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FUNCTIONALISM AS AN APPROACH TO THE STUDY OF LEADERSHIP

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
Charles Frederick Rauch, Jr., B.S., M.S., M.B.A.

* * * * *

The Ohio State University
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ACKNOWLEDGEMENTS

When asked for the topic of my dissertation, my frequent reply has been, "Leadership, what else?" After thirty years of practicing (both meanings of the word) leadership and over four years of absorbing the tradition of leadership study at The Ohio State University, I was, indeed, motivated to conduct my research in the area of leadership in organizations. I am indebted, therefore, to numerous naval officers, both senior and junior to me, from whom I borrowed bits and pieces in order to fabricate my own leadership style and from whom I learned many facets of the practical applications of leadership under a wide variety of situations. I am equally indebted to those who have gone before me at Ohio State; it is no mere coincidence that over 30% of the references listed in this document have at least one author who is either a former student or a present or former faculty member of this university. Without this wealth of previous work on which to build, this research would not have been possible.

Needless to say, I take full responsibility for any shortcomings that may be found in this work. On the other hand, I would be less than fair to myself if I did not also take credit for many of the innovations developed and tested here. However, in most cases, those innovations grew from needs that were planted during individual interactions with the three members of my Dissertation Committee. Professor McFillen always cheerfully took time to listen to my ideas and comment in just
the appropriate, questioning manner. Professor Berkes helped me in numerous ways, including allowing me to manipulate a large file of survey data in his custody, from which I learned many of the mechanics of survey research, and spending many hours in discussions of the advantages and problems to avoid in conducting such research.

Professor Behling has been my advisor throughout my doctoral program and a professor in two courses. The framework used in Chapter 1 to discuss the various leadership concepts was borrowed from him. My interest in using the functional approach to the study of leadership was stimulated by one of his lectures. A published version of a presentation he had delivered on the possible use of functionalism in Organizational Behavior was the foundation for this work. He provided personal encouragement at times when that was needed, and he consistently made comments during our meetings over the past year that germinated and eventually grew into key ideas in the development of this dissertation.

Several others have provided invaluable assistance. Professor Glenn W. Milligan has suggested various alternatives for handling the statistical testing of a few rather delicate hypotheses. Professors Thomas W. Milburn, Philip Podsakoff, and William D. Todor have patiently listened to my ideas and offered appropriate suggestions. Rear Admiral H. C. Donley has provided prompt and thorough support in helping me to find the best organizations in which to conduct the research. And, finally, the assistance provided by Mr. A. J. Stinnett during the survey administration and overall data collection has been invaluable. I am convinced that his professional knowledge and inter-personal skills saved an inestimable amount of time in the data collection process and facilitated a higher rate of participation in the survey than would have otherwise occurred.
A friend who received a Ph.D. a few years ago recently commented that, among other things, it requires a strong constitution to obtain a Ph.D. Whether or not this is true for the individual involved, it certainly is true for that person's spouse. Accordingly, I am most indebted to my wife, Esther, for her tolerance, patience, and encouragement.
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The Functional Concept of Leadership: A
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14. Individual Job Satisfaction Versus the Sum of the Maintenance Processes for Those Cases in the Lower 70% of the Sum of the Task Process Scores Along with the Same Curve for the Cases in the Upper 30% of the Sum of the Task Processes
"Everyone knows that leadership makes an enormous difference in the attitudes, motivation, and performance of people in organizations" (Nadler, Hackman, & Lawler, 1979, p. 157). It is not surprising, then, that "In the description of organizations, no word is more often used than leadership ..." (Katz & Kahn, 1978, p. 574). The importance of the relationship between leadership and organizational effectiveness is dramatically underscored by the vast numbers of books and articles that have been written on the subject in just the past fifty years (Stogdill, 1974). According to Likert (1961, p. 5) in his discussion of leadership and organizational performance, "How best to organize the efforts of individuals to achieve desired objectives has long been one of the world's most important, difficult, and controversial problems." Because of this importance as well as the difficulties in achieving desired results, several conceptualizations of leadership have been formulated and tested. These concepts have shifted from the study of leader traits to the investigation of leader behaviors and other means of influence and from a notion of a universally effective approach to that of a contingency approach. Yet significant difficulties and controversy remain even with the current theories of leadership inquiry. To their statement that leadership
makes an enormous difference in organizations, Nadler, Hackman, and Lawler (1979, p. 157) added, "But how?"

