio State eventually narrowed the description of leader behavior to two primary dimensions--consideration and initiation of structure.

Consideration, as defined in Chapter I of this study, referred to "behavior indicative of friendship, mutual trust, respect, and warmth in the relationships between the leader and the members of his staff."⁸⁶

Initiation of Structure refers to leader behavior in which the supervisor organizes and defines group activities and his relation to the group. He assigns tasks, establishes ways of getting things accomplished and pushes for production.⁸⁷

These two terms, consideration and initiation of structure, seem to coincide with the dimensions of leadership behavior described by other researchers. For example, Ohio State's "consideration" as a term descriptive of leadership behavior is closely associated with the University of Michigan's

⁸⁴Filley and House, Loc. cit.

⁸⁵Andrew W. Halpin and Ben J. Winer, "A Factorial Study of the Leader Behavior Descriptions", in Leader Behavior: Its Description and Measurement, Ralph Stogdill and Alvin Coons editors (Ohio State University, 1952) pp. 39-51.

⁸⁶Fleishman and Harris, op. cit. ⁸⁷Ibid.

phrase "employee-oriented"⁸⁸, Cartwright and Zander's "group maintenance"⁸⁹, Blake and Mouton's "concern for people"⁹⁰, Fiedler's "relationship oriented"⁹¹ and Likert's "employee-centered"⁹². Also the phrase "initiating structure" is conceptually similar to "production-oriented" (Michigan Studies)⁹³ "goal achievement" (Cartwright and Zander)⁹⁴, "concern for production" (Blake and Mouton)⁹⁵, "task-oriented" (Fiedler, et. al.)⁹⁶ and "job-oriented" (Likert)⁹⁷.

There have been numerous investigations of leader behavior conducted in a variety of situations. However, the majority of the studies have been performed in military and educational environments, although several studies such as Fleishman and Harris'⁹⁸ have been conducted in

⁸⁸Daniel Katz, Neil Macoby, Nancy C. Morse, Productivity, Supervision and Morale in Office Situations, (Detroit: The Dares Press, Inc., 1950).

⁸⁹Dorwin Cartwright and Alvin Zander, Group Dynamics: Research and Theory, (Evanston, Illinois: Row, Peterson and Company, 1960).

⁹⁰Robert R. Blake and Jane S. Mouton, The Managerial Grid, (Houston, Texas: Gulf Publishing Company, 1964).

⁹¹Fiedler, (1967), op. cit.

⁹²Rensis Likert, New Patterns of Management, (New York: McGraw-Hill, 1961).

⁹³Katz, Macoby, and Morse, op. cit.

⁹⁴Cartwright and Zander, op. cit.

⁹⁵Blake and Mouton, op. cit.

⁹⁶Fiedler, loc. cit.

⁹⁷Likert, loc. cit.

⁹⁸Edwin A. Fleishman and E. F. Harris, "Patterns of Leadership Behavior Related to Employee Grievances and Turnover", Personnel Psychology, 1962, pp. 43-56.

business organizations. A few of the so-called behavioral studies will be presented below.

The original investigations of leadership behavior involved studies of Air Force personnel made during the 1950's. One of the early studies was conducted by Halpin on B-29 combat pilots during the Korean conflict. This investigation compared the leader behavior of combat commanders as perceived by the air crews with their superior's rating of combat performance. Halpin found a correlation between superior's ratings and initiating structure scores and air crew's rating of consideration.⁹⁹ Halpin's finding seems to indicate that superiors and subordinates are likely to view the leader in a different manner. This difference can possibly lead to role conflict for the leader. This finding has particular relevance for the present study since the primary purpose of this study is to analyze the leadership behavior of the first-line supervisor from three different perspectives in the organization.

Halpin conducted another study on the leadership behavior of 132 aircraft commanders and 64 school superintendents. His primary finding was that the two groups differed in their leadership behavior. The school superintendents showed more consideration and less initiating structure than did the aircraft commanders.¹⁰⁰

Research utilizing the Ohio State IBDQ (Leadership Behavior

⁹⁹Andrew Halpin, "The Leadership Behavior and Combat Performance of Airplane Commanders", Journal of Abnormal and Social Psychology, January, 1954, pp. 19-22.

¹⁰⁰Andrew W. Halpin, "The Leader Behavior and Leadership Ideology of Educational Administrators and Aircraft Commanders", Harvard Educational Review, Vol. XXV, Winter, 1955, pp. 18-31.

Description Questionnaire) has repeatedly found that in groups where leaders are rated high on the "consideration" dimension, subordinate satisfaction is also high.¹⁰¹ Also, there is less intragroup stress and more group-member cooperation¹⁰², and there tends to be less turnover and fewer grievances.¹⁰³

It should also be noted that other research studies employing measures other than the Ohio State LBDQ have found that the "supportive", "human relations-oriented", "consideration-oriented" leader is viewed by subordinates as a desirable leader in a variety of situations.

Research in industrial plants has found that "relationship-oriented" leadership has been consistently associated with positive attitudes and satisfaction of subordinates. (Argyle et. al.¹⁰⁴; Comrey et. al.¹⁰⁵

¹⁰¹A. K. Korman, "Consideration, Initiating Structure, and Organizational Criteria--A Review", Personnel Psychology, Vol. 19, No. 4 (1966), pp. 349-361.

¹⁰²H. Caklander and E. A. Fleishman, "Patterns of Leadership Related to Organization Stress in Hospital Settings", Administrative Science Quarterly, Vol. 8, (1964), pp. 520-532.

¹⁰³Fleishman and Harris, op. cit.

¹⁰⁴M. Argyle, G. Gardner, and F. Cioffi, "Supervisory Methods Related to Productivity, Absenteeism, and Labor Turnover", Human Relations, Vol. 11 (1958), pp. 23-40.

¹⁰⁵A. L. Comrey, W. S. High, and R. C. Wilson, "Factors Influencing Organizational Effectiveness, VII. A Survey of Aircraft Supervisors", Personnel Psychology, Vol. 10 (1957), pp. 169-180.

Danielson and Maier¹⁰⁶; Indik et. al.¹⁰⁷; and Patchen¹⁰⁸)

Research concerning initiating structure has tended to suggest that leaders rated high on this factor by their superiors do a better job in planning and scheduling work, establishing standards of performances and procedures for their subordinates.¹⁰⁹

Supervisors who initiate a great deal are described as ones who insist on having things done in a standard way, who see that subordinates work to full capacity, who offer new approaches to problems, who emphasize the meeting of deadlines, and who decide in detail what will be done, how much will be done and how it should be done.¹¹⁰

Research has indicated that the most effective leaders are those rated high on both initiating structure and consideration.¹¹¹ Studies by Fleishman and Harris¹¹² as well as Oaklander and Fleishman¹¹³ indicate that supervisors high in both dimensions of leadership behavior achieve the best results in terms of maximizing work group productivity and satisfaction while minimizing turnover, absenteeism, and grievances. There seems to be little data that questions the proposition that the combination of highly

¹⁰⁶L. E. Danielson and N. R. F. Maier, "Supervisory Problems in Decision Making", Personnel Psychology, Vol. 10 (1957), pp. 169-180.

¹⁰⁷B. P. Indik, S. E. Seashore, and B. S. Georgopoulos, "Relationships Among Criteria of Job Performance", Journal of Applied Psychology, Vol. 44 (1960), pp. 195-202.

¹⁰⁸M. Patchen, "Supervisory Methods and Group Performance Norms", Administrative Science Quarterly, Vol. 7, (1962), pp. 275-294.

¹⁰⁹Ibid., p. 405.

¹¹⁰Bernard M. Bass, Organizational Psychology, (Boston: Allyn and Bacon, Inc., 1965), p. 149.

¹¹¹Filley and House, op. cit., p. 406.

¹¹²Fleishman and Harris, op. cit.

¹¹³Oaklander and Fleishman, op. cit.

supportive (showing consideration) and instrumental behavior will result in the most effective group operation.¹¹⁴

The foregoing discussion of the behavioral approach to leadership provides an effective background for the discussion to follow. The next and final section of Chapter II will confine itself to a brief consideration of the process of perception and studies related to the leadership behavior of first-line supervisors.

THE PROCESS OF PERCEPTION AND THE LEADERSHIP BEHAVIOR OF FIRST-LINE SUPERVISORS

The major emphasis of this dissertation is on an analysis of the leadership behavior of first-line supervisors as perceived by superiors, subordinates, and the supervisors themselves. In essence, the study is primarily concerned with "perceptions" of leadership behavior as viewed from three different perspectives in organizations. Therefore, it would seem beneficial to briefly describe the process of perception and its relationship to leadership situations. The discussion which follows provides essential framework for understanding the perceptual process as related to this investigation. Also, presented in this section of Chapter II will be a brief discussion of specific studies related to the perceived leadership behavior of first-line supervisors.

Process of Perception

Perception, as the term was defined in Chapter I of this study, is the complex process by which a person selects, organizes, and interprets

¹¹⁴Stilley and House, Loc. cit., p. 415.

sensory stimulation into a meaningful and coherent picture. As such, perception represents an immediate or intuitive judgment which is influenced by all past experiences. This study is concerned with the following types of perception:

1. Self perceptions of managers and first-line supervisors;
2. Perception upward - subordinates' perceptions of supervisor; and
3. Perception downward - managers' perceptions of supervisors.

It is well established ^{115,116} that perceptions of others and oneself is influenced by attitudes, expectations, interests, beliefs, and a multiplicity of other complex phenomena of which one may not be aware.

Much of human behavior is determined not as much by what is 'out there' as it is by what happens to the material when it gets inside the human processing system. The perception of the situation is usually much more important in determining behavior than is the objective reality of that situation.¹¹⁷

The process of perception is of crucial significance in business organizations. It is essential that managers and supervisors make an attempt at understanding themselves (self-perception) and understanding how they are perceived by their superiors, peers, and subordinates. In this context it would be useful to assess the factors that influence an individual's perception. Tagiuri,¹¹⁸ in identifying the factors influencing the perception of others, suggests that the factors can be organized into

¹¹⁵Peter B. Warr and Christopher Knapper, The Perception of People and Events, (New York: John Wiley and Sons, 1968).

¹¹⁶Renato Tagiuri and Luigi Petrullo, Person Perception and Interpersonal Behavior, (Stanford University Press, 1958).

¹¹⁷Blair J. Kolasa, Introduction to Behavioral Science for Business, (New York: John Wiley and Sons, 1959), p. 526.

¹¹⁸Tagiuri and Petrullo, op. cit.

three sets of variables and interactions among them. These sets are the following:

1. the characteristics of the perceiver;
2. the attributes of the perceived; and
3. the nature of the interaction situation.^{119,120}

Zalkind and Costello¹²¹ in a review of perception suggest the following about the perceiver:

1. He may be influenced by considerations that he may not be able to identify, responding to cues that are below the threshold of his awareness.
2. When required to form difficult perceptual judgments, he may respond to irrelevant cues to arrive at a judgment.
3. In making abstract or intellectual judgments, he may be influenced by emotional factors. For example, what is liked is perceived as correct.
4. He will weigh perceptual evidence coming from respected sources more heavily than that coming from other sources.
5. He may not be able to identify all the factors on which his judgment is based.

People in organizations respond to reality as they perceive it to be and not as it may actually exist. Thus, in perceiving the leadership behavior of the first-line supervisor, the superiors, subordinates and the supervisors themselves do not respond to the "facts" as such, but rather each individual responds to the facts as he perceives them. A person's

¹¹⁹Ibid., pp. xiii and xiv

¹²⁰See also, Jacob Jacoby, "Accuracy of Person Perception as a Function of Dogmatism", Proceedings, 77th Annual Convention, American Psychological Association, 1969, p. 347.

¹²¹Sheldon S. Zalkind and Timothy W. Costello, "Perception: Some Recent Research and Implications for Administration", Administrative Science Quarterly, Vol. 7 (1962), pp. 218-235.

perception of another person's behavior tends to be conditioned by the perceiver's values, attitudes, objectives and assumptions. As Katz points out:

Each individual's perceptions tend to be distorted by the values which he brings to a situation. These values stem from his previous experiences (his expectations of how people behave), his sentiments (the loyalties, prejudices, likes, and dislikes he has built up over a long period of time), his attitudes about himself (what kind of person he is, or imagines himself, or would like to be), the obligations he feels toward others (what he thinks others expect of him), his ideals (the ways he thinks people should behave and how things ought to be), his objectives and goals (what he is trying to achieve) and so on.¹²²

Katz also notes that individuals respond to reality based upon their values. In general each person tends to confirm his own values by selecting those elements in the perceptual process that are consistent with his own values. Thus, an individual sees only what he wants to see and ignores factors that do not reinforce his values as manifested in his expectations, attitudes, and assumptions.¹²³

Since the present study is concerned with perceptions of the leadership behavior of supervisors from three distinct levels in the organization, it would be pertinent to relate a few factors that may account for differences in perceptions among the three separate groups. Three such factors which may account for differences in perceptions are selective perception, attitude filter, and projection.¹²⁴ As pointed out in the previous paragraph, an individual sees what he wants to see and

¹²²Robert L. Katz, "Human Relations Skills Can Be Sharpened", Harvard Business Review, Vol. 34 (1956), p. 61.

¹²³Ibid.

¹²⁴Lewis R. Benton, "The Many Faces of Conflict: How Differences in Perception Cause Differences of Opinion", Supervisory Management, March, 1970 pp. 7-10.

blacks out other aspects. This is called selective perception, although the phenomenon is sometimes referred to as "filtering". Similarly, perceptions may also differ because each fact in a situation is filtered through a person's built-in prejudices and attitudes. For example, a subordinate's attitude toward his job and his company will often determine how he interprets the leadership behavior of his supervisor. A third common factor accounting for differences in perceptions is the psychological process known as projection. Projection usually occurs when a perceiver assumes that the perceived has the same attitudes, motives, or characteristics as that of the perceiver. More specifically, projection is to attribute to others certain features that belong to oneself.¹²⁵ In the context of this study, projection would perhaps most logically occur when the superior is rating the leadership behavior of his "most" and "least" effective supervisors. However, it is also quite possible that the supervisors and subordinates may engage in projection. It seems logical to hypothesize that the superior will tend to perceive his "most" effective supervisor like he sees himself. Thus, the superior may project his own favorable qualities onto the "most" effective supervisor. Alternatively, the superior may tend to project his own unfavorable qualities onto his "least" effective supervisor.

From the above discussion of the process of perception, it seems that the critical aspect of a leadership situation is how the leader is perceived by his superiors, subordinates and himself.¹²⁶ Effective leadership is not primarily what a supervisor does, in terms of objective reality,

¹²⁵Ibid.

¹²⁶Beach, op. cit., p. 516.

but rather what the supervisor is perceived as doing by his subordinates, superiors and by the supervisor himself. It is not chiefly the supervisor's methods and techniques, but principally the kind of person the people who work with him come to think and feel that he represents.¹²⁷

The following section is concerned with specific studies relating to the perceived leadership behavior of first-line supervisors.

The Perceived Leadership Behavior of the First-Line Supervisor

Since the purpose of this study was to describe the leadership behavior of most and least effective first-line manufacturing supervisors, it was very useful to discuss the findings of related research. Several studies concerning the leadership behavior of the first-line supervisor have been conducted. Research by Fleishman, et. al.¹²⁸, Stogdill, et. al.¹²⁹ Besco and Lawshe¹³⁰ indicates that there tends to be little relationship between how a first-line supervisor is rated by his superiors and by his subordinates. This conclusion seems to have been the case regardless of the research instrument utilized.

Besco and Lawshe¹³¹ in a study of 29 production foremen in a

¹²⁷Sartain and Baker, op. cit., pp. 167-168.

¹²⁸E. A. Fleishman, E. F. Harris and H. E. Burt, Leadership and Supervision In Industry, (Columbus: Bureau of Educational Research, The Ohio State University, 1955).

¹²⁹R. M. Stogdill, E. L. Scott, W. E. Joynes, Leadership and Role Expectations, (Research Monograph, no. 86) (Columbus, Bureau of Business Research, Ohio State University, 1956.)

¹³⁰R. O. Besco and C. H. Lawshe, "Foreman Leadership as Perceived by Superiors and Subordinates", Personnel Psychology, Vol. 12, (1959), pp. 573-582.

¹³¹Ibid.

cereal processing plant found that there was "no relationship between subordinate and superior perceptions of the leadership behavior of the same foremen". In this study, it was noted that there could be real differences in what was perceived from two levels in the organization or it was possible that the foremen participating in the study exhibited different behavior patterns to their superiors than they exhibited toward their subordinates.

In contrast to Besco and Lawshe, King and Clingenpeel¹³² in a recent study of the supervisory effectiveness of 40 engineering supervisors found a more consistent agreement between superior and subordinate ratings of supervisors. The results of this study indicate that the agreement among the ratings of the supervisor from different perspectives in the organization tend to be related to the supervisor's effectiveness. In other words, there was fairly consistent agreement between superior, subordinate and self-ratings of supervisors who were judged as possessing potential for advancement. King and Clingenpeel made no mention of agreement or disagreement of the ratings of less effective supervisors. In general, their findings which to some extent differ from previous research, (see Fleishman, et. al.¹³³, Stogdill, et. al.¹³⁴, and Besco and Lawshe¹³⁵) may be at least partially explained by the nature of the groups involved in the study.

¹³²Donald C. King and Richard E. Clingenpeel, "Supervisory Effectiveness and Agreement among Superiors, Supervisors, and Subordinates regarding the Supervisor's Job Behavior", Proceedings 76th Annual Convention of American Psychologists Association, (1968), pp. 559-560.

¹³³Fleishman, Harris, and Burt, op. cit.

¹³⁴Stogdill, Scott, and Joynes, op. cit.

¹³⁵Besco and Lawshe, op. cit.

The research was conducted in a technical environment--specifically two engineering departments of an industrial firm employing 5000 persons. All of the supervisors were college graduates who supervised three to five graduate engineers and scientists and a slightly smaller number of technicians.¹³⁶ It perhaps seems reasonable that in an environment such as described, there would tend to be greater group cohesiveness and better understanding of the role of the group leader. The authors offer several other explanations of their finding of agreement between the ratings of the more effective supervisors. They suggest that the similarity of perceptions may indicate that members of the more effective supervisor's group exhibit greater harmony and understanding or it may be that "greater halo exists among the supervisors and group members."¹³⁷ Perhaps their finding would suggest that more effective supervisors have achieved a better definition of their roles and are able to more effectively communicate this behavior to their superiors and subordinates.

King and Clingenpeel also point out that human relations proponents and behavioral theorists might attribute their finding to other, but related, factors. Human relationists could argue that in the groups led by the more effective supervisor greater agreement in the ratings of the supervisor would be due to more "openness" and greater "closeness" among the group members. Thus, these groups would be more effective than the more formalized and highly structured work units. Finally, the behavioral theorists could assert that "good supervisors place more emphasis upon getting across to their men and their superiors what their actions and beliefs are and what

¹³⁶King and Clingenpeel, op. cit.

¹³⁷Ibid., p. 560.

they are trying to accomplish."¹³⁸

The studies by Besco and Lawshe and King and Clingenpeel indicate the need for additional research on the perception of the leadership behavior of first-line supervisors. There continues to be numerous questions which prior research has not answered or has perhaps answered only partially. There still is inconclusive knowledge of the relationship existing between: the self-perceptions of superiors as compared to the self-perceptions of the supervisors designated as "most" and "least" effective; the superiors' perceptions of the leadership behavior of supervisors as compared with the supervisor's self-perceptions and the subordinates' perceptions of the supervisors; the self-perceptions of the supervisors versus how the supervisors are perceived by their subordinates; and the perceptions of the subordinates of the "most" effective supervisor and the perceptions of the subordinates of the "least" effective supervisor. Thus, this study purports to provide increased insight and understanding of the leadership behavior of first-line supervisors as perceived from differing perspectives in organizations. It is believed that such knowledge will lead to more effective supervisory behavior and contribute to at least a partial resolution of role conflict for the first-line supervisor who is often referred to as the "man in the middle".

SUMMARY

This chapter presented a review of leadership research which served as a foundation for the present study. The direction of leadership research has changed considerably over the years, particularly in the last

¹³⁸Ibid.

twenty years. Research conducted from 1900-1950 concentrated primarily on what has become known as the "trait" approach. The emphasis of this approach centered upon the identification of physical and personality traits or characteristics of leaders in a variety of settings.

Since about 1950, the emphasis of much of leadership research has shifted to the situational approach which may in part be due to reviews of leadership research by Stogdill and Gibb. The basic proposition of the situational approach to the study of leadership is that leadership is a dynamic multidimensional process that varies from situation to situation according to forces in the leader, the followers, and the situational environment.

Recent trends in leadership research have begun to focus upon the more subtle interplay of motives and perceptions between leaders and their followers. Much of this research, classified as the behavioral approach to the study of leadership, attempts to explain leadership on the basis of what kinds of behavior a leader engages in when dealing with his subordinates, superiors, and peers.

The final section of Chapter II presented a brief summary of the perceptual process and research specifically concerning the leadership behavior of first-line supervisors. Several studies pointed out that there tends to be little relationship between how a first-line supervisor is rated by his superiors and subordinates, while one recent study revealed a more consistent agreement between superior and subordinate ratings of supervisors.

Prior research has failed to adequately explain the relationships between superior, supervisor, and subordinate perceptions of the leadership behavior of first-line supervisors. Thus, the present study proposes to

concern itself with the following questions:

1. What biographical and attitudinal factors distinguish the "most" effective from the "least" effective supervisor?
2. What type of leadership behavior distinguishes the "most" effective supervisor from the "least" effective supervisor?
3. What is the relationship between the self-ratings of the superior of the first-line supervisor and the self-ratings of the "most" and "least" effective supervisors?
4. What is the relationship between the subordinates' and superior's perceptions of the supervisor's leadership behavior?
5. What is the relationship between the superior's perceptions of the first-line supervisor and the supervisor's self-perception?
6. What is the relationship between the subordinates' perceptions of the supervisor's leadership behavior and the supervisor's self-perception?