Thus, the importance of leadership in organizational effectiveness is widely assumed in organizational practice (Katz & Kahn, 1978); but, to date, none of the theories of leadership have received wide acceptance by both practitioners and theoreticians. For example, the contingency theories that have most recently dominated the theoretical literature have received the following types of criticism: quite often conflicting results have occurred under what seem to be the same contingencies (Schriesheim & Kerr, 1977); the contingency approach has not provided the desired level of empirical explanation (Campbell, 1977); a number of people have become dissatisfied with older approaches and have struck out in a variety of new directions (Miner, 1975); and there has been relatively little that can be passed on to practitioners for training and manager improvement programs (Argyris, 1979). In summarizing their review of contingency theories, Schriesheim and Kerr (1977, p. 45) wrote, "...even our 'dominant' theories suffer from problems of theoretical inadequacy."

In view of the continued interest in the investigation of organizational leadership and of the degree of dissatisfaction with current theories, it is the purpose of this paper to propose a new framework for organizational leadership study that may have the potential for reducing some of the above problems. This framework is based on the analysis of the leadership functions and of the means by which these functions are carried out in an organization.
By shifting to a functional approach, it should be possible to increase the level of empirical explanation over the more recent contingency theories, to incorporate into one theory some of the concepts found in a few of the new directions, to place in better perspective the relative impact of many of the parameters that are presently called contingency variables, and, finally, to provide empirically tested models that will be of use to practitioners. Specifically, this functional analysis consists of identifying both the various functions of leadership in an organization and the means or processes by which these functions are carried out. Further, it develops concepts and models of the interrelationships of these various processes, empirically tests them, and describes how they might be used in practical application.

The remainder of this chapter will be devoted to (1) providing definitions of some of the key terms used in this approach, (2) providing an overview of the major leadership theories that have been used to date as well as a few of the new directions, (3) reviewing a few of the criticisms of today's dominant theories, and (4) specifying in more detail the purpose and expected outcome of this research.

---

1The word functional, as in functional analysis and functional approach, is used in this paper in accordance with the definition given in the next section. It is not used, as employed by Scott (1977), to signify the operant paradigm as a basic framework for leadership study.
Key Definitions

The first idea that must be clear is that of leadership itself. Stogdill (1974, pp. 7-16) listed eleven categories of definitions of leadership: a focus of group processes, personality and its effects, the art of inducing compliance, the exercise of influence, act or behavior, a form of persuasion, a power relation, an instrument of goal achievement, an effect of interaction, a differentiated role, and the initiating of structure. Leadership research and theory currently concentrate on "leadership as exercise of influence." Under this heading, Stogdill included one of his own earlier definitions, "the process (act) of influencing the activities of an organized group in its efforts toward goal setting and goal achievement." And in a summary statement of the influence category, he stated, "Leadership exercises a determining effect on the behaviors of group members and activities of the group." If the focal group is a sub-group of a larger organization, then implicit in goal achievement is the necessity of maintaining the group as a cooperative activity over time. Thus, leadership as used in this paper will be defined as the process of influencing the behavior of members of an organized group in efforts toward goal achievement and maintenance of the group as an efficient subset of the larger organization.

The primary difference between the definition used herein and the influence definition more commonly used is the substitution of the broader word "process" for "behavior" in the beginning of the
definition. For example, Bowers and Seashore (1966) defined leadership as, "behavior that makes a difference in the behavior of others." In this paper, the terms hierarchical leadership or simply leader behavior will refer to the perceived behavior of any person at or above the hierarchical level of the members of the focal group that influence the behaviors of members of the group in efforts toward goal achievement and group maintenance. Thus, the broader term, leadership, allows for a wide range of influences that include behaviors of hierarchical leaders.

The term functional analysis is a sine qua non for this entire paper. Functional analysis—a term borrowed from the biological sciences—is similar to the functional approach that has been practiced in sociology and social anthropology. The term function "...is understood to refer to 'the vital or organic processes considered in the respects in which they contribute to the maintenance of the organism.'" (See Merton, 1949, p. 23; Merton, 1949, p. 365 for Note 4).

Leadership functions, therefore, will refer to the functions that leadership acts (events, artifacts, or processes) play in keeping the group in working order and thus maintaining it as an integral subset of the larger organization; this definition is modified from statements by Hempel (1959) and Behling (1980). Behling used the metaphor of an automobile carburetor to demonstrate the notion of function as used in this context. This paper will use a ship steering mechanism for the same purpose. There are three ways one has to explain the meaning of a subsystem of a larger system. Its appearance can be described
(Behling's static description); for example, one can paint a verbal picture of the ship's wheel, a linkage system that consists of levers, electrical wires, hydraulic pipes and cylinders, the rudder post, and the rudder along with the locations of these parts in and under the ship. A second way of explaining a subsystem is by describing its operation (Behling's dynamic description); it is possible to provide a further degree of understanding of ship's steering by explaining the chain of events that occur from the turning of the ship's wheel till the rudder turns through a certain angle. However, an even more complete understanding can be conveyed if the function of the subset of the larger system is explained. Keeping the steering mechanism as an example, one can explain that its function is to maintain the ship's heading in a desired direction.