The following chapter on Research Methodology will provide a summary of the procedures of this study. Emphasis will be focused upon the research instruments, the selection of participants and statistical techniques employed to analyze the data.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

The review of leadership research and the presentation of the basic questions of this study logically lead to the discussion of the research design and methodology. Accordingly, this chapter will be concerned with a description of the following:

1. the research instruments;
2. testing the questionnaires and research procedure;
3. the selection of plants and the procedure for administering the questionnaires;
4. significant relationships; and
5. statistical techniques.

RESEARCH INSTRUMENTS

There were two research instruments utilized to collect the data for this study. (These questionnaires are presented in the Appendix.) One questionnaire was designed primarily to obtain classification and attitudinal information from the participating plant managers (the immediate superior of the first-line supervisors) and from the supervisors designated as most and least effective. This questionnaire classified participating managers and supervisors on such items as sex, age, education, experience in their present position, length of service with their present company and on several personal self-perceptions concerning work habits, organizing ability and aggressiveness.

The primary research instrument used in this study was a twenty-item leadership rating questionnaire which was developed and tested to measure the leadership behavior of first-line supervisors as perceived by superiors of the supervisors, by the subordinates of the supervisors and by the supervisors themselves. The Leadership Rating Questionnaire (LRQ) consisted of items which have been found by prior research to be significant descriptions of leadership behavior.

There were two identical versions of the LRQ used in this study. One form was designed for self-description of one's own leadership behavior, while the other LRQ was used for rating the leadership behavior of supervisors as perceived by superiors and subordinates. For example, on the self-description LRQ, the item might read "can take suggestions from my workers", while the corresponding phrase on the other LRQ would read "can take suggestions from his workers".

The twenty items appearing on the LRQ were grouped into the power-structure dimension of leadership behavior and the sensitivity-consideration aspect of leadership. The terms power-structure and sensitivity-consideration were defined in Chapter I. The terms power-structure and consideration-sensitivity are conceptually similar to the terminology used by the Ohio State researchers. These terms have been found to be appropriate descriptions of the basic dimensions of leadership behavior in numerous studies, several of which were presented in Chapter II. The twenty items comprising the LRQ were derived primarily from a review of the literature. Practically all of the items included in the LRQ have been supported by the findings of the Ohio State leadership studies as well as numerous other investigations. Table I on the following pages presents an outline of the specific studies tending to support the twenty LRQ items.

TABLE I
STUDIES SUPPORTING LEADERSHIP ITEMS

Item	Author of Study	Year	Group Situation
1. Self-Confidence	Porter & Ghiselli	1957	Middle Managers
	Beer, Buckout, Horowitz & Levy	1959	Students
	Ghiselli	1958 1963 1968	Industrial Super- visors & Middle Managers
	Yoder	1958	Managers and Male College Students
	Eran	1965	Managers
2. Promotes Worker Cooperation	Benne & Sheats	1948	
	Fleishman	1953	Production Super- visors
	Ohio State Studies Fleishman	1957	Production Super- visors
3. High Performance Expectations	Fleishman	1953	Production Super- visors
	Patchen	1962	Production Super- visors
	Kay	1959	Foremen
	Ohio State Studies Wofford	1970	Supervisors & Managers
4. Explains Job	Back	1961	
	Kay	1959	Foremen
	Fleishman	1957	Production Super- visors

5. Exercises Control Over People	Ohio State Studies		Supervisors
	Kay	1959	Foremen
	Wofford	1970	Supervisors & Managers
6. Checks Group Progress	Schutz	1961	
	Bass	1961	
	Flanagan	1961	First-line Supervisors
	Stogdill	1965	First-line Supervisors
	Wofford	1970	Supervisors
7. Persuasive	Whyte	1955	Roys Gang
	Berkowitz	1956	Air Force Officers
	Katz, Blan, Brown & Stardtbeck	1957	Teenagers
	Kirscht, Lodahl, & Haire	1960	College Students
	Stogdill	1965	Managers & Supervisors
	Wofford	1970	Managers & Supervisors
8. Motivates	Medalia	1954	Air Force Squad Leaders
	Browne & Shore	1956	
	Fleishman	1953	Production Super- visors
	Fleishman	1957	Supervisors
	Fleishman & Harris	1962	Supervisors
	Wofford	1970	Supervisors

9. Displays Confidence in Subordinates' Ability	Likert	1961	Supervisors
	French	1970	
10. Fairness	Schutz	1961	
	Bass	1961	
	Flannagan	1961	First-line Supervisors
	Kay	1959	Foremen
11. Goal Orientation	Benne & Sheats	1948	
	Hemphill	1950	Students
	Wolman	1956	College Students
	Stogdill	1965	Supervisors & Managers
	Wofford	1970	Supervisors
12. Shows Support	Argyle	1957	
	Stogdill & Coons	1957	
	Patchen	1962	
	Greer	1961	Army Rifle Squads
	Likert	1961	Supervisors
	Kay	1959	Foremen
13. Competitive	Comrey, Pfiffner & High	1954	
	Halpin	1956	Hospital Administrators & Educational Administrators
	Fleishman	1953	Production Supervisors

14. Encourages Suggestions	Fleishman	1953	Production Supervisors
	Halpin	1956	Hospital & Educational Administrators
	Hawthorne, et. al.	1956	Students
	Decharms & Bridgeman	1961	Business Managers & Supervisors
15. Stresses Compliance with Procedures	Fleishman	1953	Supervisors
	Fleishman	1957	Supervisors
	Likert	1952	Industrial Foremen
	Halpin	1956	Air Force Crews, Hospital Admin. & School Superintendents
	Halpin & Winer	1957	Air Force Crews, Hospital Admin. & School Superintendents
	Kay	1959	Foremen
	Fleishman & Harris	1962	Supervisors
	Wofford	1970	Supervisors
16. Prevents Misunderstandings	Browne & Shore	1956	
	Wofford	1970	Supervisors
17. Discriminating	Fleishman	1953	Supervisors
	Katz	1950	Supervisors
	Katz	1957	Supervisors
	Fiedler	1967	
	French	1970	Supervisors

18. Patient	Likert	1961	Supervisors
	Benne & Sheats	1948	
	Back	1961	
	French	1970	
19. Gives Praise	Mann & Dent	1954	First-line Supervisors
	Kay	1959	Foremen
	Day & Hamblin	1961	Foremen
	Likert	1961	
20. Non-punitive	Benne & Sheats	1948	
	Argyle	1957	
	Schacter	1961	Production Supervisors
	Likert	1961	Supervisors

TESTING THE QUESTIONNAIRES AND RESEARCH PROCEDURE

A pilot study was conducted to test the questionnaires and procedures for appropriateness and understandability. This testing was essential to determine any problems that might be encountered prior to the initiation of the study.

The plant manager of a manufacturing company was contacted and asked to participate in the pilot project. The plant manager, the plant's twelve production supervisors, and 450 production employees completed questionnaires. The plant manager completed four forms in all. He completed a biographical classification and a leadership rating questionnaire on himself. In addition, he completed an LRQ on his most effective super-

visor and an LRQ on his least effective supervisors. The twelve production supervisors, each of whom reported directly to the plant manager, completed a biographical classification and an LRQ on themselves. These supervisors did not know that the plant manager had completed ratings on any of them. Next, each of the plant's 450 production employees were given instruction sheets and a leadership rating questionnaire. The employees were asked to use the LRQ to describe the leadership behavior of their immediate supervisor. Each employee was given assurance of the anonymity of their response. They were instructed not to sign their names and that their supervisor would under no circumstances know how individual employees completed their questionnaire. Upon completion, each employee placed his questionnaire in an envelope and then deposited the envelope in a sealed box provided by the researcher. There was a box for each of the twelve supervisors' departments. Each supervisor also placed his questionnaire in the appropriate box. The questionnaires were coded to make certain that each employee's questionnaire would be properly matched with the correct supervisor.

A lengthy interview was conducted with the plant manager to determine if he encountered any difficulty in completing the questionnaires. Interviews were also conducted with several first-line supervisors and employees to obtain their reaction to the instructions and questionnaires and to ascertain whether or not they experienced any problems in completing the forms. The interviews with the plant manager, the supervisors and the employees served the purpose of acquiring the participants' suggestions for any modification of the instructions, research instruments or administration procedures prior to the actual conducting of the study. As a result of these interviews no major problems were revealed regarding the understand-

ability of the instructions. Also, none of the supervisors and employees interviewed expressed any difficulty in completing the questionnaires. However, one very practical point became clear as the result of the pilot project. The amount of time for participation of each supervisor and each employee when considered in total was indeed substantial. It became fairly clear that the amount of time involved when everyone in each plant participated would likely make it exceedingly difficult to obtain the cooperation of a sufficient number of manufacturing plants. Since this study was primarily concerned with the leadership behavior of most and least effective supervisors it seemed impractical to include all supervisors and all employees in each participating plant. Therefore, after consultation with the research committee, it was decided that in addition to the plant manager, only three supervisors (including the most and least effective) and a random sample of five employees reporting to each supervisor would be asked to complete questionnaires in each plant included in the study. Only the questionnaires related to the most effective and least effective supervisors would be analyzed for the purposes of this study. The specific procedures for selecting the plants and administering the questionnaires will be discussed in the following section.

SELECTION OF PLANTS AND THE PROCEDURES FOR THE ADMINISTRATION OF QUESTIONNAIRES

After the pilot project was completed, the next step was to contact prospective participants. As mentioned previously in this chapter, the manufacturing plants included in this study were drawn from the Directory of Arkansas Industries. Several criteria were established for the selection of potential participating plants. The plants included in this study were

required to possess the following characteristics:

1. be engaged in repetitive, routine assembly-line type of production;
2. employ five or more first-line production supervisors; and
3. employ 100 to 500 personnel engaged in production.

Thirty manufacturing firms meeting the above requirements were drawn from the Directory of Arkansas Industries and asked to participate in this study. These plants are representative of the small manufacturing facilities in the state of Arkansas. So far as this author knows this is the only study utilizing manufacturing plants of this type for leadership research of this nature.

The original thirty prospective plants were contacted initially through a letter addressed to the plant manager. Twenty-eight of the plants expressed an interest in participating in the study. However, five of the twenty-eight plants were not able to complete the forms due to "production pressures", "union problems", and other related reasons. The table on the following page gives a brief summary of the number of supervisors and employees in each participating plant.

The general procedure for contacting the plants (as depicted by the diagram on page 61) was as follows:

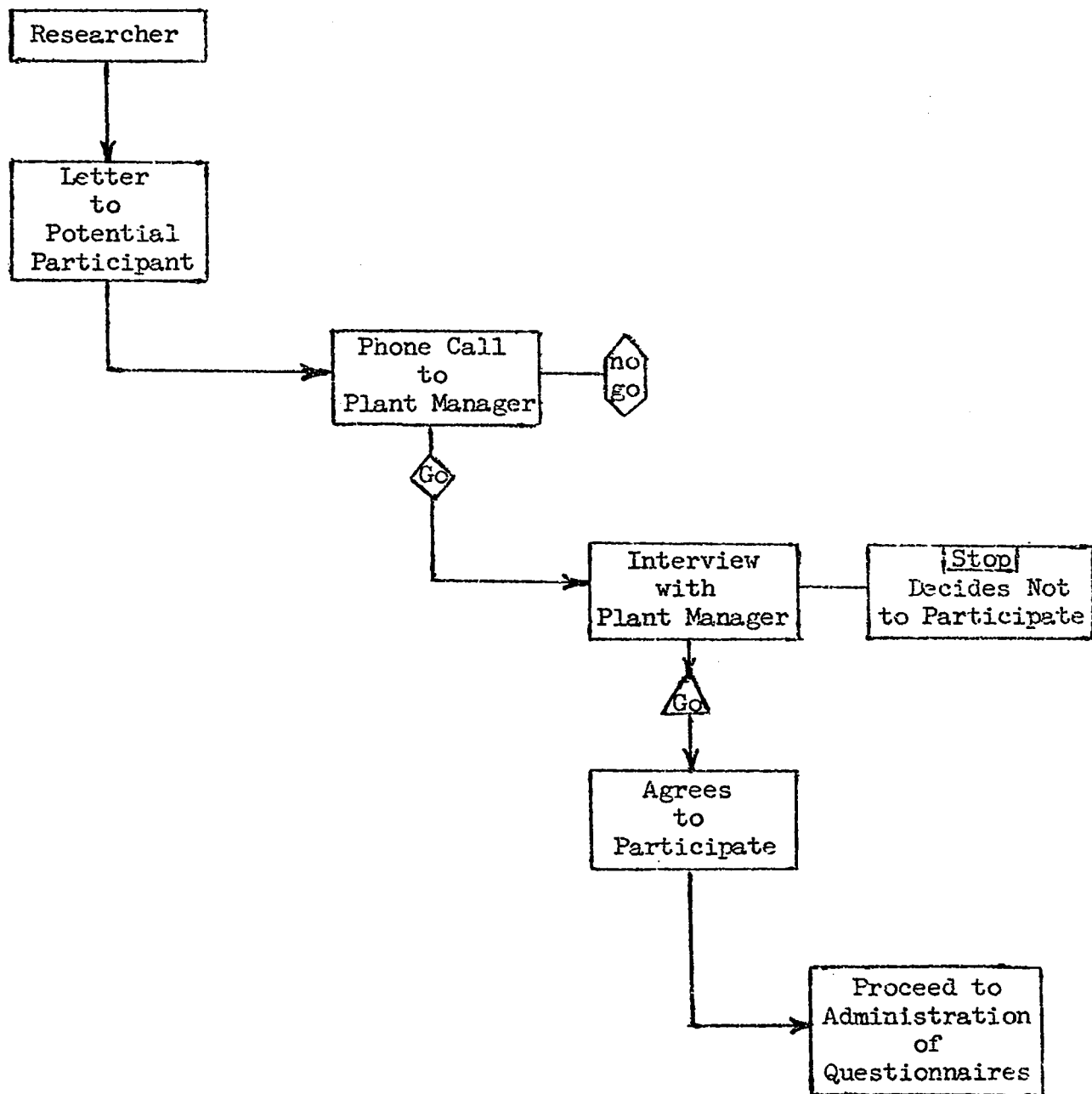
1. A letter was sent to the plant manager of each prospective company explaining the nature and purpose of the study as well as a brief account of the administration procedures involved.
2. Next, a telephone call was made to the plant manager seeking the firm's cooperation and an interview to explain the study in greater detail.
3. If the plant manager agreed, a personal visit was made to each plant to discuss the study and how it was to be administered. During the

TABLE II
EMPLOYMENT CHARACTERISTICS OF PARTICIPATING PLANTS

Plant	Number of Production Employees	Number of First-Line Supervisors
A	358	8
B	143	5
C	125	5
D	141	6
E	150	7
F	113	5
G	181	7
H	250	8
I	175	6
J	200	7
K	167	5
L	160	6
M	450	12
N	200	8
O	189	5
P	413	12
Q	123	6
R	366	18
S	463	17
T	125	5
U	375	22
V	215	7
W	111	5
AVERAGE PLANT	226 Employees	6 Supervisors

DIAGRAM I

STEPS IN CONTACTING POTENTIAL PARTICIPANTS



interview, the plant manager was assured that the participating supervisors', employees', and his participation would be strictly confidential and that neither the company's name nor the names of individuals would be known or used.

4. Finally, if the plant manager agreed to participate in the project, an appropriate time was scheduled for the administration of the questionnaires.

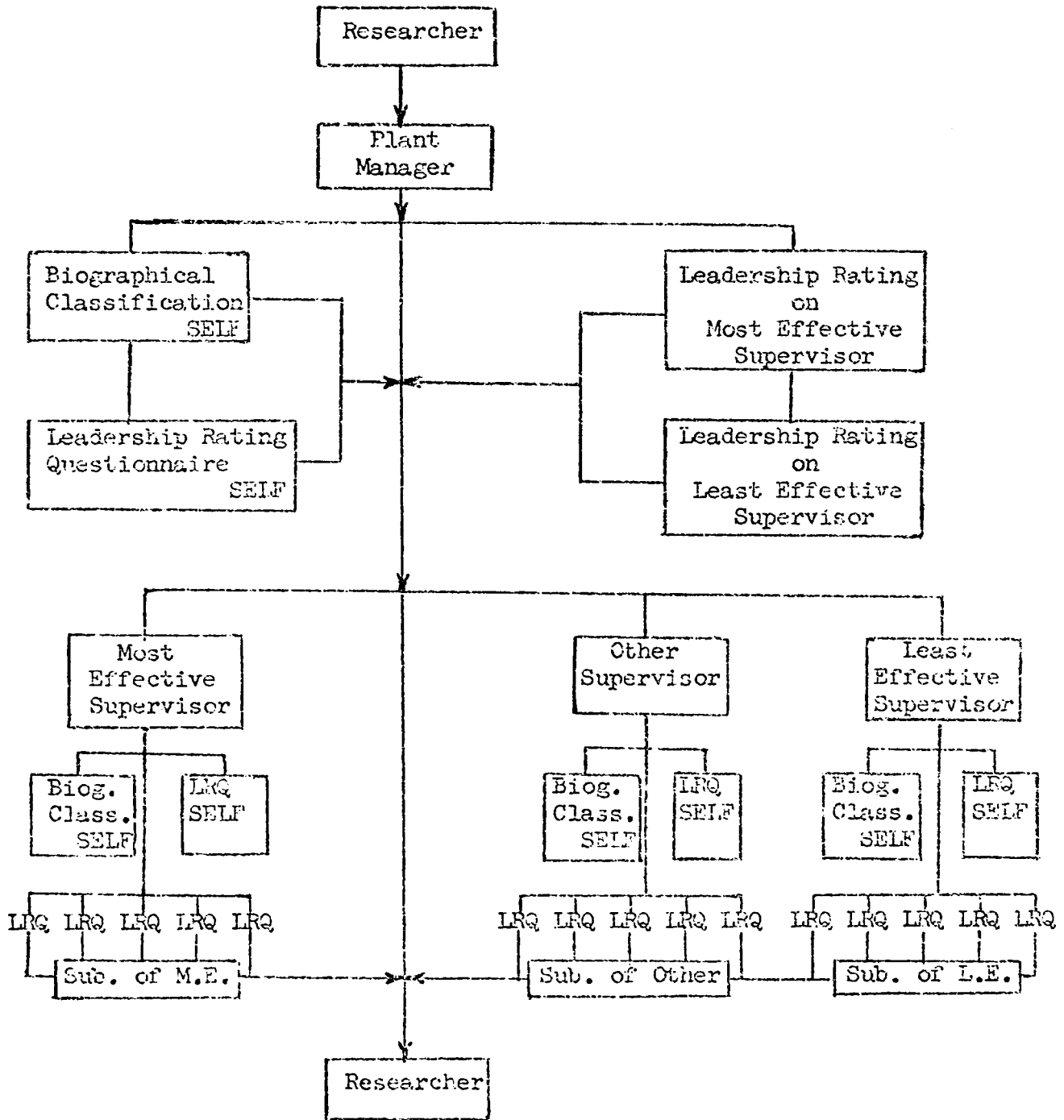
The administration of the questionnaires was normally made on a subsequent visit to each plant, although in the case of several firms the questionnaires were provided at the initial meeting. The diagram on the following page illustrates the flow of the questionnaires.

In each cooperating company, the plant manager or whoever was the immediate superior of the first-line production supervisors was asked to complete:

1. a biographical classification form on himself;
2. a leadership rating questionnaire on himself;
3. a leadership rating questionnaire on his most effective supervisor; and
4. a leadership rating questionnaire on his least effective supervisor.

The next step in the procedure required the plant manager to provide each participating supervisor (including the supervisors he had designated as most and least effective) with a set of pre-coded questionnaires and envelopes. In the typical participating plant, the plant manager chose three supervisors to participate, two of which represented his most and least effective supervisors. It was believed that by selecting three or more supervisors to participate, the reasons for

DIAGRAM II
ADMINISTRATION OF QUESTIONNAIRES



selecting particular supervisors would be better disguised. If a plant manager selected only two supervisors to participate and those represented the two extremes in supervision, it might be quite obvious to the two supervisors chosen and their employees the reasons for their selection. Each participating first-line supervisor was asked to complete:

1. a biographical classification on himself; and
2. a leadership rating questionnaire on himself.

It was explained to each supervisor that the questionnaires were a part of a research project being conducted by a doctoral candidate at the University of Arkansas and as such would in no way be seen or used by anyone at their company. Each set of questionnaires given to participating supervisors was accompanied by a letter explaining the purpose of the study and asking them to give their frank evaluation of themselves as a leader. The supervisors were asked not to sign their questionnaires and upon completion to place their forms in the envelope provided. The supervisors were not aware that their plant manager had completed any questionnaires on them.

Five employees reporting to each participating supervisor were asked to complete a Leadership Rating Questionnaire on their respective supervisor. These employees were chosen at random by the plant manager or by the personnel department from time clock cards or personnel rosters. Each employee, in addition to being assured anonymity by the plant manager, received a letter from the researcher explaining the study and providing the necessary instructions for the completion of the questionnaire. Upon completion of the questionnaire, the employees placed it in an envelope provided, sealed it, and then deposited the envelope in a retainer provided.

Each participating supervisor was given a separate container in which to place his questionnaires. His employees also deposited their envelopes in the same container. In order to insure correct matching of questionnaires codes were assigned. A code of "1" was placed on the questionnaires given to the supervisor designated as most effective. This same code was placed on each of the questionnaires given to the employees selected to rate the most effective. The letter "A" was assigned to all forms pertaining to the least effective supervisor. These two codes were chosen because it would be difficult to determine whether "A" was better than "1" or vice-versa.

In the typical participating manufacturing plant twenty-five questionnaires were obtained. The plant manager completed four questionnaires, the participating first-line supervisors each completed two forms on themselves and five employees reporting to each supervisor completed a leadership rating on their respective supervisor.