Just as one might use several different ways to describe a ship's steering system, leadership can also be described in three ways. Some understanding occurs from a static description of a group's superordinate, of the work setting, and of the communications devices available to him/her as well as from organization charts or sociograms. More understanding is achieved by adding awareness of specific behavior carried out by a superordinate specifically to influence the behaviors of group members, of how the group responds, and of the superordinate's responses to the group behaviors. And, finally, a still more complete understanding can be obtained if it is learned, in addition for example, that one of the functions of the leadership acts is to keep the activities of the members of the group individually and collectively directed toward
the attainment of a goal that is necessary for the effectiveness of
the larger organization. It is only through an appreciation of the
functions of a subsystem that it is possible to understand its rela-
tive value for the unit of organization. This concept and the iden-
tification of specific leadership functions will be developed more
fully in Chapter 3.

However, one additional definition is required. The term
leadership processes will be an all-inclusive term that refers to
those events, artifacts, and methods by which the leadership functions
are carried out.\(^2\) The leadership processes are to the leadership
functions as the steering mechanism operations and other steering
methods are to the steering functions of a ship. For example, the
ship's heading may be maintained by several different processes that
would include use of the steering mechanism with all or various parts
in operation, judicious use of relative speeds of rotation of the two
propellers, use of tugs, or even response to favorable winds and cur-
rents. The various functional leadership processes will also be de-
veloped in Chapter 3. With these definitions in mind, we will review
some of the major theories that have dominated the leadership litera-
ture during this century.

\(^2\)Behling (1978) used the term structures, which is commonly
employed in the sociology and social anthropology literature on
functionalism. However, "processes" is used here instead of
"structures" to avoid confusion with the more common use of the word
"structure" in the Organizational Behavior literature.
Brief Review of Leadership Concepts and Research

A review of some of the more important leadership concepts will help place the functional approach in perspective. Fortunately, in view of the thousands of articles on this subject, there have been excellent reviews and bibliographical essays that have been written for students of leadership over the past 30 years (Stogdill, 1948, 1974; Cartwright & Zander, 1968; Schriesheim & Kerr, 1977; Mitchell, 1979; House & Baetz, 1979). In view of the excellent service that these reviewers have provided plus what has become almost a standard historical treatment of leadership that most Organizational Behavior texts (Behling & Schriesheim, 1976; Ivancevich, Szilagyi, & Wallace, 1977; Wexley & Yukl, 1977; Hamner & Organ, 1978; Bobbitt, Breinholt, Doktor, & McNaul, 1978; Kerr, 1979) have offered, it is necessary to present here only a brief review of the past organizational leadership theories and how the various theories are related to each other.

In order to more clearly demonstrate the differences among the various leadership theories, a 2x3 matrix adapted from a figure used by Behling and Schriesheim (1976) is used. The rows are determined by whether the theory envisioned (1) a type or types of leadership that would be effective universally, or (2) various types of leadership that are effective under various contingencies. The columns refer to (1) leader traits, (2) leader behaviors, and (3) influences other than those perceived to be coming from a hierarchical leader. Thus, cell 11 refers to a universal-trait concept, cell 22 to a contingent-behavior concept, etc. See Figure 1.
Universal-Universal Concepts (Cell 11)

Through 1940, the search for traits and personalities that were common to great leaders was the major thrust of leadership investigation. For centuries, there existed an interest in the unique qualities of heroes; Thomas Carlyle's (1840) series of lectures on Heroes and Hero Worship is one of several examples. The study of qualities of these heroes constituted the early studies and theories of leadership. And with the development of psychological testing, which provided a means of measuring personality and character traits of successful leaders, the hero worship of so many centuries was logically replaced with the leadership trait research that dominated the field for two decades. According to Stogdill (1974), it was believed that if the leader was endowed with superior qualities that differentiated him/her from his/her followers, it should be possible to identify these qualities; and this assumption gave rise to the trait theories of leadership. Because of
the belief that these traits would be effective under almost any con-
ditions, these theories fall within cell 11. However, the quest for
universal leadership traits has greatly diminished since the theories
simply were not well supported. After reviewing 124 studies that re-
ported some attempt to determine traits of successful leaders, Stogdill
(1948) concluded that there was some support for the leader exceeding
the average member in certain traits but that the "...findings suggest
that leadership is not a matter of passive status, or of the mere
possession of some combination of traits" (Stogdill, 1974, pp. 62-65).

Universal-Behavior Concepts (Cell 12)

The major works that fall within the universal-behavior cell in-
clude the series of Ohio State leadership studies (Shartle, 1950:
Halpin & Winer, 1957; Christner & Hemphill, 1955; Halpin, 1954; Fleishman,
1957; Fleishman & Harris, 1962) and the University of Michigan work on
leadership (Katz, Maccoby, & Morse, 1950; Katz, Maccoby, Gurin, & Floor,
1951; Kahn & Katz, 1960; Likert, 1961). These behavior centered studies
had two profound impacts on leadership research that have continued to
the present time. One of these was the notion of administering a survey
to subordinates—e.g., the Leader Behavior Description Questionnaire
(LBDQ) (Hemphill, 1950; Hemphill & Coons, 1957)—as an instrument for
measuring the leader behaviors of their supervisors. The other major
impact was the factoring of leader behaviors into essentially a dichotomy
of person-oriented behavior—such as the Ohio State group's consideration
or Likert's employee-centered—and a performance-oriented behavior—
termed initiation of structure of interaction by Hemphill and job-centered
by Likert. In both schools, two additional factors were identified; but their use through the years has been minimal primarily because of the relative importance of the two major factors. For example, in the Ohio State studies, consideration and initiating structure were found to account for 83.2% of the common variance (Halpin & Winer, 1957) with the remaining variance split between the other two factors, production emphasis and sensitivity (social awareness), which are themselves near the performance-oriented and people-oriented poles, respectively.

It should be pointed out here that leadership studies do not fit neatly without overlap into their own specific matrix cells. For example, although situational variables were not specifically studied by trait theorists or by the Ohio State and University of Michigan researchers, there were references early on to the situational nature of leadership. For example, Fleishman (1953, p. 1) wrote that "... research has indicated that leadership is to a great extent situational, and that what is effective leadership in one situation may be ineffective in another." Nevertheless, the early Ohio State team did not develop a situational theory of leadership; thus, these studies do fit largely in the universal-behavior cell 12. Accordingly, through the years the Ohio State research sustained its share of criticism, primarily for failing to take situational variables into account (Kerr, Schriesheim, Murphy, & Stogdill, 1974).
A Contingent-Trait Theory (Cell 21)

Fiedler (1965, 1967) developed one of the first major contingency theories by specifying leader-member relations, task structure, and leader position power as modifying variables that correlated with the effectiveness of leaders with various leadership styles. However, he believed that these styles depended to a considerable degree on whether or not the leader was high or low on a trait-like measure called Least Preferred Coworker (LPC). Thus, since Fiedler's Contingency Theory is more properly a trait theory than a behavior theory, it belongs mostly in cell 21 as a contingent-trait concept. His contribution is major in that he actually performed research on the situational notion that others had espoused but had not yet tested. However, as students of leadership literature are well aware, Fiedler's Contingency Theory has been the subject of considerable debate (Fiedler, 1976; Schriesheim & Kerr, 1977a; Fiedler, 1977; Schriesheim & Kerr, 1977b; Csoka & Bons, 1978; Hynes, Feldhusen, & Richardson, 1978; Schneir, 1978; Hosking & Schriesheim, 1978). Although Fiedler and his associates, as well as others, have been able to replicate his early findings relative to the relationship between LPC score and successful leadership under the various contingencies that he addressed, Schriesheim and his associates have severely criticized Fiedler's theory because of the problems with the definitions of LPC and because of the suspected interrelationship between the measures of LPC and the primary situational variable, leader-member relations. Schriesheim and Kerr (1977a, p. 27) summarized their review of Fiedler's Contingency Theory with the statement that "...the
evidence concerning the LPC instrument does not support its continued usage. LPC lacks sufficient evidence of construct, content, predictive, and concurrent validity, and test-retest reliability."

Contingent-Behavior Theories (Cell 22)

House and his associates developed a situational theory that used leader behavior as the leadership characteristics. It was this concept that was based on theoretical work by Evans (1970) and extended and formulated by House (1971), House and Dessler (1974), and House and Mitchell (1974), and known as Path-Goal Theory, that became the most prominent representative of Cell 22. This theory addressed the effectiveness of four different leader behaviors—directive, supportive, participative, and achievement-oriented—under three subordinate-characteristics contingencies and under three environmental situational elements. Within the past five years, Path-Goal Theory, or at least the contingent-behavior area of inquiry, has been the most widely accepted notion for attempts at understanding the phenomenon of leadership in organizations. McCall and Lombardo (1978, pp. 162-163) in their summary of a book resulting from a conference at the Center for Creative Leadership in the mid-1970's, stated:

We can say that a leader's consideration toward subordinates is correlated with their satisfaction (though the direction of the causal arrow remains in doubt). We can say with assurance that leadership is a situational phenomenon and that no particular style or approach will be effective in all situations. We know that leaders play a crucial role by structuring the expectations of their followers. These are not trivial statements . . . .
However, in spite of an apparent agreement that leadership study is now focused on the proper general area of the matrix, there is still outright criticism of the leadership literature, and, as Miner (1975) pointed out, leadership scholars are striking out in a variety of new directions.