SIGNIFICANT RELATIONSHIPS

After the data had been collected, the major task then was to analyze the relationships between the various groups of questionnaires. The primary data consisted of seven separate groups of completed leadership ratings. These groups were:

1. plant managers' self ratings;
2. plant managers' ratings of most effective supervisors;
3. plant managers' ratings of least effective supervisors;
4. most effective supervisors' self ratings;
5. least effective supervisors' self ratings;

6. subordinates' ratings of most effective supervisors; and
7. subordinates' ratings of least effective supervisors.

The data was first analyzed to determine how each group responded to the twenty items on the LRQ. This information was ascertained from the distribution of responses for each group. Inter-group comparisons were made using the ranks for items classified as power-structure and sensitivity-consideration items on the LRQ. However, the primary focus of the analysis centered upon a more precise description of the relationships between each of the seven rating groups. The above seven ratings were grouped into sets of two for comparative analysis. The diagram on the following page demonstrates the relevant comparisons.

Each possible pair was represented by numbers. For example, 1-2 indicated Row 1, Column 2 relationship--plant managers' self ratings compared to plant managers' ratings of the most effective supervisors. As depicted in Diagram III, there were thirteen pairs that were of primary interest to this study. After the relationships to be analyzed had been determined, the next and final step in the methodology was the selection of the statistical techniques.

STATISTICAL TECHNIQUES

The selection of appropriate statistical techniques was a critical component of this study's research design. First, it was necessary to determine whether to use parametric or non-parametric statistical analysis. After reviewing the statistical procedures of related studies, it appeared that parametric techniques were almost always utilized. However, this fact did not convince the writer that parametric techniques were most appropriate

DIAGRAM III

CROSS-CLASSIFIED RELATIONSHIPS

		P.M. Rates Self	P.M. Rates M.E.	P.M. Rates L.E.	M.E. Rates Self	L.E. Rates Self	Sub. of M.E. Rate M.E.	Sub. of L.E. Rate L.E.
		1	2	3	4	5	6	7
P.M. Rates Self	1	-	*	*	*	*	NR	NR
P.M. Rates M.E.	2	-	-	*	*	NR	*	NR
P.M. Rates L.E.	3	-	-	-	NR	*	NR	*
M.E. Rates Self	4	-	-	-	-	*	*	NR
L.E. Rates Self	5	-	-	-	-	-	NR	*
Sub. of M.E. Rate M.E.	6	-	-	-	-	-	-	*
Sub. of L.E. Rate L.E.	7	-	-	-	-	-	-	-

* = Relevant to Analysis

NR = Not Relevant to Analysis

Abbreviations:

P.M. = Plant Managers

M.E. = Most Effective Supervisors

L.E. = Least Effective Supervisors

Sub. = Subordinates

for this study.

Although parametric measures of correlation and tests of significance are generally more powerful than non-parametric techniques, the use of parametric statistics requires that the data being analyzed meet the following assumptions¹:

1. the observations must be independent;
2. the observations must be drawn from a normally distributed population;
3. the population must have the same variances;
4. the variables involved must have been measured on at least an interval scale; and
5. the means of these normal populations must be linear combinations of effects.

The data represented in this study conformed to only the first of the above assumptions. The observations are independent, but it cannot be assumed that the observations represent a normal population with equal variances. For the above reasons and since the data for this study was collected using nominal and ordinal measurement scales and not interval scales, non-parametric statistical techniques were determined to be most appropriate for use in analyzing the data.

Several non-parametric techniques were evaluated as to their possible usage in determining the relationships existing within the sets of ratings. The measures considered were chi-square, contingency coefficient, Spearman Rank, Kendall's coefficient, and the Goodman-Kruskal Measure of Association.

Because of such factors as the size of the samples, the number of

¹Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences, (New York: McGraw-Hill, 1956), pp. 19-20.

potential ties in the data, and other reasons, chi-square and the Goodman-Kruskal Measures of Association were selected as being the most appropriate tools which could be used in analyzing the data derived from the completed Leadership Rating Questionnaires.

Chi-square (X^2) was used to test the significance of differences between two sets of ratings. The X^2 is computed as follows²:

$$X^2 = \sum_{i=1}^r \sum_{j=1}^k \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Where O_{ij} = observed number of responses in the i^{th} row of the j^{th} column

E_{ij} = number of responses expected in the i^{th} row of the j^{th} column

degrees of freedom (df) = $(r-1)(K-1)$ where

r = the number of rows in a contingency table

K = the number of columns in a contingency table

The Goodman-Kruskal Measure of Association^{3,4} describes the relationship between two variables. The technique was used in this study to determine the degree of agreement or disagreement between two separate groups of leadership ratings. The Goodman-Kruskal measure (Gamma) can be thought of as Kendall's correlation coefficient adjusted for ties in the data. The values of Gamma are between -1 and +1, inclusive. If the correlation between two variables is perfect, then Gamma (G) = 1; if there is a complete

²Ibid.

³Leo A. Goodman and William H. Kruskal, "Measures of Association for Cross Classifications", Journal of the American Statistical Association, Vol. 49, (1954), pp. 732-764.

⁴Leo A. Goodman and William H. Kruskal, "Measures of Association for Cross Classifications II, Further Discussion and References", Journal of the American Statistical Association, Vol. 54, (1959), pp. 123-163.

lack of correlation, then $G = -1$; and $G = 0$ in the case of independence.

Gamma can be calculated as shown in the following formula:

$$G = \frac{\text{Probability of Agreement} - \text{Probability of Inversion}}{1 - \text{Probability of a tie}}$$

The data from the LRQ were categorized into 5x5 matrices. A 5x5 matrix was prepared for each of the twenty questions for thirteen paired comparisons. Thus, in all there were 260 5x5 tables. A sample table for question one is shown below:

P. M. Rates Self

	1	2	3	4	5
1					
2			2		
3					
4				8	
5					13

M. E.
Rates
Self

Each of the five columns and five rows in the table represented a possible response to question one. The five responses from 1 to 5 appearing on the LRQ were: almost never, seldom, occasionally, often, and almost always.

After the data had been categorized, the 5x5 tables were then punched onto IBM cards. The cards for each of the thirteen sets were then grouped with a computer program designed to calculate the Goodman-Kruskal Measure of Association. Each set of data were then processed through the University of Arkansas's IBM 7040 Computer. In addition to calculating the measure of association (Gamma) the program also provided for the computation of the normal deviate, Z. Gammas and Z's were provided for each of the twenty questions for the thirteen data sets.

A sample computer print-out included the following:

1-2-1 P. M. Rates Self: P. M. Rates M. E.

Estimate of Gamma =	.4285
Numerator of Z Test =	.3841
Denominator of Z Test =	.1183
Prob. of Agreement =	.2646
Prob. of Inversion =	.1058
Prob. of Tie =	.6294
Prpb. of Agreement Cond. on No Ties =	.7142
Prob. of Inversion Cond. on No Ties =	.2857
Normal Deviate =	
(Estimate of Gamma) x	
(Num. of Z Test) /	
(Denom. of Z Test) =	1.3915

When Gamma is positive, there is some degree of association or correlation between two ratings. Conversely, when Gamma is negative, there is some degree of disassociation between the two ratings. The normal deviate, Z, has been calculated by normalizing the data. When $Z \geq 1.96$, $P \leq .05$, there is a positive degree of agreement between two ratings that is significant to at least the .05 level of confidence. When $Z \leq -1.96$, $P \leq .05$, there is a lack of association significant to at least the .05 level.

SUMMARY

Chapter Three has been concerned with a detailed explanation of the study's research design and methodology. The chapter included a discussion of the following: the research instruments used to collect the data; testing the research instruments; selecting the plants to participate in the study; the procedures for the administration of the questionnaires; the significant relationships; and the selection of the appropriate statistical techniques. The following chapter will present the analysis and interpretation of the data.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

Chapter Four's primary purpose is to present a description and an analysis of leadership behavior of first-line supervisors. The chapter includes the following:

1. a discussion of the characteristics and attitudes of the participating plant managers and supervisors;
2. a comparative analysis of the self-perceptions of the plant managers and their most and least effective supervisors on the leadership rating questionnaire; and
3. a comparative analysis of the plant managers', subordinates' and self-perceptions of the most and least effective supervisors.

CHARACTERISTICS OF THE PARTICIPATING PLANT MANAGERS AND SUPERVISORS

Tables III, IV, and V on the following pages present a summary of the selected characteristics of participating plant managers and supervisors. The purpose of obtaining the classification information was to facilitate a comparison of backgrounds and characteristics among plant managers, most effective supervisors and least effective supervisors.

The plant managers participating in this study were all men, generally under 45 years of age and over sixty per cent had attended college. (See Table III.) It was interesting to note that all but one of the plant managers were at least high school graduates. The plant manager who was not a high school graduate was 65 years of age or older. Not surprisingly, ten of the fourteen managers who had attended college

TABLE III

SELECTED CHARACTERISTICS OF PARTICIPATING PLANT MANAGERS

Plant	Sex	Age						Education				Years with Company					Years in Position					
		Under 25	25 - 34	35 - 44	45 - 54	55 - 64	Over 65	Some High School	High School Graduate	Some College	College Graduate	0 - 1	1 - 5	6 - 10	11 - 15	16 - 20	Over 20	0 - 1	1 - 3	4 - 7	8 - 10	Over 10
A	M			X					X					X				X				
B	M			X					X				X						X			
C	M		X					X				X						X				
D	M			X					X			X							X			
E	M				X			X				X						X				
F	M					X		X							X						X	
G	M					X	X								X			X				
H	M		X					X				X						X				
I	M			X					X			X						X				
J	M				X				X				X						X			
K	M			X					X				X								X	
L	M				X				X				X								X	
M	M				X			X							X					X		
N	M		X						X					X							X	
O	M		X						X			X						X				
P	M				X				X						X			X				
Q	M					X		X							X			X				
R	M				X			X							X						X	
S	M				X				X						X					X		
T	M			X				X				X						X				
U	M			X					X				X							X		
V	M			X					X			X								X		
W	M		X						X				X							X		
TOTALS		0	5	8	7	1	2	1	8	9	5	0	4	4	6	2	7	0	9	7	2	5

were under forty-five years old. In terms of experience, fifteen of the twenty-three plant managers had been with their present firm longer than ten years, and fourteen managers had been in their present position for four years or more. Thus, as a whole the participating plant managers were relatively young, well educated and the majority of them had been with their present company for at least ten years.

Table IV pinpoints the characteristics of participating most effective supervisors. Of this group of twenty-three supervisors, two were women. As can be seen from the table, the two women appearing in this group were older than most of the men supervisors and had considerably more experience with their companies than did the typical male supervisor. One of the two female supervisors was at least 65 and had been with her company over 20 years and in her present position more than 10 years. The other female supervisor was in the age bracket 45-54 and had been with her company for between eleven and fifteen years, but only one to three years in her present supervisory position. Interestingly, the two female supervisors were the only supervisors who had not at least graduated from high school. The twenty-one male supervisors were a fairly young group with an average level of education. Eighteen of the twenty-one male supervisors were under 45 years of age. All twenty-one were high school graduates, nine of which had attended college. Twelve of the male supervisors had been with their present company eleven years or longer and eleven supervisors had held their present position four years or longer.

The biographical characteristics of the least effective supervisors are presented in Table V. Twenty-two of the twenty-three least effective supervisors were male. Similar to the two female most effective supervisors,

TABLE IV

SELECTED CHARACTERISTICS OF PARTICIPATING MOST EFFECTIVE SUPERVISORS

Plant	Sex	Age					Education				Years with Company					Years in Position						
		Under 25	25 - 34	35 - 44	45 - 54	55 - 64	Over 65	Some High School	High School Graduate	Some College	College Graduate	0 - 1	1 - 5	6 - 10	11 - 15	16 - 20	Over 20	0 - 1	1 - 3	4 - 7	8 - 10	Over 10
A	M		X							X												X
B	M			X					X											X		
C	M	X							X			X					X					
D	M			X					X			X					X					
E	M			X					X			X					X					
F	M		X						X				X					X				
G	F						X	X							X						X	
H	M			X					X				X						X			
I	M			X					X			X							X			
J	M		X						X				X						X			
K	M			X					X				X						X			
L	F				X			X					X						X			
M	M				X				X						X							X
N	M		X						X				X						X			
O	M			X					X					X							X	
P	M		X						X			X							X			
Q	M				X				X						X							X
R	M				X				X				X						X			
S	M			X					X				X						X			
T	M		X						X			X							X			
U	M		X						X			X							X			
V	M			X					X				X						X			
W	M		X						X			X							X			
TOTALS		1	8	9	4	0	1	2	12	8	1	0	5	4	10	1	3	3	8	7	1	4

TABLE V

SELECTED CHARACTERISTICS OF PARTICIPATING LEAST EFFECTIVE SUPERVISORS

Plant	Sex	Age					Education				Years with Company					Years in Position						
		Under 25	25 - 34	35 - 44	45 - 54	55 - 64	Over 65	Some High School	High School Graduate	Some College	College Graduate	0 - 1	1 - 5	6 - 10	11 - 15	16 - 20	Over 20	0 - 1	1 - 3	4 - 7	8 - 10	Over 10
A	M			X						X							X					
B	M			X				X							X							X
C	M	X						X			X								X			
D	M			X				X			X					X						
E	M		X					X			X								X			
F	M			X				X						X					X			
G	M				X			X							X			X				
H	M				X			X					X								X	
I	M			X				X						X								X
J	M		X					X				X					X					
K	M		X					X				X							X			
L	M					X		X					X						X			
M	M			X				X						X			X					
N	M		X					X				X					X					
O	M		X					X				X							X			
P	F				X			X							X							X
Q	M			X				X							X			X				
R	M					X		X							X					X		
S	M		X					X				X							X			
T	M				X			X				X							X			
U	M		X					X				X									X	
V	M			X				X				X									X	
W	M				X			X					X								X	
TOTALS		1	7	8	5	2	0	6	9	7	1	0	4	7	4	3	5	5	8	6	1	3

the female least effective supervisor was in the age group 45-54, was not a high school graduate and had been with her company more than twenty years. She had been in her current position over ten years. Of the twenty-two male supervisors, sixteen were under forty-five years of age. In terms of education, five had not graduated from high school, while eight had attended college. Fifty per cent of these supervisors had been with their company more than ten years and thirteen supervisors responded that they had been in their present position for three years or less.

It would seem beneficial at this point to present a summary comparison of the characteristics of each of the respondent groups. Table VI presents a brief comparison of the biographical characteristics of the plant managers, most effective supervisors and least effective supervisors.

A review of Table VI indicates that the plant managers as a group tended to be older, better educated and more experienced in their present company and position than the groups of most and least effective supervisors. Forty-three per cent of the managers were at least forty-five years old while only 22 per cent of the most effective supervisors and 31 per cent of the least effective supervisors were forty-five or older. There appears to be very little difference in the age distributions of the two groups of supervisors, although the most effective supervisors were as a group slightly younger than the least effective supervisors. In terms of education, fourteen of the twenty-three or 60 per cent of the plant managers had attended college compared to 39 per cent of the most effective supervisors and 34 per cent of the least effective supervisors. Twenty-two per cent of the plant managers were college graduates versus only 4 per cent

TABLE VI

SUMMARY COMPARISON OF THE CHARACTERISTICS OF PLANT MANAGERS, MOST EFFECTIVE SUPERVISORS AND LEAST EFFECTIVE SUPERVISORS

Distribution of Responses																							
Sex		Age					Education					Years with Company					Years in Position						
M	F	Under 25	25 - 34	35 - 44	45 - 54	55 - 64	Over 65	Some High School	High School Graduate	Some College	College Graduate	0 - 1	1 - 5	6 - 10	11 - 15	16 - 20	Over 20	0 - 1	1 - 3	4 - 7	8 - 10	Over 10	
Plant Managers																							
23	0	0	5	8	7	1	2	1	8	9	5	0	4	4	6	2	7	0	9	7	2	5	
%	100	0	22	35	30	4.3	8.7	4.3	35	38.7	22	0	17.6	17.6	26	8.7	30.1	0	39.1	30	8.7	22	
Most Effective Supervisor																							
21	2	1	8	9	4	0	1	2	12	8	1	0	5	4	10	1	3	3	8	7	1	4	
%	91.3	8.7	4.3	35	38.7	17.6	0	4.3	8.7	52	35	4.3	0	22	17.5	43.4	4.3	13	13	35	30	4.3	17.1
Least Effective Supervisor																							
22	1	1	7	8	5	2	0	6	9	7	1	0	4	7	4	3	5	5	8	6	1	3	
%	95.7	4.3	4	30	35	22	8.7	0	26.1	38.7	30.1	4.3	0	17.5	30.1	17.5	13	22	22	35	26.1	4.3	13

for each of the two supervisory groups. It was significant to note that the least effective supervisors as a group had the least amount of formal education. Six or 26.1 per cent of the least effective supervisors did not complete high school, while only one plant manager and two most effective supervisors were not high school graduates. This lack of formal education on the part of the least effective group could have had some bearing on their being designated as least effective supervisors, although this cannot be ascertained from the data in this study.

Plant managers as a group tended to be the most experienced in their present company and their current position. Fifteen or 65 per cent of the plant managers had been with their present company eleven years or longer, compared to 60 per cent of the most effective supervisors and 52 per cent of the least effective supervisors who had been with their present firm eleven years or longer. In years in present position, the plant managers had more experience than did the two groups of supervisors. The least effective supervisors had slightly less experience than did the most effective supervisors. Fifty-seven per cent of the least effective supervisors had three years or less of experience in their present position while 48 per cent of the most effective supervisors had three years or less of experience in their present positions.

ATTITUDINAL COMPARISONS BETWEEN PLANT MANAGERS AND SUPERVISORS

In addition to the above characteristics of the participating groups, the biographical classification form included three questions relating to the respondents' self-perceived attitudes toward work, ability to organize and aggressiveness. Each plant manager and supervisor was

asked to indicate one of five possible responses which most closely described his attitude on each of three questions. The attitudes of all three groups will be compared simultaneously.

Table VII illustrates a comparison of the attitudes toward work by the plant managers, most effective supervisors, and least effective supervisors. The three groups were asked to respond to the question presented in Table VII.

TABLE VII
DISTRIBUTION OF RESPONSES ON COMPARISON OF
ATTITUDES TOWARD WORK

Compared to others in your career, do you feel
that you have worked:

	Plant Manager	Most Effective Supervisor	Least Effective Supervisor
much harder than others	0	1	1
somewhat harder than others	14	17	9
about as hard as others	9	5	11
somewhat less hard than others	0	0	2
much less hard than others	0	0	0
TOTALS	23	23	23

Table VII indicates that the majority of plant managers and the most effective supervisors perceived themselves as working harder than average, while almost fifty per cent of the least effective supervisors perceived themselves as working about as hard as others. Over 75 per cent of the most effective supervisors perceived themselves as working harder than others, while 61 per cent of the plant managers and 44 per cent of the least effective supervisors perceived themselves as working harder than others. It was significant to note the differences in the perceptions

regarding work. The fact that eighteen of the most effective supervisors perceived themselves as working harder than others while only ten least effective supervisors responded similarly may suggest that most effective supervisors as a group do work harder than least effective supervisors.

Table VIII presents a comparison of the self-perceptions of the plant managers, most effective supervisors and least effective supervisors regarding their organizing ability.

TABLE VIII
DISTRIBUTION OF RESPONSES ON COMPARISON OF
ABILITY TO ORGANIZE

Compared to others in your kind of position, what kind of an organizer do you consider yourself to be:

	Plant Manager	Most Effective Supervisor	Least Effective Supervisor
very superior	0	0	0
above average	11	14	6
average	11	9	16
below average	1	0	1
poor	0	0	0
TOTALS	23	23	23

The distribution of responses on self-perceived organizing ability indicates the same trend as was noted in the above discussion relating to the attitudes toward work. Both the plant managers and the most effective supervisors perceived themselves as relatively better organizers than did the least effective supervisors. The most effective supervisors had a higher self-perception of their organizing ability than either the plant managers or the least effective supervisors. Fourteen or 61 per cent of the most effective supervisors perceived themselves as above average on

organizing ability, while 48 per cent of the plant managers and only 26 per cent of the least effective supervisors perceived themselves as being above average in organizing ability. If organizing ability is one criteria for effective performance of first-line supervisors, then the most effective supervisors would seem to possess a decided advantage over the least effective supervisors assuming that each group's self-perceptions are relatively accurate descriptions. If most effective supervisors are in reality better organizers, this fact may be one partial explanation of why they were chosen as most effective.

Table IX summarizes the self-perceptions of the plant managers, most effective supervisors and least effective supervisors regarding aggressiveness.

TABLE IX
DISTRIBUTION OF RESPONSES ON COMPARISON OF AGGRESSIVENESS

Compared to others in your career or other persons that you have known, do you consider yourself to be:			
	Plant Manager	Most Effective Supervisor	Least Effective Supervisor
highly aggressive	1	2	2
moderately aggressive	16	10	6
about average in aggressiveness	5	9	14
somewhat below average in aggressiveness	1	2	1
much below average in aggressiveness	0	0	0
TOTALS	23	23	23

From the above table, it is evident that as a group the plant managers perceived themselves to be moderately aggressive. Like the comparisons of attitudes and self-perceptions discussed earlier, both the plant managers

and the most effective supervisors perceived themselves to be more aggressive than did the least effective supervisors. Seventeen or 74 per cent of the plant managers perceived themselves to be above average in aggressiveness, as compared to 52 per cent of the most effective supervisors and 39 per cent of the least effective supervisors. It would seem important also to note the comparison between the self-perceptions of the most and least effective supervisors on aggressiveness. The most effective supervisors as a group perceived themselves as more aggressive than the least effective supervisors perceived themselves. Self-perceived aggressiveness would likely be an important requisite for success as a leader.

In summary, the plant managers and each participating supervisor were asked to indicate one of five possible responses to questions relating to work, organizing ability and aggressiveness. On each of the questions, the distributions of responses indicate that plant managers and most effective supervisors consistently perceived themselves higher than did the least effective supervisors. The distribution of responses does seem to suggest that the most effective supervisors and the plant managers have more positive perceptions regarding work, their ability to organize and their aggressiveness. These self-perceptions would seem to at least partially demonstrate the differentiation in the two groups of supervisors designated as most and least effective.

The self-perceptions are significant only to the extent that they are relatively accurate for each of the three groups or that a similar degree of distortion existed for each group.

ANALYSIS OF THE RESPONSES TO THE LEADERSHIP RATING QUESTIONNAIRE

The preceding discussion relating to the characteristics and attitudes of plant managers and the most and least effective supervisors provides an appropriate background for the analysis of the responses to the leadership rating questionnaire. The following section of Chapter Four is designed to provide answers to the basic research questions which were presented in the summary of Chapter Two. Thus, the discussion to follow will be primarily concerned with an analysis of the leadership behavior of the first-line supervisors as perceived by plant managers, subordinates and the supervisors themselves. More specifically the discussion will include:

1. a comparative analysis of the self-perceptions of plant managers and their most and least effective supervisors;
2. a comparison of the plant managers' perceptions, the subordinates' perceptions and the most and least effective supervisors' self-perceptions;
3. an analysis of the perceptions of the most and least effective supervisors on the power-structure and consideration-sensitivity dimensions of leadership.

A Comparative Analysis of the Self-Perceptions of Plant Managers and Their Most and Least Effective Supervisors

The analysis of the self-perceptions of the plant managers and supervisors will include a brief comparison of the total responses on the leadership rating and a review of the self-perceptions regarding the questionnaire items relating to the power-structure and consideration-sensitivity dimensions of leadership behavior.

A comparison of the self-perceptions of the plant managers and supervisors is presented in Table X.

TABLE X
 SELF-PERCEPTIONS OF PLANT MANAGERS, MOST EFFECTIVE AND
 LEAST EFFECTIVE SUPERVISORS

Response	Plant Managers		Most Effective Supervisors		Least Effective Supervisors	
	Frequency	%	Frequency	%	Frequency	%
Almost Never	2	.45	0	0	9	2.0
Seldom	2	.45	6	1.3	8	1.8
Occasionally	45	9.8	32	7.0	42	9.1
Often	216	46.9	182	39.5	171	37.8
Almost Always	195	42.4	240	52.2	230	50.0
TOTALS	460	100.0	460	100.0	460	100.0

A review of the above table indicates that most effective supervisors as a group perceived themselves more favorably than did the plant managers or least effective supervisors. Nearly 53 per cent of the 460 responses of the most effective supervisors to the twenty leadership items were "almost always", while only 42.4 per cent of the plant managers' responses and 50 per cent of the least effective supervisors' responses were "almost always". The combined responses of "often" and "almost always" leads to the same conclusion. However, the differences between the self-perceptions of plant managers and most effective supervisors is less pronounced. These combined responses indicated that plant managers tended to perceive themselves in slightly more favorable terms than did the least effective supervisors. Tables I, II and III, Appendix H, show the distribution of self-perceptions for each item on the questionnaire for plant managers, most effective supervisors and least effective supervisors.

In order to determine the relationship between the plant managers' self-perceptions and the self-perceptions of the most and least effective

supervisors, the Goodman-Kruskal measure of Association (Γ) was calculated. Prior to computing the measures of association, the questionnaire data was cross-classified by means of 5x5 cross-classification tables. The responses on each of the twenty questionnaire items for each of the twenty-three plant managers and their respective most and least effective supervisors were then cross-classified. These procedures and an explanation of the Goodman-Kruskal measure of Association were described in detail in Chapter Three of this study.

As indicated in Table XI, there tended to be more significant associations between the self-perceptions of plant managers and most effective supervisors than there was between the self-perceptions of the plant managers and least effective supervisors. This conclusion was suggested by the fact that there were more positive and significant Γ s between the plant managers' and most effective supervisors' self-perceptions than existed between the plant managers' and the least effective supervisors' self-ratings. A positive Γ indicates some degree of association or agreement while a negative Γ indicates some degree of disassociation or disagreement. Five of the relationships between the self-perceptions of the plant managers and their most effective supervisors were significant to at least the .01 level, while four other Γ s approach significance at the .10 level. In comparison, the relationships between the self-perceptions of the plant managers and their least effective supervisors yielded only one positive association that was significant at the .05 level. Another important support was the comparison between number of positive and negative associations in the two sets of data. There were eight negative Γ s for the ratings involving the least effective compared to only two negative

TABLE XI

COMPARISON OF GAMMAS AND Z VALUES FOR RATINGS 1-4 AND 1-5

Item No.	1-4		1-5	
	Gamma	Z Values	Gamma	Z Values
1	.5775 a	1.9360	.0857	.2188
2	.2121	.6509	-.3750	-1.1760
3	.4915	1.3863	.3424	.9894
4	.6923 **	2.6713	-.1666	-.3440
5	.8909 **	10.8405	.2692	.6993
6	.7759 **	4.6213	-.4684	-1.6050
7	.7799 **	3.9779	.0244	.0720
8	.8349 **	6.3249	-.4130	-1.3535
9	.1724	.4296	.1429	.4373
10	.5077 a	1.6920	-.1935	-.5443
11	.1466	.3546	-.3333	-.9234
12	.2564	.7596	-.6104 *	-2.2953
13	.2245	.9154	.3784 a	1.7589
14	.4458 a	1.6453	-.3458	-1.2481
15	.0000	.0000	.4468 a	1.8065
16	.2903	1.0248	.4000	1.4518
17	-.0857	-.2746	.5000 *	2.3422
18	.5056 a	1.8354	.1852	.5682
19	.3069	1.1981	.0099	.0357
20	-.4717	-1.3105	.2571	.7792

a = approaches significance at the .10 level or better

* = significant to at least the .05 level

** = significant to at least the .01 level

gammas between the self-perceptions of the plant managers and their most effective supervisors. The eight negative gammas for set 1-5 compared to two negative gammas for set 1-4 indicated that there tended to be greater correlation between the plant managers' and most effective supervisors' self-ratings than between the plant managers' and least effective supervisors' self-ratings.

This finding would seem to suggest that the most effective supervisors perceived the criteria for effective leadership in a highly similar manner to their superior. Thus, perhaps there was greater emulation of the plant manager by the most effective supervisor than by the least effective supervisor. Additionally, this finding may be one factor that influenced the designation of the most and least effective supervisors.

The self-perceptions of the plant managers and the supervisors may have more meaning if they were analyzed in terms of two basic dimensions of leadership behavior--power-structure and consideration-sensitivity.

Self-Perceptions of Plant Managers and Supervisors on the Power-Structure and Consideration-Sensitivity Items

The power-structure dimension of leadership was represented by nine items on the leadership questionnaire. This dimension of leadership includes the use of position to influence a high level of performance through initiating group structure, stressing the compliance with procedures, and exercising control over the work group and the situation. The consideration sensitivity dimension was represented by eight of the twenty items on the leadership rating questionnaire. Consideration-sensitivity includes, among other things, giving praise, encouraging suggestions, being patient with others, and displaying confidence in others.

The self-perceptions of the plant managers and their most and least effective supervisors on the power-structure dimension of leadership are summarized in Table XII. The table depicts the absolute responses and relative ranks for each of the nine power-structure items. In terms of percentage distribution of "often" and "almost always" responses, the plant managers and the most effective supervisors tended to perceive themselves in slightly more favorable terms than was indicated by the percentage distribution of the self-perceptions of the least effective supervisors. A review of the relative ranks* (Tables XIII and XIV) leads to the conclusion that the plant managers perceived themselves as being more oriented toward the power-structure dimension of leadership than either the most or least effective supervisors. The ranks indicate that there was little difference in the self-perceptions of the most and least effective supervisors on the power-structure items.

Table XV presents a summary of the self-perceptions of the plant managers and supervisors on the consideration-sensitivity items. On these items the most effective and least effective supervisors tended to perceive themselves more favorably than did the plant managers. Fifty-five per cent of the responses by least effective supervisors, 53.6 per cent of the most effective supervisors' responses and 38.7 per cent of the plant managers' responses were "almost always" to the eight consideration-sensitivity items. When the responses "often" and "almost always" are combined, the most effective supervisors perceived themselves as more oriented toward

*The relative ranks assigned to each item were based upon the responses to each of the twenty items on the questionnaire. The more favorable the response to a particular item, relative to all other items, the higher the rank.

TABLE XII

SELF-PERCEPTIONS OF PLANT MANAGERS AND THEIR MOST AND LEAST
EFFECTIVE SUPERVISORS ON THE POWER-STRUCTURE ITEMS

Frequency of choice among five possible responses on questionnaire

Item	Plant Managers	Most Effective Supervisors	Least Effective Supervisors
1 <u>Self-confidence</u> Distribution Rank(among 20)	0-0-0-11-12 4	0-0-0-10-13 7	0-0-2-7-14 5
3 <u>High Performance Expectations</u> Distribution Rank(among 20)	0-0-0-9-14 2	0-0-0-7-16 2	0-0-2-8-13 8
4 <u>Explains Job</u> Distribution Rank(among 20)	0-0-0-9-14 2	0-0-0-7-16 2	0-0-0-6-17 1
5 <u>Exercises Tight Control</u> Distribution Rank(among 20)	0-0-1-14-8 15	0-1-2-9-11 14	0-0-1-14-8 17
6 <u>Checks Group Progress</u> Distribution Rank(among 20)	0-0-2-10-11 5	0-0-3-7-13 7	0-0-1-8-14 5
7 <u>Persuasive</u> Distribution Rank(among 20)	0-0-1-12-10 8	0-2-2-15-4 20	0-0-4-10-9 14
11 <u>Works Group Toward Goal</u> Distribution Rank(among 20)	0-0-1-13-9 11	0-0-1-10-12 11	0-0-1-12-10 12
13 <u>Makes Group Compete</u> Distribution Rank(among 20)	2-1-6-12-2 20	0-1-3-11-8 17	4-4-3-8-4 20
15 <u>Stresses Compliance With Procedures</u> Distribution Rank(among 20)	0-0-2-12-9 11	0-1-1-11-10 15	0-2-3-11-7 19
TOTALS (Distribution)	2-1-13-102-89	0-5-12-87-103	4-6-17-84-96
PERCENTAGES	1-.5-6.3-49.2-43	0-2.5-5-42-50	2-3-8.2-40.8-46

TABLE XIII

COMPARISON OF THE RANKS OF THE SELF-PERCEPTIONS OF PLANT MANAGERS
AND THEIR MOST AND LEAST EFFECTIVE SUPERVISORS ON
THE POWER-STRUCTURE ITEMS

Ranks among 20 items on the leadership rating questionnaire

Item	Plant Managers	Most Effective Supervisors	Least Effective Supervisors
1 <u>Self-confidence</u>	4	7	5
3 <u>High Performance Expectations</u>	2	2	8
4 <u>Explains Job</u>	2	2	1
5 <u>Exercises Tight Control</u>	15	14	17
6 <u>Checks Group Progress</u>	5	7	5
7 <u>Persuasive</u>	8	20	14
11 <u>Works Group Toward Goal</u>	11	11	12
13 <u>Makes Group Compete</u>	20	17	20
15 <u>Stresses Compliance With Procedures</u>	11	15	19

TABLE XIV

ORDERED RANKINGS FOR THE SELF-PERCEPTIONS OF PLANT MANAGERS
AND THEIR MOST AND LEAST EFFECTIVE SUPERVISORS ON
THE POWER-STRUCTURE ITEMS

Plant Managers	Most Effective Supervisors	Least Effective Supervisors
2	2	1
2	2	5
4	7	5
5	7	8
8	11	12
11	14	14
11	15	17
15	17	19
20	20	20

TABLE XV

SELF-PERCEPTIONS OF PLANT MANAGERS AND THEIR MOST AND LEAST EFFECTIVE SUPERVISORS ON THE CONSIDERATION-SENSITIVITY ITEMS

Frequency of choice among five possible responses on questionnaire

Item	Plant Managers	Most Effective Supervisors	Least Effective Supervisors
2 <u>Helps you know your group</u>			
Distribution	0-0-4-10-9	0-1-0-9-13	0-0-3-4-16
Rank(among 20)	11	7	2
8 <u>Motivates</u>			
Distribution	0-0-1-13-9	0-0-1-11-11	0-0-4-10-9
Rank(among 20)	11	11	14
9 <u>Has confidence in workers</u>			
Distribution	0-0-2-11-10	0-0-2-6-15	0-0-2-6-15
Rank(among 20)	8	5	4
14 <u>Encourages Suggestions</u>			
Distribution	0-0-2-11-10	0-0-1-9-13	1-0-4-8-10
Rank(among 20)	8	7	12
16 <u>Prevents Misunderstandings</u>			
Distribution	0-0-2-14-7	0-0-4-9-10	0-1-4-9-13
Rank(among 20)	18	15	8
18 <u>Patient while Training</u>			
Distribution	0-0-4-9-11	0-0-0-11-12	0-0-1-8-14
Rank(among 20)	5	12	5
19 <u>Praises</u>			
Distribution	0-1-5-9-8	0-0-3-14-6	0-0-3-12-8
Rank(among 20)	15	19	17
20 <u>Non-punitive</u>			
Distribution	0-0-2-13-8	0-0-1-4-18	0-0-2-5-16
Rank(among 20)	15	1	2
TOTALS (Distribution)	0-1-22-90-72	0-1-12-73-98	1-1-23-62-101
PERCENTAGES	0-.5-12-48.8-38.7	0-.5-6.5-39.4-53.6	.5-.5-12.6-33.6-55

consideration-sensitivity than either the plant managers or the least effective supervisors. However, Tables XVI and XVII depicting the relative ranks indicate that the least effective supervisors perceived themselves more favorably on the consideration-sensitivity items than did either the plant managers or the most effective supervisors.

A comparison of the self-perceptions of the plant managers and their most and least effective supervisors on both dimensions of leadership was facilitated by the measures of association. A review of Tables XVIII and XIX indicate that there was a more significant association between the self-ratings of plant managers and their most effective supervisors on both power-structure and consideration-sensitivity than there was between the plant managers and least effective supervisors' self-ratings.

Tables XX and XXI present a summary comparison of the self-perceptions of plant managers and the most and least effective supervisors. In reference to the two dimensions of leadership behavior, several conclusions seem warranted. First, the plant managers perceived themselves as being more oriented toward the power-structure dimension than toward consideration-sensitivity. Second, the plant managers perceived themselves as more oriented toward power-structure and less oriented toward consideration-sensitivity than either the most or least effective supervisors. Third, the least effective supervisors perceived themselves as more oriented toward consideration and less oriented toward the power-structure dimension than the plant managers and most effective supervisors. Finally, the most effective supervisors were slightly more oriented toward consideration-sensitivity than power-structure, but there was much less difference among their mean rankings than was the case for either the plant managers or the

TABLE XVI

COMPARISON OF THE RANKS OF THE SELF-PERCEPTIONS OF PLANT MANAGERS
AND THEIR MOST AND LEAST EFFECTIVE SUPERVISORS ON
THE CONSIDERATION-SENSITIVITY ITEMS

Ranks among 20 items on the leadership rating questionnaire

Item	Plant Managers	Most Effective Supervisors	Least Effective Supervisors
2 Helps you know your group	11	7	2
8 Motivates	11	11	14
9 Has confidence in workers	8	5	4
14 Encourages suggestions	8	7	12
16 Prevents misunderstandings	18	15	8
18 Patient while training	5	12	5
19 Praises	15	19	17
20 Non-punitive	15	1	2

TABLE XVII

ORDERED RANKINGS FOR THE SELF-PERCEPTIONS OF PLANT MANAGERS
AND THEIR MOST AND LEAST EFFECTIVE SUPERVISORS ON
THE CONSIDERATION-SENSITIVITY ITEMS

Plant Managers	Most Effective Supervisors	Least Effective Supervisors
5	1	2
8	5	2
8	7	4
11	7	5
11	11	8
15	12	12
15	15	14
18	19	17

TABLE XVIII
COMPARISON OF GAMMAS FOR RATINGS 1-4 AND 1-5 ON THE
POWER-STRUCTURE ITEMS

Item No.	1-4	1-5
	<u>PM Rates Self:</u> <u>ME Rates Self</u>	<u>PM Rates Self:</u> <u>LE Rates Self</u>
	Gamma	Gamma
1	.5775 ^a	.0857
3	.4915	.3424
4	.6923**	-.1666
5	.8909**	.2692
6	.7759**	-.4684
7	.7799**	.0244
11	.1466	-.3333
13	.2245	.3784
15	.0000	.4468

^aApproaches significance at the .10 level or better

**Significant to at least the .01 level

TABLE XIX
COMPARISON OF GAMMAS FOR RATINGS 1-4 AND 1-5 ON THE
CONSIDERATION-SENSITIVITY ITEMS

Item No.	1-4	1-5
	<u>PM Rates Self:</u> <u>ME Rates Self</u>	<u>PM Rates Self:</u> <u>LE Rates Self</u>
	Gamma	Gamma
2	.2121	-.3750
8	.8349**	-.4130
9	.1724	.1429
14	.4458 ^a	-.3458
16	.2903	.4000
18	.5050 ^a	.1852
19	.3069	.0099
20	-.4717	.2571

^aApproaches significance at the .10 level or better

**Significant to at least the .01 level

TABLE XX

COMPARISON OF TOTAL RESPONSES ON THE POWER-STRUCTURE
AND CONSIDERATION-SENSITIVITY ITEMS

Response	Plant Managers		Most Effective Supervisors		Least Effective Supervisors	
	P-S	C-S	P-S	C-S	P-S	C-S
Almost Never	1	0	0	0	2	.5
Seldom	.5	.5	2	.5	3	.5
Occasionally	6.3	12	5.9	6.5	8.2	12
Often	49.2	48.8	42.1	39.4	40.6	32.6
Almost Always	43	38.7	50	53.6	46.2	54.9

TABLE XXI

COMPARISON OF ORDERED RANKINGS ON THE POWER-STRUCTURE
AND CONSIDERATION-SENSITIVITY ITEMS

	Plant Managers		Most Effective Supervisors		Least Effective Supervisors	
	P-S	C-S	P-S	C-S	P-S	C-S
	2	5	2	1	1	2
	2	8	2	5	5	2
	4	8	7	7	5	4
	5	11	7	7	8	5
	8	11	11	11	12	8
	11	15	14	12	14	12
	11	18	15	15	17	14
	15		17	19	19	17
	20		20		20	
$\Sigma =$	78	91	95	77	101	64
$\bar{X} =$	8.7	11.4	10.6	9.6	11.2	8.0

least effective supervisors. This point might suggest that the most effective supervisors tend to perceive their role in a more balanced perspective with equally strong emphasis on both dimensions of leadership.

Comparison of the Perceptions of the Plant Managers, the Subordinates, and the Most and Least Effective Supervisors

This section of Chapter Four is primarily concerned with the presentation of an analysis of the leadership behavior of the most and least effective supervisors as determined by self, superior and subordinate perceptions. More specifically, this analysis is directed toward research questions two, four, five and six. The analysis will include a discussion of the inter-relationships between the plant managers' perceptions, the subordinates' perceptions and supervisors' self-perceptions on all items on the leadership rating questionnaire as well as on the power-structure and consideration-sensitivity items.

Plant managers' perceptions of the most and least effective supervisors. As was anticipated, plant managers rated their most effective supervisors significantly different than the least effective supervisors on all items on the questionnaire. The plant managers' perceptions of the most and least effective supervisors on each of the twenty leadership items are presented in Tables IV and V, Appendix H. A review of these tables indicates that the plant managers rarely rated the least effective supervisors as "almost always" on any item. On all twenty LRQ items, the plant managers selected the responses "often" and "almost always" 84 per cent of the time when describing the most effective supervisor. On the other hand, the responses "often" and "almost always" comprised only 28 per cent of the plant managers' ratings of the least effective supervisor. The significant

differences in the plant manager's rating of the most and least effective supervisors is illustrated by Table XXII and the resulting chi square value. The chi square of 322.2 indicated that the plant managers' ratings of the most and least effective supervisors were significantly different at the .001 level.

TABLE XXII
PLANT MANAGERS' PERCEPTIONS OF THE MOST AND LEAST
EFFECTIVE SUPERVISORS

Item Response	Most Effective Supervisors		Least Effective Supervisors		Total Responses
	Frequency	%	Frequency	%	
Almost Never	0	0	23	5	23
Seldom	3	.7	99	21.5	102
Occasionally	71	15.4	209	45.4	280
Often	246	53.5	107	23.2	353
Almost Always	140	30.4	22	4.9	162
Totals	460	100.0	460	100.0	920

$$\chi^2 = 322.2^*$$

*significant at the .001 level

The basic differences between the plant managers' perceptions of the most effective supervisors and least effective supervisors is suggested by the data presented in Table XXIII. As indicated in the table, there were twelve negative gammas pinpointing a basic disagreement in the perceptions of the most and least effective supervisors.

A review of the gammas for the questionnaire items reveal that there was a considerable amount of disagreement between how the plant managers rated the most and least effective. This fact along with the data presented

TABLE XXIII
 GAMMAS AND Z VALUES FOR RATING 2-3

Item No.	PM Rates ME: PM Rates LE	
	Gamma	Z Values
1	-.4188 a	-1.7013
2	-.5536 **	-3.0137
3	-.4206 a	-1.7849
4	-.1940	-.8253
5	-.0208	-.0668
6	.2444	.8451
7	.2784	.9740
8	-.2553	-.8737
9	.0968	-.3784
10	-.0666	-.2447
11	-.3704	-1.4500
12	.2250	.6576
13	.0962	.3780
14	.1520	.5719
15	-.1296	-.5126
16	.1356	.5513
17	-.0244	-.0966
18	-.0555	-.1879
19	-.1935	-.7514
20	.1219	.4538

a = approaches significance at the .10 level or better

** = significant to at least the .01 level

in Table XXII leads to the expected conclusion that plant managers perceive most and least effective supervisors in significantly different manners. The relationship between the plant managers' perceptions and the self-perceptions of the most and least effective supervisors will be presented in the following paragraphs.