Most of the leadership conceptualizations that fall under the category of "new directions" are actually segments of more global approaches. Two of them will be mentioned here because of their applicability to the development of the functional approach. One of these comes from an earlier stream of literature that is being reexamined; this approach addresses the degree of influence a leader's behavior has under various contingencies of the leader-subordinate power balance. Tannenbaum (1968) saw the leader-follower interaction to be based on the selection of an appropriate balance between supervisor and subordinate power, while Nadler, Hackman, and Lawler (1979) emphasized the idea that the degree of influence a leader has over the behavior of a subordinate depends on the amount of the leader's reward, coercive, expert, referent, and legitimate power relative to that of the subordinates. The social-influence literature gives few insights into which leader behaviors may be appropriate, but it introduces a valuable contingency variable that can moderate the effectiveness of leader behaviors. In this respect it belongs in the contingent-behavior cell 22.

Also of recent interest is the theory of leadership attribution proposed by Calder (1977). In accordance with Calder's theory, the
leader is that person to whom leader qualities are attributed. Leadership is a label that can be applied to behavior, and judgments about leadership are made on the basis of observed behavior. This raises the serious question as to whether or not the widespread practice of restricting leadership study to the leader behavior of the immediate supervisor will give us sufficient insights into the leadership phenomena in an organization. This also has potential importance in that it may modify contingency-behavior theories by suggesting that it is the behavior of the person to which leadership qualities are attributed that will have the most influence in various situations.

Contingent Approaches Based on Other Influences (Cell 23)

From one viewpoint, attribution theory introduces the notion of the third column of the matrix of Figure 1, other influences. Implicit in the overwhelming majority of research on leader-behavior is the assumption that the leader is the immediate supervisor. A suggestion that a leader may be other than the supervisor places attribution theory at least astride cells 22 and 23.

Another one of the new directions addresses leadership processes that most probably would not be perceived as either leader traits or behaviors of leaders at any level. This is the notion of "substitutes for leadership" developed by Kerr and his associates (Kerr & Jermier, 1978: Kerr & Slocum, in press) that now appears as at least a thought-stimulating paragraph in most of the recent books and texts on Organizational Behavior. Kerr and associates have suggested that there are many organizational situations that could neutralize the
effects of leader behavior or cause hierarchical leader behavior to be unnecessary. The idea implies, then, a leader behavior of a laissez-faire type or of none at all under various situations; thus, the "substitutes for leadership" literature belongs in cell 23 with a slight overlap into cell 22. Since House and Baetz (1979) suggested further investigation into this in conjunction with their discussion of Path-Goal Theory, the "substitutes" notion will be covered along with Path-Goal Theory in more detail in Chapter 2.

Summary of Leadership Concepts

This brief review of leadership concepts and research was not meant to be exhaustive, but it covers the major theories and concepts that have been proposed and/or researched, and it gives some idea of the continuing quest for a satisfactory leadership paradigm as well as an indication of the frustration resulting from the very meager advances made with the various approaches to date. The most recent major theory of leadership occupies cell 22 and one of the major new-direction segments of leadership theory is mostly in cell 23 of the matrix of Figure 1. It is for this reason that the dominant theories in these areas will be used as a basis for the functional approach developed in future chapters. However, these theories are also receiving their share of criticism; a review of this present unrest will be the subject of the next section.
Review of Criticisms of Theoretical Leadership Literature

The first paragraphs of this chapter present an indication of the importance of a knowledge of leadership effectiveness to organizational study as well as an indication of the controversies over much of the associated concepts and theories. Stogdill, who devoted a significant portion of his life to leadership investigation, prefaced his 1974 Handbook (p. vii) with the comments, "Four decades of research on leadership have produced a bewildering mass of findings," and, "The accumulation of empirical data has not produced an integrated understanding of leadership." Although there is widespread agreement that leadership effectiveness is situational and to a high degree behavior oriented, after five years of development and testing of the dominant contingent-behavior theory, Path-Goal Theory, Miner expressed the ultimate frustration. He stated, "The heresy that I propose is that the concept of leadership itself has outlived its usefulness" (Miner, 1975, p. 200). Thus, a brief review of criticisms of some of the major current leadership concepts follows. Specifically, two major questions are discussed. Does leadership matter? And are current theories producing meaningful results?