Plant managers' perceptions and the self-perceptions of the most and least effective supervisors. Tables XXIV and XXV reveal that there tends to be a significant difference between the plant managers' perceptions and the self-perceptions of the most and least effective supervisors. As indicated by the tables, there tends to be relatively less disagreement between the plant managers' perceptions and the self-perceptions of the most effective supervisors than between the plant managers' perceptions and the self-perceptions of the least effective supervisors.

The above conclusion is also supported by the data presented in Table XXVI. Table XXVI, rating 2-4, shows the degree of association or correlation between the plant managers' perceptions and the self-perceptions of the most effective supervisors on each of the twenty leadership questionnaire items. Ratings 3-5 in Table XXVI list the gammas between the plant managers' ratings and the self-ratings of the least effective supervisors. There was considerably more positive association between the perceptions concerning the most effective supervisors than there was for the least effective supervisors. Thirteen of the twenty gammas illustrating the relationship between the plant managers' perceptions and the self-perceptions of the least effective supervisors were negative. Thus, on thirteen items there was some degree of disassociation. On the other hand, only three items show small negative relationships between the plant managers' perceptions and the self-

TABLE XXIV

PLANT MANAGERS' PERCEPTIONS AND THE SELF-PERCEPTIONS
OF THE MOST EFFECTIVE SUPERVISORS

Item Response	Plant Managers' Perception of Most Effective		Self-Perception of Most Effective		Total Responses
	Frequency	%	Frequency	%	
Almost Never	0	0	0	0	0
Seldom	3	.7	6	1.3	9
Occasionally	71	15.4	32	7.0	113 ^a
Often	246	53.5	182	39.5	428
Almost Always	140	30.4	240	52.2	380
Totals	460	100.0	460	100.0	920

$$\chi^2 = 47.42^*$$

^aCombined responses

*Significant at the .001 level

TABLE XXV

PLANT MANAGERS' PERCEPTIONS AND THE SELF-PERCEPTIONS
OF THE LEAST EFFECTIVE SUPERVISORS

Item Response	Plant Managers' Perception of Least Effective		Self-Perception of Least Effective		Total Responses
	Frequency	%	Frequency	%	
Almost Never	23	5	9	2	32
Seldom	99	21.5	8	1.8	107
Occasionally	209	45.4	42	9.1	251
Often	107	23.3	173	37.6	280
Almost Always	22	4.8	228	49.5	250
Totals	460	100.0	460	100.0	920

$$\chi^2 = 382.54$$

*Significant at the .001 level

TABLE XXVI

COMPARISON OF GAMMAS AND Z VALUES FOR RATINGS 2-4 AND 3-5

Item No.	2-4		3-5	
	Gamma	Z Values	Gamma	Z Values
1	-.1842	-.4992	-.2553	-.8228
2	.1053	.2883	-.1307	-.5693
3	.0000	.0000	-.6349 *	-2.2163
4	.3443	.9442	-.3647	-1.2420
5	.0291	.0966	-.1800	-.5943
6	.1304	.3673	-.0416	-.1293
7	.0000	.0000	-.0090	-.0350
8	.2820	.9181	.2126	.7999
9	.2000	.5095	-.3265	-1.2616
10	.3247	.9261	-.2688	-.7943
11	-.1034	-.2999	-.2525	-.7970
12	.5409 a	1.7460	-.1875	-.5445
13	.2195	.7058	.3072	1.5702
14	.6629 **	2.8457	.2500	.8131
15	.0638	.2422	.2100	.7050
16	.2777	.9649	.0156	.0570
17	.2000	.6671	.4757 a	1.8166
18	-.0129	-.0360	-.1765	-.4880
19	.3125	.7954	.1034	.4464
20	.1475	.3576	-.0666	-.1879

a = approaches significance at the .10 level or better

* = significant to at least the .05 level

** = significant to at least the .01 level

perceptions of the most effective supervisors. Therefore, the data presented in Tables XXIV, XXV and XXVI supports the conclusion that there tends to be more positive association between the plant managers' perceptions and the self-perceptions of the most effective supervisors than there is between the plant managers' perceptions and the self-perceptions of the least effective supervisors. This relationship would be anticipated since the least effective supervisors would tend to perceive themselves more favorably than they were perceived by the plant manager.

Subordinates' perceptions and the self-perceptions of the most and least effective supervisors. In addition to the plant managers' perceptions of the supervisors, the analysis of the subordinates' perceptions of the most and least effective supervisors revealed some interesting results. In terms of total responses on the twenty item questionnaire, the subordinates' perceptions of the most effective supervisors were strikingly similar to the self-perceptions of the most effective supervisors. Thus, the most effective supervisors, as a group, tended to perceive themselves significantly similar to the way their subordinates perceived them. Table XXVII presents the distribution of the responses reflecting the subordinates' perceptions and the self-perceptions of the most effective supervisors.

The chi square of .0114 indicates that there was no significant difference between the subordinates' perceptions and the self-perceptions of the most effective supervisors.

The subordinates' perceptions of the least effective supervisors were significantly different from the self-perceptions of the least effective supervisors. This relationship is illustrated by Table XXVIII.

TABLE XXVII

SUBORDINATES' PERCEPTIONS AND SELF-PERCEPTIONS OF THE MOST EFFECTIVE SUPERVISORS

Item Response	Self-Perception of Most Effective Supervisors		Subordinate Perception of Most Effective Supervisors		Total Responses
	Frequency	%	Frequency	%	
Almost Never	0	0	0	0	0
Seldom	6	1.3	6	1.3	12
Occasionally	32	7.0	35	7.7	67 ^a
Often	182	39.5	181	39.3	363
Almost Always	240	52.2	238	51.7	478
Totals	460	100.0	460	100.0	920

$$\chi^2 = .0114^*$$

^aitem responses combined to meet the requirements of the test

*significant at the .001 level

TABLE XXVIII

SUBORDINATES' PERCEPTIONS AND SELF-PERCEPTIONS OF THE LEAST EFFECTIVE SUPERVISORS

Item Response	Self-Perception of Least Effective Supervisors		Subordinate Perception of Least Effective Supervisors		Total Responses
	Frequency	%	Frequency	%	
Almost Never	9	2	8	1.8	17
Seldom	8	1.8	31	6.8	39
Occasionally	42	9.1	80	17.3	122
Often	173	37.6	181	39.3	354
Almost Always	228	49.5	160	34.8	388
Totals	460	100.0	460	100.0	920

$$\chi^2 = 37.52^*$$

*significant at the .001 level

The chi square of 37.52 indicates that there was a significant difference between the subordinates' perceptions and the self-perceptions of the least effective supervisors. Thus, the least effective supervisors were less able to perceive themselves as they were perceived by their subordinates than were the most effective supervisors.

The data presented in Table XXIX also supports the above conclusion. While the total responses regarding the subordinates' perceptions and the self-perceptions of the most effective supervisors were almost identical, (See Table XXVII) an analysis of each separate item revealed some differences. In other words, for all individual items the degree of correlation between the subordinates' perceptions and the self-perceptions of the most effective supervisors was not significant. However, a review of Table XXIX does show that there tends to be a closer, more positive relationship between the subordinates' perceptions and the self-perceptions of the most effective supervisors than between the subordinates and the least effective supervisors. On seven items, as indicated by negative gammas, the least effective supervisors' self-rating is in some degree of disagreement with the subordinates' perception of the least effective. In general, the gammas depict a more significantly positive relationship between the self and subordinate ratings of the most effective than between the self and subordinate ratings of the least effective supervisors.

The significant amount of agreement between the subordinates' perceptions and self-perceptions of the most effective may offer one very plausible explanation for effective supervision. It seems logical that the best supervisors are likely to possess the most realistic perception of themselves. In this study, there was little distortion between the most effective supervisors' self-perception (self-concept) and the way most

TABLE XXIX

COMPARISON OF GAMMAS AND Z VALUES FOR RATINGS 4-6 AND 5-7

Item No.	4-6		5-7	
	Gamma	Z Values	Gamma	Z Values
1	.2632	.6180	.0500	.1440
2	.3750	1.1572	.1200	.3140
3	.5758 a	1.8135	.0811	.2212
4	.6923 *	2.5292	-.1000	-.2599
5	.0465	.1320	-.2903	-.9575
6	-.3333	-1.0471	-.6000 *	-2.4015
7	-.1304	-.2866	.3400	1.2604
8	.7895 **	4.2466	.1754	.7376
9	.1613	.3651	-.0425	-.1523
10	.1154	.3400	.0303	.0992
11	.3438	.8821	-.4805	-1.5855
12	.3261	1.0338	.2745	.9074
13	.1154	.3273	.3207 a	1.7454
14	.5506 *	2.1794	.0631	.2208
15	.0562	.1488	.1478	.4675
16	.4666	1.5512	-.2868	-1.1251
17	.2577	.8792	.4286	1.3471
18	.3750	1.0293	.3947	1.2031
19	.0588	.1896	.1698	.6326
20	.7272 **	3.8329	-.0816	-.2384

a = approaches significance at the .10 level or better

* = significant to at least the .05 level

** = significant to at least the .01 level

effective supervisors were perceived by their subordinates.

Prior to the analysis of the responses on the power-structure and consideration-sensitivity items, a comparison of the plant managers' perceptions and the subordinates' perceptions of the supervisors will be presented.

Plant managers' and subordinates' perceptions of the most and least effective supervisors. Tables XXX and XXXI indicate that the plant managers' perceptions differed significantly from the subordinates' perceptions of the most and least effective supervisors. From the distribution of responses and the chi square values shown in Tables XXX and XXXI, it was concluded that there was less significant difference between the plant managers' and subordinates' perceptions of the most effective supervisors than there was for the plant managers' and subordinates' perceptions of the least effective supervisors. The distribution of total responses shown in Table XXX indicated that there was a significant difference between the plant managers' and subordinates' ratings of the most effective supervisors. However, an analysis of the responses for individual questionnaire items yielded a somewhat different conclusion. Table XXXII facilitated an item by item comparison of the relationships between the plant managers' and subordinates' perceptions of the most and least effective supervisors. As shown in Table XXXII (rating 2-6) there were nineteen positive gammas between the plant managers' and the subordinates' ratings of the most effective supervisors. Thus, with the exception of item number three ("expects high, but attainable performance") there were positive correlations between the plant managers' and the subordinates' perceptions of the most effective supervisors. Six of the gammas for the plant managers' and subordinates' ratings of the most effective

TABLE XXX

PLANT MANAGERS' AND SUBORDINATES' PERCEPTION OF THE
MOST EFFECTIVE SUPERVISORS

Item Response	Plant Managers' Perception of Most Effective		Subordinates' Perception of Most Effective		Total Responses
	Frequency	%	Frequency	%	
Almost Never	0	0	0	0	0
Seldom	3	.7	6	1.3	9
Occasionally	71	15.4	35	7.7	106
Often	246	53.5	181	39.3	427
Almost Always	140	30.4	238	51.7	378
Totals	460	100.0	460	100.0	920

$$X^2 = 44.78*$$

^aCombined Responses

*Significant at the .001 level

TABLE XXXI

PLANT MANAGERS' AND SUBORDINATES' PERCEPTION OF THE
LEAST EFFECTIVE SUPERVISORS

Item Response	Plant Managers' Perception of Least Effective		Subordinates' Perception of Least Effective		Total Responses
	Frequency	%	Frequency	%	
Almost Never	23	5	8	1.8	31
Seldom	99	21.5	31	6.8	130
Occasionally	209	45.4	80	17.3	289
Often	107	23.3	181	39.3	288
Almost Always	22	4.8	160	34.8	182
Totals	460	100.0	460	100.0	920

$$X^2 = 207.52*$$

*Significant at the .001 level

TABLE XXXII

COMPARISON OF GAMMAS AND Z VALUES FOR RATINGS 2-6 AND 3-7

Item No.	2-6		3-5	
	Gamma	Z Values	Gamma	Z Values
1	.2258	.5912	.1154	.4029
2	.2954	.9763	.2321	.9079
3	-.0968	-.1846	.4339 a	1.7434
4	.4138	1.0949	-.3279	-1.2502
5	.5789 *	2.1686	.4759 *	2.2957
6	.7142 **	3.2327	.2800	1.1119
7	.4666 *	1.9743	.0943	.2893
8	.2692	.8165	.2366	1.0975
9	.2323	.7029	-.2283	-1.0770
10	.4545 a	1.6604	-.0645	-.2296
11	.3750	1.0780	.3469	1.2884
12	.5873 *	2.4353	-.2126	-.9610
13	.6565 **	2.9444	.6053 **	4.0601
14	.3500	1.5537	.3280	1.4234
15	.4898 a	1.8103	.1837	.5991
16	.3095	.9444	.0687	.2570
17	.3878	1.2982	.5573 *	2.5452
18	.1282	.3353	.1200	.4271
19	.3178	1.0861	.1972	.8171
20	.5000 *	1.9944	.3594	1.4850

a = approaches significance at the .10 level or better

* = significant to at least the .05 level

** = significant to at least the .01 level

supervisor were significant to at least the .05 level and two others approached significance at the .10 level. Table XXXII also indicates that there was less association between the plant managers' and subordinates' rating of the least effective supervisor than there was between the plant managers' and subordinates' rating of the most effective supervisor.

Therefore, as discussed above and according to the data presented in Tables XXIV through XXXII, there was significantly closer associations between the plant managers' perceptions, subordinates' perceptions and self-perceptions of the most effective supervisors than there was between the plant managers' perceptions, subordinates' perceptions and self-perceptions of the least effective supervisors. This finding indicated that, at least in this sample, the most effective supervisors were more able to accurately perceive themselves as others perceive them than were the least effective supervisors.

Perceptions of the Most and Least Effective Supervisors on the Power-Structure and Consideration-Sensitivity Items

While the above discussion was concerned with an analysis of the responses to all twenty items, it was equally important to analyze the plant managers' perceptions, the subordinates' perceptions and the self-perceptions of the most and least effective supervisors regarding the power-structure and consideration-sensitivity items.

Perceptions of the most effective supervisors on the power-structure items. Table XXXIII presents a comparison of the distribution of responses and relative ranks representing the plant managers' and subordinates' perception and the self-perception of the most effective supervisor on the power-structure items. In terms of absolute responses,

TABLE XXXIII

PERCEPTIONS OF THE MOST EFFECTIVE SUPERVISORS
ON THE POWER-STRUCTURE ITEMS

Frequency of choice among five possible responses on questionnaire

Item	Plant Managers' Rating of Most Effective	Most Effectives' Self Ratings	Subordinates' Rating of Most Effective
1 <u>Self-confidence</u> Distribution Rank(among 20)	0-0-2-12-9 3	0-0-0-10-13 7	0-0-0-7-16 4
3 <u>High performance expectations</u> Distribution Rank(among 20)	0-0-2-13-8 5	0-0-0-7-16 2	0-0-0-3-20 1
4 <u>Explains job</u> Distribution Rank(among 20)	0-0-2-13-8 5	0-0-0-7-16 2	0-0-1-4-18 2
5 <u>Exercises tight control</u> Distribution Rank(among 20)	0-0-3-12-8 5	0-1-2-9-11 14	0-0-1-13-9 15
6 <u>Checks group progress</u> Distribution Rank(among 20)	0-0-2-14-7 10	0-0-3-7-13 7	0-0-1-12-10 12
7 <u>Persuasive</u> Distribution Rank(among 20)	0-1-2-16-4 19	0-2-2-15-4 20	0-0-1-17-5 20
11 <u>Works group toward goal</u> Distribution Rank(among 20)	0-0-3-11-9 3	0-0-1-10-12 11	0-0-0-7-16 4
13 <u>Makes group compete</u> Distribution Rank(among 20)	0-2-2-14-5 15	0-1-3-11-8 17	0-0-4-12-7 19
15 <u>Stresses compliance with procedures</u> Distribution Rank(among 20)	0-0-6-10-7 15	0-1-1-11-10 15	0-0-1-12-10 12
TOTALS	0-3-24-115-65	0-5-12-87-103	0-0-9-87-111
PERCENTAGES	0-1.5-11.6-55.3-31.3	0-2.4-6-42.1-49.5	0-0-4.5-42.1-53.4

the most effective supervisors were perceived by their subordinates more favorably on the nine power-structure items than the supervisors perceived themselves. The plant managers perceived the most effective less favorably in the absolute than the supervisors perceived themselves or were perceived by their subordinates. The rankings, which resulted from the distribution of responses to each of the twenty LRQ items, revealed that the plant managers and subordinates perceived the most effective supervisors as more oriented toward power-structure than the supervisors perceived themselves. (See Table XXXIV.)

It was also interesting to note (Table XXXIV) that the plant managers, in terms of relative rankings, perceived the supervisors as much more oriented toward the power-structure dimension than the most effective supervisors considered themselves to be or as they were perceived by their subordinates. It has been previously concluded that there was a fairly close relationship between the subordinates' perceptions and the self-perceptions of the most effective for the total responses for all twenty items on the LRQ. This conclusion was also found to be applicable to the distribution and relative ranks on the power-structure items. In addition, it was noted that when the absolute responses of "often" and "almost always" for the plant managers and most effective supervisors were pooled, the totals were identical.

Perceptions of the most effective supervisors on consideration-sensitivity items. Table XXXV presents the comparisons of the perceptions of the most effective supervisors on the consideration-sensitivity items. In absolute responses, the most effective supervisors perceived themselves more favorably on these items than they were perceived by either their

TABLE XXXIV

ORDERED RANKINGS OF THE PERCEPTIONS OF THE MOST EFFECTIVE
SUPERVISORS ON THE POWER-STRUCTURE ITEMS

Plant Managers' Rating of Most Effective	Most Effectives' Self-Ratings	Subordinates' Ratings of Most Effective
3	2	1
3	2	2
5	7	4
5	7	4
5	11	12
10	14	12
15	15	15
15	17	19
19	20	20

TABLE XXXV

PERCEPTIONS OF THE MOST EFFECTIVE SUPERVISORS ON THE
CONSIDERATION-SENSITIVITY ITEMS

Frequency of choice among five possible responses on questionnaire

Item	Plant Managers' Rating of Most Effective	Most Effectives' Self-Ratings	Subordinates' Rating of Most Effective
2 <u>Helps you know your group</u>			
Distribution	0-0-2-10-11	0-1-0-9-13	0-0-2-8-13
Rank(among 20)	2	7	7
8 <u>Motivates</u>			
Distribution	0-0-4-11-8	0-0-1-9-13	0-0-0-13-10
Rank(among 20)	5	11	12
9 <u>Has confidence in workers</u>			
Distribution	0-0-7-8-8	0-0-2-6-15	0-2-0-8-13
Rank(among 20)	5	5	7
14 <u>Encourages Suggestions</u>			
Distribution	0-0-6-10-7	0-0-1-9-13	0-0-8-7-8
Rank(among 20)	10	7	17
16 <u>Prevents Misunderstandings</u>			
Distribution	0-0-5-12-6	0-0-4-9-10	0-0-0-12-11
Rank(among 20)	13	15	11
18 <u>Patient while training</u>			
Distribution	0-0-4-13-6	0-0-0-11-12	0-0-2-4-17
Rank(among 20)	13	12	3
19 <u>Praises</u>			
Distribution	0-0-4-17-2	0-0-3-14-6	0-2-6-6-9
Rank(among 20)	20	19	15
20 <u>Non-punitive</u>			
Distribution	0-0-8-10-5	0-0-1-4-18	0-0-2-7-14
Rank(among 20)	15	1	6
TOTALS (Distribution)	0-0-39-92-53	0-1-12-71-100	0-4-20-65-95
PERCENTAGES	0-0-21.2-50-28.8	0-.5-6.5-38.6-54.4	0-2-10.8-35.2-52

superiors or subordinates. The plant managers rated the supervisors lower on consideration than the supervisors were rated by the subordinates. The relative rankings shown in Table XXXVI also supported this finding. As was the case for the power-structure items, there tended to be general agreement between the subordinates' perceptions and the self-perceptions of the most effective supervisors on the consideration-sensitivity items.

In absolute responses, the most effective supervisor was perceived by the plant manager and subordinates as very strong in both of the primary dimensions of leadership behavior. While the plant manager considered the most effective supervisor to be more oriented toward power-structure than consideration-sensitivity, the subordinates perceived the most effective as approximately the same on both dimensions. Tables XXXVII, XXXVIII, and XXXIX present a summary comparison regarding the plant managers' and subordinates' perceptions and the self-perceptions of the most effective supervisors on power-structure and consideration-sensitivity items.

Perceptions of the least effective supervisors on the power-structure items. The plant managers' and subordinates' perceptions and the self-perceptions of the least effective supervisors on both dimensions of leadership behavior were found to be more widely divergent than the perceptions concerning the most effective supervisors. The least effective supervisors were perceived, in terms of absolute responses, by their plant managers and subordinates as being considerably weaker leaders than the least effective considered themselves.

Table XL presents a comparison of the distribution of responses and the relative ranks representing the plant managers', self and subordinates' perception of the least effective supervisors on the power-structure items.

TABLE XXXVI

ORDERED RANKINGS OF THE PERCEPTIONS OF THE MOST EFFECTIVE
SUPERVISORS ON THE CONSIDERATION-SENSITIVITY ITEMS

Plant Managers' Rating of Most Effective	Most Effectives' Self-Rating	Subordinates' Ratings of Most Effective
2	1	3
5	5	6
5	7	7
10	7	7
13	11	11
13	12	12
15	15	15
20	19	17

TABLE XXXVII
PERCEPTIONS OF THE MOST EFFECTIVE ON THE
POWER-STRUCTURE ITEMS

Response	Plant Manager	Most Effective (Self)	Subordinates
Almost Never	0	0	0
Seldom	3	5	0
Occasionally	24	12	9
Often	115	87	87
Almost Always	65	103	111
Totals	207	207	207

TABLE XXXVIII
PERCEPTIONS OF THE MOST EFFECTIVE ON THE
CONSIDERATION-SENSITIVITY ITEMS

Response	Plant Manager	Most Effective (Self)	Subordinates
Almost Never	0	0	0
Seldom	0	1	4
Occasionally	40	12	20
Often	91	71	65
Almost Always	53	100	95
Totals	184	184	184

TABLE XXXIX

ORDERED RANKINGS FOR POWER-STRUCTURE AND CONSIDERATION-SENSITIVITY
ITEMS FOR MOST EFFECTIVE SUPERVISORS

Plant Managers' Perceptions of Most Effective		Self-Perceptions of Most Effective		Subordinates' Perceptions of Most Effective	
P-S	C-S	P-S	C-S	P-S	C-S
3	2	2	1	1	3
3	5	2	5	2	6
5	5	7	7	4	7
5	10	7	7	4	7
5	13	11	11	12	11
10	13	14	12	12	12
15	15	15	15	15	15
15	20	17	19	19	17
19		20		20	

TABLE XL

PERCEPTIONS OF THE LEAST EFFECTIVE SUPERVISORS ON THE
POWER-STRUCTURE ITEMS

Frequency of choice among five possible responses on questionnaire

Item	Plant Managers' Rating of Least Effective	Least Effectives' Self-Rating	Subordinates' Rating of Least Effective
1 <u>Self-confidence</u> Distribution Rank(among 20)	1-6-11-5-0 12	0-0-2-7-14 5	0-1-1-8-13 2
3 <u>High performance expectations</u> Distribution Rank(among 20)	0-4-9-9-1 1	0-0-2-8-13 8	0-0-2-9-12 4
4 <u>Explains job</u> Distribution Rank(among 20)	1-5-8-6-3 3	0-0-0-6-17 1	0-1-2-8-12 4
5 <u>Exercises tight control</u> Distribution Rank(among 20)	2-6-10-5-0 12	0-0-1-14-8 17	0-1-6-8-8 10
6 <u>Checks group progress</u> Distribution Rank(among 20)	1-5-9-7-1 5	0-0-1-8-14 5	0-3-2-12-6 14
7 <u>Persuasive</u> Distribution Rank(among 20)	1-4-13-2-3 12	0-0-4-10-9 14	0-2-3-14-4 15
11 <u>Works group toward goal</u> Distribution Rank(among 20)	1-3-9-10-0 1	0-0-1-12-10 12	0-0-2-7-14 1
13 <u>Makes group compete</u> Distribution Rank(among 20)	2-9-8-3-1 18	4-4-3-8-4 20	2-4-7-6-4 15
15 <u>Stresses compliance with procedures</u> Distribution Rank(among 20)	1-4-14-4-0 18	0-2-3-11-7 19	1-1-8-11-2 19
TOTALS	10-46-91-51-9	4-6-17-81-96	3-13-33-85-75
PERCENTAGES	4.8-22.2-44-24.7-4.3	2-3-8.2-40.5-46.3	1.5-5.2-16-40-36.3

In terms of absolute responses, the plant managers perceived the least effective as very weak on all nine power-structure items. This weakness is evidenced by the fact that seventy-one per cent of the plant managers' responses for the least effective for these items were "almost never", "seldom" and "occasionally". The subordinates tended to rate the least effective considerably more favorably than the plant managers rated them, but less favorably than the supervisors rated themselves. Based upon the relative rankings among all twenty leadership items, both the plant managers and subordinates perceived the least effective supervisor as slightly more oriented toward power-structure than the least effective supervisors perceived themselves. (Table XLI)

Perceptions of the least effective supervisors on the consideration-sensitivity items. On the consideration-sensitivity items, the least effective perceived themselves more favorably than they were perceived by their superior or subordinates. Table XLII indicates that, in the absolute, the plant managers perceived the least effective as very weak on all of the consideration-sensitivity items, while the subordinates rated the least effective somewhat more favorably. In comparing the perceptions of the least effective on each of the eight consideration-sensitivity items, the subordinates rated the least effective supervisor less favorably than the supervisors rated themselves. On two items, "encourages suggestions" and "gives praise", there was considerable disagreement between the subordinates' perceptions and the self-perceptions of the least effective supervisors. The relative rankings shown in Table XLIII indicate that the least effective supervisors perceived themselves as significantly more often engaging in consideration-sensitivity behavior than they were

TABLE XLI
 ORDERED RANKINGS OF THE PERCEPTIONS OF THE LEAST EFFECTIVE
 SUPERVISORS ON THE POWER-STRUCTURE ITEMS

Plant Managers' Rating of Least Effective	Least Effectives' Self-Rating	Subordinates' Ratings of Least Effective
1	1	1
1	5	2
3	5	4
5	8	4
12	12	10
12	14	14
12	17	15
18	19	15
18	20	19

TABLE XLII

PERCEPTIONS OF THE LEAST EFFECTIVE SUPERVISORS ON THE
CONSIDERATION-SENSITIVITY ITEMS

Frequency of choice among five possible responses on questionnaire

Item	Plant Managers' Rating of Least Effective	Least Effectives' Self-Rating	Subordinates' Rating of Least Effective
2 <u>Helps you know your group</u>			
Distribution	0-3-12-6-2	0-0-3-4-16	0-1-4-7-11
Rank(among 20)	5	2	6
8 <u>Motivates</u>			
Distribution	2-8-10-2-1	0-0-4-10-9	0-2-3-8-10
Rank(among 20)	20	14	7
9 <u>Has confidence in workers</u>			
Distribution	1-5-10-6-1	0-0-2-6-15	0-0-5-9-9
Rank(among 20)	9	4	9
14 <u>Encourages Suggestions</u>			
Distribution	3-4-12-4-0	1-0-4-8-10	0-3-5-12-3
Rank(among 20)	16	12	18
16 <u>Prevents Misunderstandings</u>			
Distribution	2-9-8-4-0	0-1-4-5-13	0-3-3-9-8
Rank(among 20)	16	8	10
18 <u>Patient while training</u>			
Distribution	1-3-14-5-0	0-0-1-8-14	0-0-3-7-13
Rank(among 20)	12	5	2
19 <u>Praises</u>			
Distribution	2-4-8-8-1	0-0-3-12-8	0-4-9-9-1
Rank(among 20)	3	17	20
20 <u>Non-punitive</u>			
Distribution	0-6-11-5-1	0-0-2-5-16	1-2-5-7-8
Rank(among 20)	11	2	10
TOTALS (Distribution)	11-42-85-40-5	1-1-23-58-101	1-15-37-68-63
PERCENTAGES	6-22.8-46.2-21.7-3.3	.5-.5-12.5-31.5-55	.5-8.2-20-40-31.3

TABLE XLIII

ORDERED RANKINGS OF THE PERCEPTIONS OF THE LEAST EFFECTIVE
SUPERVISORS ON THE CONSIDERATION-SENSITIVITY ITEMS

Plant Managers' Rating of Least Effective	Least Effectives' Self-Rating	Subordinates' Ratings of Least Effective
3	2	2
5	2	6
9	4	7
11	5	9
12	8	10
16	12	10
16	14	18
20	17	20

perceived by either the plant managers or subordinates.

In absolute responses, the least effective supervisors were perceived by the plant managers as being very weak on both dimensions of leadership behavior. Also, while the subordinates' perceptions of the least effective were not as unfavorable as the plant managers', the subordinates perceived the supervisors consistently less favorably than the least effective supervisors perceived themselves. Tables XLIV, XLV, and XLVI present a summary comparison of the plant managers' perceptions, the subordinates' perceptions and the self-perceptions of the least effective supervisors on the power-structure and consideration-sensitivity items. In terms of relative rankings (Table XLVI) the plant manager perceived the least effective as slightly more oriented toward power-structure than toward consideration-sensitivity. Likewise, the subordinates rated the least effective supervisors as somewhat more oriented toward the power-structure dimension, while the least effective supervisors perceived themselves as considerably more oriented toward consideration-sensitivity.

Comparisons of the Plant Managers' and Subordinates' Perceptions
and the Self-Perceptions of the Most and Least Effective Supervisors

Table XLVII shows a comparison of the distribution of responses reflecting the plant managers' and subordinates' perceptions and the self-perceptions of the most and least effective supervisors. As indicated by Table XLVII, the most effective supervisors were perceived by their superiors and subordinates very favorably on the leadership rating. Eighty-four per cent of the plant managers' responses were "often" and "almost always" when rating the most effective supervisor. On the other hand, the plant managers rated the least effective supervisors "often" and "almost always" only 28 per

TABLE XLIV
PERCEPTIONS OF THE LEAST EFFECTIVE SUPERVISORS ON
POWER-STRUCTURE ITEMS

Response	Plant Managers' Perception of Least Effective	Self-Perception of Least Effective	Subordinates' Perception of Least Effective
Almost Never	10	4	3
Seldom	46	6	13
Occasionally	91	17	33
Often	51	84	83
Almost Always	9	96	75
Totals	207	207	207

TABLE XLV
PERCEPTIONS OF THE LEAST EFFECTIVE SUPERVISORS ON
CONSIDERATION-SENSITIVITY ITEMS

Response	Plant Managers' Perception of Least Effective	Self-Perception of Least Effective	Subordinates' Perception of Least Effective
Almost Never	11	1	1
Seldom	42	1	15
Occasionally	85	23	37
Often	40	58	68
Almost Always	6	101	63
Totals	184	184	184

TABLE XLVI

ORDERED RANKINGS FOR POWER-STRUCTURE AND CONSIDERATION-SENSITIVITY
ITEMS FOR LEAST EFFECTIVE SUPERVISORS

Plant Managers' Perception of Least Effective		Self-Perception of Least Effective		Subordinates' Perception of Least Effective	
P-S	C-S	P-S	C-S	P-S	C-S
1	3	1	2	1	2
1	5	5	2	2	6
3	9	5	4	4	7
5	11	8	5	4	9
12	12	12	8	10	10
12	16	14	12	14	10
12	16	17	14	15	18
18	20	19	17	15	20
18		20		19	

TABLE XLVII

COMPARISON OF RESPONSES FOR MOST AND LEAST EFFECTIVE SUPERVISORS
ON THE LEADERSHIP RATING QUESTIONNAIRE

	Most Effective Supervisors	Least Effective Supervisors
<u>Self-Perceptions</u>		
Distribution	0-6-32-182-240	9-8-42-173-228
Percentages	0-1.3-7.1-39.6-52	2-1.9-9.1-37.4-49.6
<u>Plant Managers' Ratings</u>		
Distribution	0-3-71-246-140	23-99-209-107-22
Percentages	0-.7-15.4-53.5-30.4	5-21.4-45.4-23.2-4.9
<u>Subordinates' Ratings</u>		
Distribution	0-6-35-181-238	8-31-80-181-160
Percentages	0-1.3-7.6-39.4-51.7	1.8-6.7-17.3-39.5-34.7

cent of the time. The subordinates of the most effective perceived their supervisor more favorably than did the subordinates of the least effective supervisor. This conclusion was supported by the fact that 91 per cent of the responses of the most effective's subordinates were "often" and "almost always" compared to 74 per cent for these same responses given by the subordinates of the least effective supervisors. Also, the most effective supervisors tended to perceive themselves in slightly more favorable terms than the least effective supervisors perceived themselves.

As pointed out in a previous section of this chapter, there was considerably closer correlation between the plant managers' perceptions, subordinates' perceptions and self-perceptions of the most effective supervisors than there was between the plant managers' perceptions, subordinates' perceptions and the self-perceptions of the least effective supervisors. This conclusion was also applicable to the power-structure and consideration-sensitivity items.

Tables XLVIII and XLIX show the distribution of responses for the perceptions of the most and least effective supervisors. As indicated by the data presented in these tables, the most effective supervisor was rated more favorably on both dimensions than was the least effective supervisor. There was also much greater correlation between the perceptions by the three groups of the most effective supervisor than was the case involving the perceptions of the least effective supervisors. This conclusion was supported by the Goodman-Kruskal measures of association between the plant managers' and subordinates' perceptions and the self-perceptions of both groups of supervisors.

Table L depicts the measures of association between the plant managers' ratings and the self-ratings of the most effective supervisor as compared

TABLE XLVIII

COMPARISON OF PLANT MANAGERS' PERCEPTIONS, SUBORDINATES'
PERCEPTIONS AND SELF-PERCEPTIONS OF THE MOST AND
LEAST EFFECTIVE SUPERVISORS ON THE
POWER-STRUCTURE ITEMS

	Most Effective Supervisors	Least Effective Supervisors
<u>Self-Perceptions</u>		
Distribution	0-5-12-87-103	4-6-17-84-96
Percentages	0-2.4-5.8-42-49.8	1.9-3-8.1-40.6-46.4
<u>Plant Managers' Ratings</u>		
Distribution	0-3-24-115-65	10-46-91-51-9
Percentages	0-1.5-11.5-55.5-31.5	4.8-22.2-43.9-24.7-4.4
<u>Subordinates' Ratings</u>		
Distribution	0-0-9-87-111	3-13-33-83-75
Percentages	0-0-4.4-42-53.6	1.5-6.3-15.9-40.1-36.2

TABLE XLIX

COMPARISON OF PLANT MANAGERS' PERCEPTIONS, SUBORDINATES'
PERCEPTIONS AND SELF-PERCEPTIONS OF THE MOST AND
LEAST EFFECTIVE SUPERVISORS ON THE
CONSIDERATION-SENSITIVITY ITEMS

	Most Effective Supervisors	Least Effective Supervisors
<u>Self-Perceptions</u>		
Distribution	0-1-12-71-100	1-1-23-58-101
Percentages	0-.5-6.5-38.6-54.4	.5-.5-12.6-31.5-54.9
<u>Plant Managers' Ratings</u>		
Distribution	0-0-40-91-53	11-42-85-40-6
Percentages	0-0-21.7-49.4-28.9	6-22.8-46.2-21.6-3.4
<u>Subordinates' Ratings</u>		
Distribution	0-4-20-65-95	1-15-37-68-63
Percentages	0-2.2-10.9-35.3-51.6	.5-8.2-20.1-36.9-34.3

to the plant managers' ratings and the self-ratings of the least effective supervisors on each of the nine power-structure items.

TABLE L

MEASURES OF ASSOCIATION BETWEEN THE PLANT MANAGERS' RATINGS AND SELF-RATINGS OF THE MOST AND LEAST EFFECTIVE SUPERVISORS ON THE POWER-STRUCTURE ITEMS

Item No.	2-4	3-5
	PM Rates ME: ME Rates Self	PM Rates LE: LE Rates Self
	Gamma	Gamma
1	-.1842	-.2553
3	.0000	.6349
4	.3443	-.3646
5	.0291	-.1800
6	.1304	-.0416
7	.0000	-.0090
11	-.1034	-.2525
13	.2195	.3072
15	.0638	.2100

The above table indicates that there were more positive associations between the plant managers' rating and the self-rating of the most effective than there were between the plant managers' rating and self-rating of the least effective supervisors. This finding was supported by the fact that only two of nine gammas were negative between the plant managers' ratings and the self-ratings of the most effective while six of nine gammas were negative for the ratings concerning the least effective. There were no significant associations at the .01 or .05 level between the plant managers' perceptions and the most effective's self-ratings, but the positive gammas indicated some degree of agreement even though not highly significant.

The same conclusion as pointed out above is applicable to the comparison of the plant managers' and self-perception of the most and

least effective on the consideration-sensitivity items. (See Table LI.)

TABLE II

MEASURES OF ASSOCIATION BETWEEN THE PLANT MANAGERS' RATINGS AND SELF-RATINGS OF THE MOST AND LEAST EFFECTIVE SUPERVISORS ON THE CONSIDERATION-SENSITIVITY ITEMS

Item No.	2-4	3-5
	PM Rates ME: ME Rates Self	PM Rates LE: LE Rates Self
	Gamma	Gamma
2	.1053	-.1807
8	-.2820	.2126
9	.2000	-.3265
14	.6629*	.2500
16	.2777	.0156
18	-.0129	-.1765
19	.3125	.1034
20	.1475	-.0666

*Significant to at least .01 level

The plant managers' and subordinates' perceptions of the most effective were generally in closer agreement than the plant managers' and subordinates' perceptions of the least effective supervisors for both the power-structure and consideration-sensitivity items. These relationships are presented in Tables LII and LIII.

There was considerably more significant correlation between the superiors' and subordinates' ratings of the most and least effective supervisors than was evident between the plant managers' perceptions and self-perceptions of these two groups of supervisors.

Five of the gammas showing the relationship between superiors' and subordinates' ratings of the most effective on the power-structure items

TABLE LII

MEASURES OF ASSOCIATION BETWEEN THE PLANT MANAGERS'
AND SUBORDINATES' PERCEPTIONS OF THE MOST AND
LEAST EFFECTIVE SUPERVISORS ON THE
POWER-STRUCTURE ITEMS

Item No.	2-6	3-7
	PM Rates ME: Sub. of ME Rate ME	PM Rates LE Sub. of LE Rate LE
	Gamma	Gamma
1	.2258	.1154
3	-.0968	.4339
4	.4138	-.3279
5	.5789*	.4759*
6	.7142**	.2800
7	.4666 ^a	.0943
11	.3750	.3469
13	.6565*	.6053**
15	.4898 ^a	.1837

^aApproaches significance at the .10 level or better

*Significant at the .05 level

**Significant at the .01 level

TABLE LIII

MEASURES OF ASSOCIATION BETWEEN THE PLANT MANAGERS'
AND SUBORDINATES' PERCEPTIONS OF THE MOST AND
LEAST EFFECTIVE SUPERVISORS ON THE
CONSIDERATION-SENSITIVITY ITEMS

Item No.	2-6	3-7
	PM Rates ME: Sub. of ME Rate ME	PM Rates LE Sub. of LE Rate LE
	Gamma	Gamma
2	.2954	.2321
8	.2692	.2366
9	.2323	-.2283
14	.3500 ^a	.3280
16	.3095	.0687
18	.1282	.1200
19	.3178	.1972
20	.5000*	.3594

^aApproaches significance at the .10 level or better

*Significant to at least the .05 level

were significant to at least the .05 level and two others approached significance at the .10 level. Only two of the gammas depicting the relationship between the superiors' and subordinates' ratings of the least effective were significant. On two of the consideration-sensitivity items there was a significant relationship between the plant managers' and subordinates' perception of the most effective compared to none between the ratings of the least effective supervisors.

Finally, Tables LIV and LV present a comparison of the degree of association between the subordinates' perception and the self-perceptions of the most and least effective supervisors on the two dimensions of leadership behavior. Consistent with previous findings, there was closer agreement between the subordinates' perceptions and the self-perceptions of the most effective than there was between the subordinates' perceptions and the self-perceptions of the least effective supervisors. Another important finding emerged by comparing Tables LIV to Table LV for the most effective supervisors. The subordinates' perceptions and the self-perceptions of the most effective supervisors were in more significant agreement on the consideration-sensitivity items than on the power-structure items.

SUMMARY

Chapter Four presented an analysis and interpretation of the research findings of this study. The chapter included a discussion of the selected characteristics of participating plant managers and supervisors as well as a detailed analysis of the self, superiors' and subordinates' perceptions of the most and least effective supervisors on the leadership rating questionnaire.

TABLE LIV

MEASURES OF ASSOCIATION BETWEEN THE SUBORDINATES' PERCEPTIONS
AND THE SELF-PERCEPTIONS OF THE MOST AND LEAST EFFECTIVE
SUPERVISORS ON THE POWER-STRUCTURE ITEMS

Item No.	4-6	5-7
	ME Rates Self: Sub. of ME Rate ME	LE Rates Self: Sub. of LE Rate LE
	Gamma	Gamma
1	.2632	.0500
3	.5758 ^a	.0811
4	.6923*	-.1000
5	.0465	-.2903
6	-.3333	-.6000*
7	-.1304	.3400
11	.3438	-.4805
13	.1154	.3207 ^a
15	.0562	.1478

^aApproaches significance at the .10 level or better

*Significant at the .05 level

TABLE LV

MEASURES OF ASSOCIATION BETWEEN THE SUBORDINATES' PERCEPTIONS
AND THE SELF-PERCEPTIONS OF THE MOST AND LEAST EFFECTIVE
SUPERVISORS ON THE CONSIDERATION-SENSITIVITY ITEMS

Item No.	4-6	5-7
	ME Rates Self: Sub. of ME Rate ME	LE Rates Self: Sub. of LE Rate LE
	Gamma	Gamma
2	.3750	.1200
8	.7895**	.1754
9	.1613	-.0425
14	.5506*	.0631
16	.4666 ^a	-.2868
18	.3750	.3947
19	.0588	.1698
20	.7272**	-.0816

^aApproaches significance at the .10 level or better

*Significant to at least the .05 level

**Significant to at least the .01 level

A summary of Chapter Four is presented as follows:

A. Selected Characteristics and Attitudinal Self-Perceptions of the Participants

1. The plant managers were older, had more formal education and were more experienced than either the most or least effective supervisors.
2. The most effective supervisors were younger and possessed more formal education than the least effective supervisors.
3. The plant managers and most effective supervisors perceived themselves more favorably than did the least effective supervisors on the attitudinal self-perceptions regarding work, organizing ability, and aggressiveness.

B. Self-Perceptions of the Plant Managers and Supervisors on the LRQ

1. The plant managers and supervisors rated themselves generally very favorably on the LRQ.
2. There was closer agreement between the self-ratings of the plant managers and their most effective supervisors than there was between the self-ratings of the managers and their least effective supervisors.
3. The plant managers perceived themselves as more oriented toward power-structure and less oriented toward consideration-sensitivity than either their most or least effective supervisors perceived themselves.
4. The least effective supervisors perceived themselves as more oriented toward consideration-sensitivity than toward the power-structure dimension.
5. The most effective supervisors perceived themselves slightly more favorably on the consideration-sensitivity items, although there was a more general balance in their self-perceptions on both dimensions than was noted for the self-perceptions of the managers and the least effective supervisors.