Is the Concept of Leadership Still Useful?

The first question to be answered is whether or not Miner is correct in saying that the concept has outlived its usefulness. Pfeffer (1977, 1978) has argued that because of environmental and organizational factors, leadership accounts for very little of criteria variance compared to external sources. He supported this position by two empirical studies, one by Salancik and Pfeffer (1977) and one by Lieberson and
O'Connor (1972), in which the percent of variance in bottom line criteria of several organizations and cities was separated out between external factors and organization and city leadership. In general, the leader appeared to account for less than 15% and the external factors accounted for greater than 50%. In addition, the "substitutes for leadership" literature (Kerr & Jermier, 1978; Kerr & Slocum, in press), as mentioned earlier, listed situations in which leadership is either unnecessary or its effects are neutralized. These arguments suggest that there are at least many situations in which the leadership concept is not applicable.

However, the question arises as to whether or not the conclusions resulting from the above proposals and supporting studies are correct. For example, Weiner (1978) attempted to replicate the findings of Lierberson and O'Connor by using their methodology with a different sample of organizations from those used by Lierberson and O'Connor. She was successful in doing so by using the exact methodology (decomposition of variance) of these scientists even to the order in which performance variance is apportioned to the independent variables. However, when she changed the order in which the performance apportionment was introduced, but otherwise used the same data and methodology, she found that the other external variables accounted for less than 5% of the variance and the leaders accounted for over 75%. This, of course, questions the empirical support for the Pfeffer statements. Similarly, in those studies that conclude that some substitutes for leadership have more effect than leader behavior, one alternative
explanation is that the leaders are not using their leadership effectively. Both Katz and Kahn (1978) and Dubin (1979) imply that some use their power to influence and some do not. Another explanation that will be developed in Chapter 7 is that some of the so-called substitutes are themselves the results of leader actions. Consequently, there is not yet convincing evidence that leadership is not important to organizational effectiveness.

Are Current Theories Producing Meaningful Results?

The second question that should be examined, then, is whether or not the theories of leadership currently in use are meaningful. Argyris (1979) pointed out three robust findings in reflecting on the 1979 Annual Review of Psychology and Stogdill's Handbook of Leadership: (1) the number of leadership publications is increasing significantly every year, (2) the additivity of the research findings is minimal, and (3) the applicability to the central every day problems of leadership is negligible. Items (2) and (3) are worthy of further comment.

Taking the additivity issue first, there seem to be at least three reasons why it is difficult to integrate the various leadership research efforts. The first is the ambiguity of definitions of theoretical variables (Lord, 1977; Korman, 1974). In fact, in classifying the numerous definitions of leadership itself into the eleven categories listed on page 3, Stogdill (1974) concluded that there "are almost as many different definitions of leadership as there are persons who have attempted to define the concept" (p. 7). Similarly, many of the theoretical variables take on different meanings from study to study.
This is one of the explanations for the finding by Schriesheim and Kerr (1977) that sometimes conflicting results occur under what seem to be the same contingencies.

The second reason that it has been difficult to use each new leadership study as a building block in some grand scientific model is that theories of leadership differ from one study to the other (McCall & Lombardo, 1978). Stogdill (1974, p. 17), in categorizing theories of leadership, made the comments, "Theories of leadership, if such can be said to exist, attempt to explain (1) the factors involved in emergence of leadership or (2) the nature of leadership," and, "The research concerning these two issues is more satisfactory than the theories." Furthermore, Schriesheim and Kerr (1977) were specifically addressing contingency theories when they concluded that even our dominant theories suffer from theoretical inadequacy.

Third, then, is the inconsistency in measurement instruments that has been the serious concern expressed by several reviewers (Lord, 1977; McCall & Lombardo, 1978; Korman, 1974; Schriesheim & Von Glinow, 1977; Pfeffer, 1977). They warned that measurement has been ambiguous, lacking in precision, and, when different instruments are used, one of the main sources for different findings in replication attempts.

Although the above problems and inconsistencies related to the additivity problem seem to seriously question the meaningfulness of the research based on recent leadership theories, House and Baetz (1979) have remained optimistic. They believe that empirical generalizations provide a basis for the development of a theory of leadership that has
the potential to describe, explain, and predict causes of, processes in, and consequences of leadership. House's and Baetz' optimism is consistent with the statement of Steven Weinberg (1980), a Harvard Physicist awarded the 1979 Nobel Prize, that scientific theories don't get absolutely proved; they get more and more accepted within the area where they have been tested. Nevertheless, the additivity issue, if not fatal, certainly is a flaw that is seriously slowing the acceptance of a useful empirically tested theory of leadership.

The other issue raised by Argyris (1979) pertinent to the relative merits of current leadership concepts is lack of practical application. It has been debated whether or not all researchers should be interested in practical application (Hunt & Larson, 1979, pp. 96-97). Nevertheless, there is a growing interest (Sashkin & Garland, 1979; Hunt & Larson, 1979, pp. 254-255; Campbell, 1977) in establishing practical purposes for leadership studies and for bridging the academician/practitioner gap. Moreover, after nearly a decade of conceptualization and development of contingency models of leadership, the lack of applicability of our theoretical leadership work to practical problem solving still exists.

Summary of Leadership Research Criticism

This review of the leadership and leadership criticism literature leads to the following conclusions:

1. Leadership is of sufficient importance to organization effectiveness to be worthy of continued study. Just because there are times and situations in which it appears that acts of leadership have
little impact on group and organizational criteria is not sufficient reason to discontinue attempts to understand the leadership phenomenon. For example, if the steering mechanism of a ship were the focus of an investigation, it is quite possible that an observer could spend long periods of time during an ocean crossing noting that the steering mechanism was used very slightly, i.e., the rudder motion was minimal; however, very few would deny the importance of a steering system to the effectiveness of a ship.

2. Theoretical leadership concepts have the potential to be useful if more attention is paid in general to definitions, constructs of variables, measurement instruments, and the development and empirical testing of a model that places the various contingencies and their interrelationships in an understandable perspective that is useful to practitioners. The functional approach developed in Chapters 3 and 4 is proposed as a means of better realizing this potential.

More detailed statements regarding the advantages of the functional approach and of the purpose of this work will be the subject of the final section of this chapter.

The Purpose of Conducting Research on the Functional Approach to Leadership

The brief review of leadership concepts and research and of a few of the criticisms of recent research demonstrate both the importance of continued investigation of leadership in an organization and the frustrations associated with the slow—albeit discernible—progress in this field of study. For decades, the frustration resulted in a
shift from one cell to the next in the matrix of Figure 1. There has been some consensus over the past decade in settling in the behavior-contingent quadrant; however, the dominant theory in support of this paradigm in the early part of the decade, Path-Goal Theory, has produced only a few statements that have received wide acceptance in scientific circles and even fewer results that have practical organizational value. Consequently, in the past two-thirds of the decade we have seen a fragmentation of various leadership concepts. Though they remain rooted in the behavior-contingent cell, they have moved in different directions. Yet the general criticisms reviewed in a previous section apply to both Path-Goal Theory and to these other concepts. According to Kuhn (1970), the emergence of new theories is generally preceded by a period of pronounced professional insecurity; such seems to be the case today in the field of leadership research.

The functional model developed in this paper will (1) resolve some of the problems that have not yet been met adequately and (2) at the same time preserve the problem solving ability that has been developed by previous theories. Both of these items are necessary to the acceptance of a new theory (Kuhn, 1970). In order to maintain what has already been developed, the functional conceptual framework will be built from the elements of Path-Goal Theory. Processes that will fulfill the leadership functions consist of both leader behaviors and alternative methods of influence; the leader-behavior processes will be drawn from the Path-Goal list of leader behaviors and most of the alternative processes will be drawn from Path-Goal contingencies.
Examining the interrelationships between these processes in a functional analysis should have the following advantages:

1. The functional analysis should tie to what we know from Path-Goal Theory several fragments of leadership conceptualizations such as the "substitutes" notion, attribution theory, and social influence theories.

2. Although several processes for each function will be proposed, it should be possible to develop a relatively simple conceptual framework and set of models to form an organization-wide theory of leadership.

3. Considerations of the interrelationships among processes should give more insight into when a particular hierarchical leader behavior is appropriate and effective.

4. The concept can yield a set of principles that would be valuable in leadership training courses.

5. The concept provides a means of studying the leadership behaviors operating throughout an organization and is not limited to the behavior of the immediate supervisor as in previous research.

6. A generally higher percentage of the criteria variances should be explainable by these leadership processes with the functional models.

The basic purpose of this investigation, then, is the development of the conceptual framework for a functional analysis of leadership in an organization and of models of the interrelationships between the various leadership processes and their impact on organizational effectiveness. More specifically, the following will be done in later chapters:
1. The functions of leadership will be identified.

2. The various leadership processes available to carry out each of the functions will be identified and joined into a conceptual framework.