C. Plant Managers' Perceptions, Subordinates' Perceptions and the Self-Perceptions of the Most and Least Effective Supervisors

1. As anticipated, the plant managers rated the most effective supervisors significantly more favorably than they rated the least effective supervisors.
2. There was considerably less distortion between the self-ratings and the managers' and subordinates' ratings of the most effective supervisors than was found between the three levels of perceptions of the least effective supervisors.

3. The subordinates of the most effective supervisors perceived the most effective more favorably than the subordinates of the least effective perceived the least effective supervisors. Also, there was little distortion between the self-perceptions and the subordinates' perceptions of the most effective supervisors, while there was considerable distortion between the subordinates' perceptions and the self-perceptions of the least effective supervisors.
4. Both the most and least effective supervisors were seen more favorably by their subordinates than by their plant managers. The plant managers responded "often" and "almost always" 84 per cent of the time when evaluating the most effective supervisors and only 28 per cent of the time when rating the least effective supervisor. By comparison, the subordinates of the most effective rated their supervisor "often" and "almost always" 91 per cent of the time while the subordinates of the least effective rated their supervisor in these terms 74 per cent of the time.

D. Plant Managers' Perceptions, Subordinates' Perceptions and the Self-Perceptions of the Most and Least Effective Supervisors on Power-Structure and Consideration-Sensitivity Items

1. The most effective supervisors were rated more favorably by their manager and subordinates on both power-structure and consideration-sensitivity items than were the least effective supervisors.
2. The plant managers perceived the most effective supervisor as more strongly oriented toward power-structure than toward consideration-sensitivity, while the subordinates agreed but less strongly--subordinates perceived greater balance.
3. Both the plant manager and subordinates perceived the least effective as more oriented toward power-structure than consideration-sensitivity, while the least effective perceived themselves as much more oriented toward consideration-sensitivity than power-structure. This fact again points to the considerable distortion existing between the three levels of perceptions of the least effective supervisor.
4. Finally, as noted previously in this summary, there was much closer association between the managers' ratings, the subordinates' ratings and the self-ratings of the most effective supervisors on both dimensions than were the perceptions of the least effective supervisors.

A complete presentation of the summary, findings and conclusions of this study will be presented in the following chapter.

CHAPTER V

SUMMARY, FINDINGS AND CONCLUSIONS

SUMMARY

The first-line supervisor appears to be caught in a dilemma between the differing perceptions and expectations of his behavior by management and by his subordinates. The supervisor is responsible to management for the accomplishment of the organizational goals while at the same time he must be responsive to the personal goals and needs of his subordinates. Numerous studies have noted the first-line supervisor's strategic impact on work-group performance and several writers have recommended research which would provide greater insight and understanding of the leadership behavior of supervisors as perceived from different perspectives in organizations. Thus, the objective of the present study was to provide increased understanding of the interrelationships between the differing perceptions of the leadership behavior of first-line supervisors. More specifically, this study was concerned with a description and analysis of the leadership behavior of most and least effective production supervisors. The study was based upon the perceptions of plant managers, supervisors, and subordinates in twenty-three Arkansas manufacturing plants.

The firms represented in this study were selected from the Directory of Arkansas Industries. The participating plants were small manufacturing facilities employing five or more production supervisors and between 100

and 500 production workers. The participants in each plant included the plant manager (the superior of the first-line supervisors), three first-line production supervisors and a randomly selected sample of five employees reporting to each participating supervisor.

Two research instruments were utilized to collect the data. One questionnaire was designed to obtain classification and attitudinal information from the participating plant managers and supervisors. The classification-attitudinal questionnaire was used to classify the managers and supervisors on such items as sex, age, education, experience and on several attitudinal self-perceptions concerning work, organizing ability, and aggressiveness. The primary research instrument used to collect data was a twenty-item leadership rating questionnaire (LRQ). This questionnaire consisted of items which have been found by prior research to be significant descriptions of leadership behavior. The items on the LRQ were grouped into the power-structure and consideration-sensitivity dimensions of leadership. The power-structure items on the questionnaire related to the concern for goal achievement, following rules and procedures and accomplishing production. Consideration-sensitivity items referred to the concern for the human aspects of the situation, giving praise, encouraging suggestions and being sensitive to the indicators of interpersonal behavior.

The twenty-three participating plant managers completed a classification form and LRQ on themselves. In addition, these plant managers completed an LRQ on each of their most and least effective supervisors. The participating supervisors in each plant completed a classification form and an LRQ on themselves. Finally, five employees reporting to each

supervisor completed an LRQ on their respective supervisors. The leadership rating questionnaire, as administered, thus became three-directional on the first-line supervisors--evaluation downward by plant managers, upward by subordinates and a self evaluation.

Since the data in this study did not meet the assumptions necessary for parametric statistical analysis, nonparametric statistical techniques, consisting of chi square and the Goodman-Kruskal measures of association, were utilized. Chi square was used to test the significance of differences between two sets of ratings and the Goodman-Kruskal measures of association were calculated for cross-classified relationships for each of the twenty items appearing on the LRQ. In addition, relative rankings of responses were computed.

FINDINGS

The findings presented below provided answers to the basic research questions.

1. What biographical and attitudinal factors distinguish the "most" effective from the "least" effective supervisor?

There appeared to be only minor differences in the selected characteristics of the most and least effective supervisors. In comparison with the least effective supervisors, the most effective supervisors were somewhat younger, possessed more formal education and were slightly more experienced in their present positions. On the attitudinal items relating to the supervisors' perceptions regarding work, ability to organize, and aggressiveness, an interesting pattern of responses emerged. The distribution of

responses on each of the three questions indicated that the most effective supervisors consistently perceived themselves more favorably than did the least effective supervisors. Thus, the most effective supervisors perceived themselves as working somewhat harder than others, as being good organizers and as being more aggressive than the least effective supervisors perceived themselves.

2. What type of leadership behavior distinguishes the most effective supervisor from the least effective supervisor?

The most effective supervisors were consistently perceived more favorably by the managers and subordinates on each of the primary dimensions of leadership behavior than were the least effective supervisors. The most effective supervisors were perceived as placing an equally strong emphasis on both the power-structure and consideration-sensitivity dimensions of leadership behavior. There also tended to be a much closer correlation between the perceptions of the managers and subordinates and the self-perceptions of the most effective supervisors than there was between the three-level perceptions of the least effective supervisors. In contrast, the least effective supervisors were perceived by the plant managers as being weak on both dimensions of leadership behavior. The least effective supervisor perceived themselves to be much more oriented toward consideration-sensitivity than toward power-structure. However, both the managers and subordinates perceived the least effective supervisor as considerably more oriented toward power-structure than toward consideration-sensitivity. Thus, it

appears that the most effective supervisors tended to be characterized by a strong, balanced emphasis on both dimensions of leadership behavior while the least effective supervisors were characterized by weak, unbalanced leadership behavior.

3. What is the relationship between the self-ratings of the superior of the first-line supervisor and the self-ratings of the "most" and "least" effective supervisors?

The analysis of the self-perceptions of the plant managers and supervisors indicated that all three groups rated themselves favorably on the LRQ. There was more significant agreement between the self-ratings of the plant managers and the most effective supervisors than between the plant managers' and least effective supervisors' self-ratings. In terms of power-structure and consideration-sensitivity items, the plant managers perceived themselves as more oriented toward power-structure and less oriented toward consideration-sensitivity than either their most or least effective supervisors. The least effective supervisors perceived themselves more favorably on the consideration-sensitivity items. The most effective supervisors were slightly more oriented toward consideration-sensitivity, but there was greater balance noted in their self-perceptions on both types of items than was the case for the plant managers and the least effective supervisors. This balance was in a strong orientation of about the same degree in both the power-structure and the consideration-sensitivity dimensions of leadership behavior.

4. What is the relationship between the subordinates' and superior's perception of the supervisor's leadership behavior?

There tended to be a closer relationship between the plant managers' and the subordinates' perceptions of the most effective supervisors than between the managers' and subordinates' perceptions of the least effective supervisors. The most effective supervisors were rated significantly more favorably by the plant managers than were the least effective supervisors. In addition, the subordinates of the most effective supervisors rated their supervisors more favorably than the subordinates rated the least effective supervisors. Thus, the most effective supervisors were perceived more favorably from above and below than were the least effective supervisors. While the subordinates of both the most and least effective supervisors rated their supervisors more favorably than these supervisors were perceived by the plant managers, the least effective were rated much more favorably by their subordinates than by their superior.

5. What is the relationship between the superior's perception of the first-line supervisor and the supervisor's self-perception?

There was significantly more consistent association between the plant managers' perceptions and the self-perceptions of the most effective supervisors than there was between the plant managers' perceptions and the self-perceptions of the least effective supervisors. Furthermore, there was a considerable amount of distortion between the plant managers' perceptions and the self-perceptions of the least effective supervisors on both dimensions of leadership behavior.

6. What is the relationship between the subordinates' perceptions of the supervisor's leadership behavior and the supervisor's self-perception?

There was a highly significant amount of association between the subordinates' perceptions and the self-perceptions of the most effective supervisors. In contrast, the subordinates' perceptions and the self-perceptions of the least effective supervisors were significantly different. The least effective supervisors tended to rate themselves much higher on the leadership rating questionnaire than they were rated by their subordinates. Thus, there tended to be considerably less distortion between the self-perception and subordinates' perceptions of the most effective than between the self-perception and the subordinates' perceptions of the least effective supervisors.

CONCLUSIONS

The results of this study indicate that there were significant differences in the perceived leadership behavior of most and least effective supervisors. The most effective supervisors were consistently rated more favorably by both superiors and subordinates than were the supervisors designated as least effective. One of the most significant findings of this study was that there was considerably less distortion between the plant managers' ratings, subordinates' ratings and the self-ratings of the most effective supervisors than there was between the three-level ratings of the least effective supervisors. In other words, most effective supervisors tended to perceive themselves in close agreement with how they were perceived by their superior and subordinates. This finding suggests that

accurate self-insight may be significantly related to effective leadership. It would also appear that the ratings given the most effective supervisors by the plant managers and subordinates indicate that the most effective supervisors were accomplishing the goals of both the superiors and subordinates. The similarity of perceptions regarding the most effective supervisors may be indicative of the existence of greater rapport and understanding between the plant manager, supervisor, and subordinates. The finding might also suggest that there tends to be greater cohesiveness in the most effective's supervisory group than in the least effective's group which accounts for the agreement between the subordinates' perception and self-perceptions of the most effective supervisors. Finally, it seems likely that the most effective supervisors may place greater emphasis upon getting across to their managers and subordinates what their actions, beliefs, and behavior are and what they are trying to accomplish.

It was also interesting to note that there was more consistent agreement between the self-ratings of the plant managers and the most effective supervisors than between the self-ratings of plant managers and the least effective supervisors. This finding seems to suggest that the most effective supervisors view their leadership behavior in a highly similar manner to their superior, thereby showing identification with their superior.

The perceptions of the most effective supervisors indicate an equally strong emphasis on both the power-structure and consideration-sensitivity dimensions of leadership. Thus, according to the perceptions reported in this study, the most effective leaders tend to be characterized by a balanced emphasis on getting the job done and on being responsive to

the personal needs of their subordinates. This conclusion is consistent with previous research of Fleishman and Harris¹ and Oaklander and Fleishman² that the most effective leaders are those rated high on both of the primary dimensions of leadership behavior. These and other studies have indicated that supervisors rated high on both dimensions of leadership behavior achieve the best results in terms of maximizing work group productivity and satisfaction while minimizing turnover, absenteeism and grievances. Therefore, in order to achieve the best results it would seem to be advantageous for firms to develop training programs that emphasize both of the two primary dimensions of leadership. An emphasis on one aspect of leadership behavior to the exclusion of the other would contribute to a less effective overall performance. This conclusion would seem to illustrate the situation of the least effective supervisors as they tended to perceive themselves as significantly more directed toward the consideration-sensitivity and less oriented toward power-structure. This finding offers one very plausible explanation of why the least effective supervisors were rated unfavorably by their plant managers. A balance of emphasis on the power-structure and consideration-sensitivity dimensions of leadership behavior also appeared to be more favorably received by subordinates than an over-emphasis on only one aspect

¹Edwin A. Fleishman and E. F. Harris, "Patterns of Leadership Behavior Related to Employee Grievances and Turnover", Personnel Psychology, Volume 15 (1962), pp. 43-56.

²H. Oaklander and E. A. Fleishman, "Patterns of Leadership Related to Organizational Stress in Hospital Settings", Administrative Science Quarterly, Volume 8 (1964), pp. 520-532.

of leadership. It was interesting to note that the subordinates of the most effective supervisors perceived their supervisor more favorably than the subordinates of the least effective perceived their supervisor. Apparently, the least effective supervisors perceived themselves as being highly considerate, friendly, exercising little control and having relatively low performance expectations. However, this type of behavior resulted in low ratings by the plant managers and by their subordinates. Furthermore, the least effectives' attempts at considerate behavior appear to have been stronger than those of the most effective supervisors, but the perceptions of the subordinates indicated that the least effective supervisors were relatively weak on the consideration-sensitivity dimension. While the least effective supervisors perceived themselves as less oriented toward power-structure, the managers and subordinates of the least effectives perceived them as relatively more oriented toward power-structure than consideration-sensitivity--much more so than the least effectives perceived themselves. Thus, the least effectives' use of both structure and consideration tended to differ in the eyes of their managers and subordinates. The least effective supervisor does not consciously try to be a poor leader. It is possible that he is less effective because he misunderstands the type of behavior expected of him by his superiors and subordinates. Thus, it would seem important for the supervisor to periodically compare how he is seen by others with how he sees himself. This comparison would allow him to focus upon those areas where there is considerable distortion between his self-ratings and the ratings by his superiors and subordinates. In comparison, the most effective supervisors' actions toward both power-structure and consideration-sensitivity were

perceived with little distortion by the plant managers and subordinates. The most effective was rated very favorably on both dimensions of leadership by their plant managers and their subordinates. Thus, the most effective supervisors were characterized by balanced and successful leadership behavior, while the least effective supervisors were characterized by unbalanced and less successful leadership behavior.

Previous research by Fleishman, et. al.³, Stogdill, et. al.⁴ and Besco and Lawshe⁵ suggest that there tends to be little relationship between how a first-line supervisor is perceived by his superior and by his subordinates. However, in the present study, superiors and subordinates tended to agree in their perceptions of the leadership behavior of most effective supervisors while there tended to be less agreement between the superior and subordinate perceptions of the least effective supervisors. A study by King and Clingenpeel⁶ arrived at a similar conclusion--that the agreement among the ratings of supervisors from different perspectives in the organization tends to be related to supervisory effectiveness.

³E. A. Fleishman, E. F. Harris, and H. E. Burtt, Leadership and Supervision In Industry, (Columbus, Bureau of Educational Research, The Ohio State University, 1955).

⁴R. M. Stogdill, E. L. Scott, and W. E. Jaynes, Leadership and Role Expectations, Research Monograph, no. 86, (Columbus, Bureau of Business Research, The Ohio State University, 1956).

⁵R. O. Besco and C. H. Lawshe, "Foreman Leadership as Perceived by Superiors and Subordinates", Personnel Psychology, Vol. 12, (1959), pp. 573-582.

⁶Donald C. King and Richard C. Clingenpeel, "Supervisory Effectiveness and Agreement Among Superiors, Supervisors and Subordinates Regarding the Supervisor's Job Behavior", Proceedings 76th Annual Convention of American Psychologists Association, 1968, pp. 559-560.

In order to accomplish the organizational objectives while at the same time meeting the personal goals of his employees, the first-line supervisor must attempt to understand how he is perceived by others. A supervisor periodically receives an evaluation from his superior, but since the supervisor must also be responsive to the needs of his employees, it would also be valuable to receive evaluations from his subordinates. Therefore, business firms might consider the adoption of a three-level rating system. Such a rating system would provide the supervisor with an opportunity to gain a better understanding of how his leadership performance is seen by his superior and by his subordinates compared to how he rates himself. The perceptions of the supervisor from above and below should provide the supervisor with a comprehensive picture of his total performance on getting the job done and satisfying the employee needs. A better understanding of how the supervisor is perceived from all levels could help reduce conflict situations and lead to better management practice.

The primary contribution of this study has been to provide increased insight and knowledge of the leadership behavior of first-line supervisors as perceived from three perspectives in the organization. The major portion of the study was centered upon an analysis of the interrelationships between the perceptions of plant managers, supervisors and subordinates in twenty-three manufacturing plants. This study, although limited to the first-line supervisory level, would also seem to have implications for other levels in organizations, particularly the middle management level.

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APPENDIXES

INITIAL LETTER TO PLANT MANAGER

March 15, 1970

Mr. John Jones, Plant Manager
X Y Z Manufacturing Company
P. O. Box 1000
Somewhere, Arkansas 72701

Dear Mr. Jones:

I am presently conducting a study of supervisory practices in Arkansas manufacturing plants. In order to achieve meaningful results, we need the participation of X Y Z.

The purpose of this research is to pinpoint the factors that distinguish an effective supervisor from a less effective supervisor and to suggest methods to improve the identification and training of first-line supervisors. The study is concerned with determining how "most" and "least" effective supervisors are perceived by their boss, by themselves and by a random sample of their employees.

A one-page questionnaire will be used to collect the information and the completion of this form requires only a few minutes. It would be necessary for three of your supervisors to participate in this study. Of course all replies to this survey are strictly confidential and no names will be used, nor will I know or want to know the names of the participants. Also, your company will not be identified.

Since the results of this study should be valuable to you and your company, I will provide you with a summary of the findings and conclusions. Mr. Jones, I will phone you during the next few days to arrange a convenient time when we can discuss the project in greater detail.

Your cooperation in this research would be sincerely appreciated. Thank you for your consideration and I will look forward to meeting you.

Cordially yours,

Robert E. Holmes

Rli:bh

PROSPECTUS OF STUDY

The first-line supervisor is confronted with a dual leadership responsibility. He is responsible to his boss and he must also be responsive to his employees and their needs. Both employees and management hold certain perceptions of the supervisor's leadership behavior. In this sense, most management writers who have concerned themselves with the first-line supervisor, have described him as the direct 'link' between the operating employees and the management of the company. Thus, the supervisor plays a very strategic role in seeing that the employees understand and support the goals adopted by management. In addition, he is also responsible for providing support for his workers and their personal objectives.

This study is not designed to judge whether a supervisor's behavior is good or bad, but rather, it attempts to delineate the interpersonal relationships between the supervisor and his boss and between the supervisor and his subordinates. This study is primarily concerned with the following questions:

1. How is the leadership behavior of the first-line supervisor perceived by himself, by his superior, and by his subordinates?
2. What type of leadership behavior distinguishes between a "most" effective supervisor and a "least" effective (or preferred) supervisor?
3. Do subordinates and superiors agree in their perceptions of the supervisor's leadership behavior?
4. Does the subordinate perception of the supervisor's leadership behavior agree with the supervisor's self perception?
5. Do the perceptions by the first-line supervisor's immediate superior agree with the supervisor's self perceptions?

THE COOPERATION BY YOUR FIRM IS GREATLY APPRECIATED and YOU CAN BE ASSURED THAT ALL DATA WILL BE TREATED IN ABSOLUTE CONFIDENCE. NEITHER THE COMPANIES NOR THE INDIVIDUAL PARTICIPANTS WILL BE IDENTIFIED. This is a study of perceived leadership, and is not an evaluation of the companies or the individual participants.

UNIVERSITY OF ARKANSAS
COLLEGE OF BUSINESS ADMINISTRATION
FAYETTEVILLE, ARKANSAS 72701

EXPLANATION TO SUPERVISORY PARTICIPANTS

As a Doctoral Candidate at the University of Arkansas, I am conducting a survey of supervisory practices in manufacturing companies in Arkansas. Your company is one of 20 firms participating in this research project.

The purpose of the research is to gain a better understanding of how manufacturing supervisors perform their job as they view it. Your cooperation will help advance the knowledge regarding the various methods of supervision.

There are two short questionnaires for you to complete. These questionnaires are attached and they should not require more than a few minutes of your time to complete. The Classification Data questionnaire can be completed by checking the appropriate response. On the Leadership Rating form please circle one of the five responses (ranging from almost never to almost always) which best describes yourself. The twenty questions on the Leadership Rating should be interpreted as: "How frequently do 'I' engage in each of the types of behavior described by these statements."

For Example: Statement #1 "Am sure of myself" How frequently are you sure of yourself? Circle the most appropriate response.

DO NOT SIGN YOUR COMPLETED QUESTIONNAIRES. Your reactions to the statements are strictly confidential. You can be assured that NO ONE in your company will know how you completed your questionnaires.

PLEASE GIVE YOUR HONEST OPINION ABOUT HOW YOU SEE YOURSELF AS A SUPERVISOR on each of the 20 statements. These questionnaires will in no way be seen or used by anyone in your company.

Your help and cooperation in making this research possible is greatly appreciated.

Sincerely,

Robert Holmes

UNIVERSITY OF ARKANSAS
COLLEGE OF BUSINESS ADMINISTRATION
FAYETTEVILLE, ARKANSAS 72701

EXPLANATION TO RESEARCH PARTICIPANTS

As a Doctoral Candidate at the University of Arkansas, I am conducting a survey of supervisory practices in manufacturing companies in Arkansas. Your company is one of 20 firms participating in this research project.

The purpose of the research is to gain a better understanding of how your supervisor performs his job as you see it. Your help will advance the knowledge regarding the various ways of supervision.

There is a one-page questionnaire for you to complete which will not take more than a few minutes of your time. Please READ EACH STATEMENT CAREFULLY AND GIVE YOUR HONEST OPINION ABOUT YOUR SUPERVISOR on each of the 20 statements. Indicate your reaction to each statement by circling one of the five responses ranging from almost never to almost always.

Please DO NOT SIGN your completed questionnaire. NO ONE will know how you completed the rating. After you have completed your questionnaire please fold it and put it in the box or brown envelope provided in your department. Each person in your department will be placing his or her questionnaire in the same place so there is absolutely no way to identify who completed which questionnaire.

YOU CAN BE ASSURED THAT YOUR SUPERVISOR, YOUR COMPANY, OR EVEN THIS RESEARCHER WILL NOT KNOW HOW YOU COMPLETED YOUR QUESTIONNAIRE. This researcher is only interested in getting your view and your fellow workers' view of your supervisor's leadership. Also, your rating of your supervisor will in no way be seen or used by anyone in your company.

Thank you for your help and cooperation in making this research possible.

Sincerely,

Robert Holmes

OUTLINE OF THE STUDY

The Participants in the Study Are:

1. Plant manager or the immediate superior of the first-line supervisors
2. 2 or more first-line supervisors
3. 5 employees selected at random from each of the participating supervisors

Procedure:

- A. Plant Manager, plant superintendent, or general foreman completes 4 questionnaires: (these forms are attached and marked on the top right corner)
 1. A Classification background questionnaire on Himself
 2. A Leadership Rating form on Himself
 3. " " " " " his "MOST" effective supervisor
 4. " " " " " " "LEAST" " "
- B. Each selected supervisor (the two designated as "most" and "least" effective by the plant manager) are asked to complete:
 1. A Classification form on himself
 2. A Leadership Rating Questionnaire on himself
- C. Five employees (Selected at random) reporting to each participating supervisor are asked to complete:
 1. a one-page questionnaire on their respective supervisor's leadership

Each participant should understand that the questionnaires will in no way be seen or used by the company. This is strictly a research study dealing with the "perception" of the leadership behavior of first-line supervisors. If possible, we would like to get the returned questionnaires within a week or at your earliest convenience.

The University of Arkansas and I sincerely appreciate your making this vital research possible. Please call me if you have any questions.

521-1536 (Home) or 575-4007 (Office).

Thank you very much.

Robert Holmes

NOTE TO FIRST-LINE SUPERVISORS

There are two short questionnaires for you to complete on yourself. These forms are attached along with a letter of explanation regarding the nature and purpose of this study. Hopefully, the letter under this instruction sheet will answer any questions that you might have, but let me assure you once again, that this is strictly a research project and in no way will your company see or use the questionnaires completed by you or your employees. After you have completed your questionnaires, please place them in the large brown envelope attached.

Also attached are five white questionnaires and individual envelopes. These questionnaires are to be completed by five of your employees who were selected at random. After each employee has completed his or her form, they should place it in the white envelope provided and then place it in the same brown envelope which contains your questionnaire. These forms will than be returned to the researcher.

PLEASE ASSURE EACH PARTICIPATING EMPLOYEE THAT NEITHER YOU NOR THE COMPANY WILL SEE HOW THEY COMPLETED THEIR QUESTIONNAIRE.

Thank you for making this vital research possible.

Sincerely,

Robert Holmes

CLASSIFICATION DATA

Please Check the Appropriate Response

<u> </u> Male	<u>Height:</u>	<u>Weight:</u>
<u> </u> Female	<u> </u> under 5'4"	<u> </u> less than 125 lbs.
	<u> </u> 5'5" - 5'8"	<u> </u> 125 - 149 lbs.
	<u> </u> 5'9" - 6'0"	<u> </u> 150 - 174 lbs.
	<u> </u> 6'1" - 6'4"	<u> </u> 175 - 199 lbs.
	<u> </u> over 6'4"	<u> </u> 200 - 225 lbs.
		<u> </u> more than 225 lbs.

Age:

 under 25
 25 - 34
 35 - 44
 45 - 54
 55 - 64
 65 and over

Education:

 some high school
 high school graduate
 some college
 college graduate
 graduate work

Length of Service with Company:

 less than 1 year
 1 to 5 years
 6 to 10 years
 11 to 15 years
 16 to 20 years
 over 20 years

Length of Time in Your Present Position:

 6 months or less
 7 months to 1 year
 1 to 3 years
 4 to 7 years
 8 to 10 years
 more than 10 years

Did you participate in varsity sports in: High School? Yes No
 College? Yes No

If yes, which sports?

 Football Baseball Tennis
 Basketball Track Golf Others

Compared to others in your career, do you feel that you have worked:

 much harder than others; somewhat harder than others; about as hard as others
 somewhat less hard than others; much less hard than others

Compared to others in your kind of position, what kind of an organizer do you consider yourself to be:

 very superior; above average; average; below average; poor

Compared to others in your career or other persons that you have known, do you consider yourself:

 highly aggressive; moderately aggressive; about average in aggressiveness
 somewhat below average in aggressiveness; much below average in aggressiveness

DO NOT SIGN
YOUR PRIVACY IS
PROTECTED. ALL
REPLIES ARE KEPT
CONFIDENTIAL

LEADERSHIP RATING

SELF

PLEASE CIRCLE THE RESPONSE WHICH BEST
DESCRIBES YOUR FEELING ABOUT EACH STATEMENT

REMEMBER:
NO LEADER IS PERFECT

	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
1. SURE OF MYSELF	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
2. MAKE CERTAIN MY EMPLOYEES KNOW THE PEOPLE THEY WORK WITH	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
3. EXPECT HIGH BUT ATTAINABLE PERFORMANCE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
4. MAKE SURE THAT MY EMPLOYEES UNDERSTAND THE JOB	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
5. EXERCISE TIGHT CONTROL OVER MY PEOPLE. MAKE SURE THAT THEY DO WHAT I WANT THEM TO DO	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
6. CHECK THE PROGRESS OF MY WORK GROUP. THIS WAY I REALLY KNOW ABOUT ANY PROBLEMS THAT THEY HAVE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
7. GET THE PEOPLE TO ACCEPT MY IDEAS ON WHAT SHOULD BE DONE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
8. CAN GET PEOPLE TO WANT TO WORK FOR ME	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
9. DISPLAY CONFIDENCE IN MY PEOPLE'S ABILITY	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
10. PLAY NO FAVORITES; AM KNOWN AS A FAIR SUPERVISOR	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
11. KEEP MY GROUP WORKING TOWARD THE GOAL	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
12. HELP MY EMPLOYEES GET PROMOTIONS AND RAISES WHEN POSSIBLE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
13. ENCOURAGE MY WORK GROUP TO OUT-PERFORM COMPETING GROUPS	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
14. CAN TAKE SUGGESTIONS FROM MY WORKERS AND I OPENLY ENCOURAGE THIS	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
15. STRESS THE NEED FOR COMPLIANCE WITH UNIFORM PROCEDURES	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
16. HELP MY PEOPLE GET ALONG WITH EACH OTHER. I ACT TO PREVENT MISUNDERSTANDINGS AMONG OTHERS	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
17. CAN TELL THE DIFFERENCE BETWEEN GOOD AND POOR WORKERS AND I AM ABLE TO RATE MY PEOPLE ACCURATELY	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
18. WHEN TRAINING, I AM PATIENT WITH NEW EMPLOYEES AND I MAKE SURE THE WORKER KNOWS HOW TO DO THE JOB	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
19. GIVE PRAISE FOR A JOB WELL DONE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
20. WHEN SOMETHING GOES WRONG, I DO NOT ATTEMPT TO PLACE INDIVIDUAL BLAME, BUT TRY TO CORRECT THE PROBLEM FAIRLY	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS

DO NOT SIGN
YOUR PRIVACY IS
PROTECTED. ALL
REPLIES ARE KEPT
CONFIDENTIAL.

L E A D E R S H I P R A T I N G
(Other)

REMEMBER:
NO LEADER IS PERFECT

PLEASE CIRCLE THE RESPONSE WHICH BEST
DESCRIBES YOUR FEELING ABOUT EACH STATEMENT:

ALMOST NEVER SELDOM OCCASIONALLY OFTEN ALMOST ALWAYS

	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
1. IS SURE OF HIMSELF	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
2. MAKES CERTAIN YOU KNOW THE PEOPLE THAT YOU WORK WITH	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
3. EXPECTS HIGH BUT ATTAINABLE PERFORMANCE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
4. MAKES SURE THAT YOU UNDERSTAND THE JOB	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
5. EXERCISES TIGHT CONTROL OVER HIS PEOPLE. MAKES SURE THAT THEY DO WHAT HE WANTS THEM TO DO	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
6. CHECKS THE PROGRESS OF HIS WORK GROUP. THIS WAY HE REALLY KNOWS ABOUT ANY PROBLEMS THAT THEY HAVE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
7. GETS THE PEOPLE TO ACCEPT HIS IDEAS ON WHAT SHOULD BE DONE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
8. CAN GET PEOPLE TO WANT TO WORK FOR HIM	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
9. DISPLAYS CONFIDENCE IN HIS PEOPLES' ABILITY	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
10. PLAYS NO FAVORITES; IS KNOWN AS A FAIR SUPERVISOR	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
11. KEEPS HIS GROUP WORKING TOWARD THE GOAL	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
12. HELPS YOU AND OTHERS GET PROMOTIONS AND RAISES WHEN POSSIBLE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
13. ENCOURAGES HIS WORK GROUP TO OUT-PERFORM COMPETING GROUPS	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
14. CAN TAKE SUGGESTIONS FROM HIS WORKERS AND OPENLY ENCOURAGES THIS	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
15. STRESSES THE NEED FOR COMPLIANCE WITH UNIFORM PROCEDURES	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
16. HELPS PEOPLE GET ALONG WITH EACH OTHER. ACTS TO PREVENT MISUNDERSTANDINGS AMONG OTHERS	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
17. CAN TELL THE DIFFERENCE BETWEEN GOOD AND POOR WORKERS AND IS ABLE TO RATE HIS PEOPLE ACCURATELY	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
18. WHEN TRAINING, HE IS PATIENT WITH NEW EMPLOYEES AND MAKES SURE THE WORKER KNOWS HOW TO DO THE JOB	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
19. GIVES PRAISE FOR A JOB WELL DONE	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS
20. WHEN SOMETHING GOES WRONG HE DOES NOT ATTEMPT TO PLACE INDIVIDUAL BLAME, BUT TRIES TO CORRECT THE PROBLEM FAIRLY	ALMOST NEVER	SELDOM	OCCASIONALLY	OFTEN	ALMOST ALWAYS

THANK YOU LETTER

June 1, 1970

Mr. John Jones, Plant Manager
X Y Z Manufacturing Company
P. O. Box 1000
Somewhere, Arkansas 72701

Dear Mr. Jones:

I would like to express my appreciation to you and your supervisors at X Y Z for taking the time to participate in my study of supervisory practices. Again, thank you very much.

As soon as the study has been completed, I will send you a summary of the findings and conclusions. I sincerely do appreciate your assistance and cooperation in making this research possible.

Cordially yours,

Robert Holmes

RH:bn

APPENDIX H

TABLE I
 PLANT MANAGERS' SELF PERCEPTION ON THE
 LEADERSHIP RATING QUESTIONNAIRE

Item No.	<u>RESPONSES</u>					Totals
	Almost Never	Seldom	Occasionally	Often	Almost Always	
1	0	0	0	11	12	
2	0	0	4	10	9	
3	0	0	0	9	14	
4	0	0	0	9	14	
5	0	0	1	14	8	
6	0	0	2	10	11	
7	0	0	1	12	10	
8	0	0	1	13	9	
9	0	0	2	11	10	
10	0	0	2	3	18	
11	0	0	1	13	9	
12	0	0	1	11	11	
13	2	1	6	12	2	
14	0	0	2	11	10	
15	0	0	2	12	9	
16	0	0	2	14	7	
17	0	0	7	11	5	
18	0	0	4	9	11	
19	0	1	5	9	8	
20	0	0	2	13	8	
Totals	2	2	45	216	195	= 460
Percentages	.45%	.45%	9.8%	46.9%	42.4%	= 100%

TABLE II

MOST EFFECTIVE SUPERVISORS' SELF PERCEPTION ON THE
LEADERSHIP RATING QUESTIONNAIRE.

Item No.	Almost Never	Seldom	RESPONSES		Almost Always
			Occasionally	Often	
1	0	0	0	10	13
2	0	1	0	9	13
3	0	0	0	7	16
4	0	0	0	7	16
5	0	1	2	9	11
6	0	0	3	7	13
7	0	2	2	15	4
8	0	0	1	9	13
9	0	0	2	6	15
10	0	0	2	5	16
11	0	0	1	10	12
12	0	0	2	7	14
13	0	1	3	11	8
14	0	0	1	9	13
15	0	1	1	11	10
16	0	0	4	9	10
17	0	0	4	11	8
18	0	0	0	11	12
19	0	0	3	14	6
20	0	0	1	4	18
Totals	0	6	32	182	240 = 460
Percentages	0	1.3%	7.1%	39.6%	52% = 100%

TABLE III

LEAST EFFECTIVE SUPERVISORS' SELF PERCEPTION ON THE
LEADERSHIP RATING QUESTIONNAIRE

Item No.	<u>RESPONSES</u>				
	Almost Never	Seldom	Occasionally	Often	Almost Always
1	0	0	2	7	14
2	0	0	3	4	16
3	0	0	2	8	13
4	0	0	0	6	17
5	0	0	1	14	8
6	0	0	1	8	14
7	0	0	4	10	9
8	0	0	4	10	9
9	0	0	2	6	15
10	3	1	1	6	12
11	0	0	1	12	10
12	1	0	0	10	12
13	4	4	3	8	4
14	1	0	4	8	10
15	0	2	3	11	7
16	0	1	4	9	9
17	0	0	1	13	9
18	0	0	1	8	14
19	0	0	3	12	8
20	0	0	2	5	16
Totals	9	8	42	171	230 = 460
Percentages	2.0%	1.8%	9.1%	37.1%	50% = 100%

TABLE IV
PLANT MANAGERS' RATING OF MOST EFFECTIVE SUPERVISORS

Item No.	<u>RESPONSES</u>				
	Almost Never	Seldom	Occasionally	Often	Almost Always
1	0	0	2	12	9
2	0	0	2	10	11
3	0	0	2	13	8
4	0	0	2	13	8
5	0	0	3	12	8
6	0	0	2	14	7
7	0	1	2	16	4
8	0	0	4	11	8
9	0	0	7	8	8
10	0	0	3	13	7
11	0	0	3	11	9
12	0	0	1	17	5
13	0	2	2	14	5
14	0	0	6	10	7
15	0	0	6	12	5
16	0	0	5	12	6
17	0	0	3	8	12
18	0	0	4	13	6
19	0	0	4	17	2
20	0	0	8	10	5
Totals	0	3	71	246	140 = 460
Percentages	0	.7%	15.4%	53.5%	30.4% = 100%

TABLE V

PLANT MANAGERS' RATING OF LEAST EFFECTIVE SUPERVISORS

Item No.	<u>RESPONSES</u>				
	Almost Never	Seldom	Occasionally	Often	Almost Always
1	1	6	11	5	0
2	0	3	12	6	2
3	0	4	9	9	1
4	1	5	8	6	3
5	2	6	10	5	0
6	1	5	9	7	1
7	1	4	13	2	3
8	2	8	10	2	1
9	1	5	10	6	1
10	0	3	12	5	3
11	1	3	9	10	0
12	0	3	13	5	2
13	2	9	8	3	1
14	3	4	12	4	0
15	1	4	14	4	0
16	2	9	8	4	0
17	2	5	8	6	2
18	1	3	14	5	0
19	2	4	8	8	1
20	0	6	11	5	1
Totals	23	99	209	107	22 = 460
Percentages	5%	21.5%	45.4%	23.2%	4.9% = 100%

TABLE VI
 SUBORDINATES' RATING OF MOST EFFECTIVE SUPERVISORS

Item No.	Almost Never	Seldom	RESPONSES		Almost Always
			Occasionally	Often	
1	0	0	0	7	16
2	0	0	2	8	13
3	0	0	0	3	20
4	0	0	1	4	18
5	0	0	1	13	9
6	0	0	1	12	10
7	0	0	1	17	5
8	0	0	0	13	10
9	0	2	0	8	13
10	0	0	2	9	12
11	0	0	0	7	16
12	0	1	3	11	8
13	0	0	4	12	7
14	0	0	8	7	8
15	0	0	1	12	10
16	0	0	0	12	11
17	0	1	1	9	12
18	0	0	2	4	17
19	0	2	6	6	9
20	0	0	2	7	14
Totals	0	6	35	181	238 = 460
Percentages	0	1.3%	7.6%	39.5%	51.6% = 100%

TABLE VII
SUBORDINATES' RATING OF LEAST EFFECTIVE SUPERVISORS

Item No.	<u>RESPONSES</u>				
	Almost Never	Seldom	Occasionally	Often	Almost Always
1	0	1	1	8	13
2	0	1	4	7	11
3	0	0	2	9	12
4	0	1	2	8	12
5	0	1	6	8	8
6	0	3	2	12	6
7	0	2	3	14	4
8	0	2	3	8	10
9	0	0	5	9	9
10	2	0	3	10	8
11	0	0	2	7	14
12	2	1	6	10	4
13	2	4	7	6	4
14	0	3	5	12	3
15	1	1	8	11	2
16	0	3	3	9	8
17	0	2	1	10	10
18	0	0	3	7	13
19	0	4	9	9	1
20	1	2	5	7	8
Totals	8	31	80	121	160 = 460
Percentages	1.8%	6.7%	17.3%	39.5%	34.7% = 100%

TABLE XVII

COMPARISON OF RESPONSES FOR MOST EFFECTIVE SUPERVISORS

Most Effective Supervisors' Self Perception

Response:	Almost Never	Seldom	Occasionally	Often	Almost Always
Distribution	0	6	32	182	240
Percentages	0	1.3%	7.1%	39.6%	52%

Plant Managers' Rating of Most Effective Supervisors

Response:	Almost Never	Seldom	Occasionally	Often	Almost Always
Distribution	0	3	71	246	140
Percentages	0	.7%	15.4%	53.5%	30.4%

Subordinates' Rating of Most Effective Supervisors

Response:	Almost Never	Seldom	Occasionally	Often	Almost Always
Distribution	0	6	35	181	238
Percentages	0	1.3%	7.6%	39.4%	51.7%

TABLE XVIII

COMPARISON OF RESPONSES FOR LEAST EFFECTIVE SUPERVISORS

Least Effective Supervisors' Self Perception

Response:	Almost Never	Seldom	Occasionally	Often	Almost Always
Distribution	9	8	42	173	228
Percentages	2%	1.9%	9.1%	37.4%	49.6%

Plant Managers' Rating of Least Effective Supervisors

Response:	Almost Never	Seldom	Occasionally	Often	Almost Always
Distribution	23	99	209	107	22
Percentages	5%	21.4%	45.4%	23.2%	4.9%

Subordinates' Rating of Least Effective Supervisors

Response:	Almost Never	Seldom	Occasionally	Often	Almost Always
Distribution	8	31	80	181	160
Percentages	1.8%	6.7%	17.3%	39.5%	34.7%

Note: The extreme distortion in least effectives' self rating and ratings of LE by plant managers and subordinates.

Compare with Table XVII showing responses for most effective supervisors. There is less distortion on comparison of responses regarding the most effective supervisors.

It is interesting that the subordinates of the least effective rated supervisors higher or more favorably than did the plant managers rate the LE.

VITA

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AN INVESTIGATION OF THE PERCEIVED LEADERSHIP BEHAVIOR
OF FIRST-LINE SUPERVISORS IN SELECTED
MANUFACTURING PLANTS

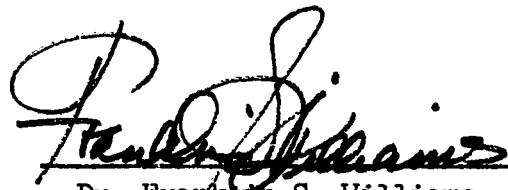
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ABSTRACT

The first-line supervisor appears to be caught in a dilemma between the demands of his superior and the needs of his subordinates. This study focuses on the dilemma by describing and analyzing the leadership behavior of most and least effective first-line supervisors as perceived by superiors, subordinates, and by the supervisors themselves.

Two basic dimensions of leadership behavior, power-structure and consideration-sensitivity, were investigated by using a leadership rating questionnaire. Participating plants, listed in the Directory of Arkansas Industries, were twenty-three small manufacturers employing five or more production supervisors and 100 to 500 production workers. Participants in each plant were the plant manager, three first-line supervisors, and a random sample of five employees reporting to each participating supervisor. Nonparametric statistical techniques, consisting of chi square and the Goodman-Kruskal measures of association, were used.

The results of this study indicate that there were significant differences in the leadership behavior of most and least effective supervisors. The most effective supervisors were consistently perceived more favorably by both superiors and subordinates than were the supervisors designated as least effective. Compared to the perceptions of the most effective supervisors, there was considerably greater distortion between the way the least effective supervisors perceived themselves and the way they were perceived by their superiors and subordinates. Most effective supervisors tended to perceive themselves in close agreement with how they were perceived by both their plant manager and their subordinates. This finding indicates that accurate self-insight may be significantly related to effective leadership. There also tended to be more consistent association between the self-

perceptions of plant managers and their most effective supervisors than between the self-perceptions of the plant managers and their least effective supervisors.

The most effective supervisors were characterized by a perceived balance of emphasis on both of the primary dimensions of leadership behavior, power-structure and consideration-sensitivity. The least effective supervisors perceived themselves as much more oriented toward consideration-sensitivity, although their plant managers and subordinates perceived them as more oriented toward power-structure. Thus, the most effective supervisors were characterized by balanced and successful leadership behavior, while the least effective supervisors were characterized by unbalanced and less successful leadership behavior.

The study confirms previous findings on the existence of measurable differences in the behavior of more and less effective supervisors. It analyzes such differences on dimensions which parallel the initiation of structure and consideration classifications used in the early Ohio State studies. It suggests the use of the reported perceptions of superiors and subordinates to focus on possible leadership problems in the industrial setting.

The implications of this study would seem to suggest the need for organizations to consider modifying their present rating systems to include perceptions of performance from above and below as well as self-ratings. The perceptions of the supervisor from three perspectives might provide the supervisor with a more comprehensive understanding of his total performance on the job. This multi-level rating system could help reduce conflict situations and lead to better management practice. This study, although limited to the first-line supervisory level in manufacturing plants, would also seem to have implications for other levels of management and other types of organizations.