3. Models of the interaction of the various leadership processes will be developed and tested.

4. The practical application of the functional models will be discussed in the context of leadership training programs.

5. A method for using the conceptual functional framework and models in an analysis of the leadership effectiveness of an organization will be discussed. It should be possible to ascertain how the processes interact, which processes are relatively more important, and how their relative importance might change under different situations. The purpose for an analysis of this kind is to provide insights useful for leadership training in an organization, for leader selection, and for organizational structural improvements, all for the ultimate purpose of increasing organizational effectiveness.
CHAPTER 2

PRESENT CONTINGENT-BEHAVIOR LEADERSHIP THEORIES AND PROPOSALS FOR POSSIBLE IMPROVEMENTS: A LITERATURE REVIEW

A brief overview of the major leadership concepts was presented in Chapter 1. The purpose of this chapter is to provide an in-depth review of the current dominant theory, Path-Goal Theory. The bulk of the chapter will be devoted to a description of the theory and to some of its strengths and weaknesses. Then the model will be revised based on recent implicit and explicit constructive criticism of Path-Goal Theory. This paves the way for a new framework that is developed in Chapters 3 and 5 by modifying the Path-Goal framework in an evolutionary move toward the functional concept.

Description of Latest Version of Path-Goal Theory

Since it was House and associates (House, 1971; House & Dessler, 1974; House & Mitchell, 1974) who developed Path-Goal Theory from early work by Evans (1970), much of the initial description and suggested modifications will be based on the latest published work on the topic co-authored by House (House & Baetz, 1979). The statement of the basic theory is quoted by House and Baetz from Filley, House, and Kerr (1976, p. 254); it is as follows:

Briefly, the theory consists of two propositions. The first proposition is that leader behavior is acceptable and satisfying to subordinates to the extent that they
see it as either an immediate source of satisfaction or as instrumental to future satisfaction.

The Second proposition of the theory is that leader behavior will be motivational to the extent that (1) it makes satisfaction of subordinates needs contingent on effective performance, and (2) it complements the environment of subordinates by providing the coaching, guidance, support, and rewards which are necessary for effective performance and which may otherwise be lacking in subordinates or in their environment.

Two classes of situational variables are asserted to be contingency factors; these are (a) personal characteristics of subordinates, and (b) environmental pressures and demands which subordinates must deal with.

The leadership behavior, contingency, and dependent variables that comprised the version of Path-Goal Theory extant in 1976 were described by House and Baetz and depicted in a model in Filley, House, and Kerr. Table 1 lists these variables.

<table>
<thead>
<tr>
<th>Leader Behaviors</th>
<th>Contingency Variables</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Subordinate Characteristics</td>
<td>Environmental</td>
</tr>
<tr>
<td>Directive</td>
<td>Locus of control</td>
<td>The task</td>
</tr>
<tr>
<td>Supportive</td>
<td>Ability</td>
<td>Formal authority system</td>
</tr>
<tr>
<td>Participative</td>
<td>Authoritarianism</td>
<td>Primary work group</td>
</tr>
<tr>
<td>Achievement-oriented</td>
<td></td>
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E-I is the expectancy that effort leads to performance, and E-II is the expectancy that performance leads to rewards.
The greatest amount of empirical testing of the Path-Goal Theory in the first two-thirds of the 1970's was performed with the two leader behaviors, initiating structure and consideration. Initiating structure is similar but not identical (see Stogdill, 1974, p. 405) to directive leader behavior and consideration is similar to supportive leader behavior. The degree of task structure was the major contingency variable tested (House, 1971; House & Dessler, 1974; Downey, Sheridan, & Slocum, 1975, 1976). The only other leader behavior from the list in Table 1 that has had much empirical testing is participative behavior. Until recently, authoritarianism was the subordinate characteristic that was tested most commonly (Dessler, 1973, House & Mitchell, 1974; Schuler, 1976), sometimes as the only moderating variable and sometimes in conjunction with the task structure. Criteria variables have included several different measures of satisfaction and performance or performance-related attitudes, but some form of job satisfaction has been the most frequently tested. Moreover, Mitchell (1979) suggested that the findings are stronger for the satisfaction criterion than for performance. Furthermore, it is clear from a graph used by House and Mitchell (1974) that linear relationships are hypothesized. The graph shows a positive leader relationship between leader directiveness and job satisfaction for an unstructured task and a negative linear relationship between the two variables for a structured task.

Some examples of the operationalization of the theory can be found in the empirical support cited in the article by House and Mitchell. Directive leader behavior was found to be more appealing
in cases of highly structured tasks by authoritarian subordinates, but directive leadership was not appreciated in the case of routine tasks by non-authoritarian subordinates. However, if the task is unstructured, directive leader behavior was accepted by both authoritarian and non-authoritarian subordinates. Supportive leader behavior correlates positively with satisfaction, and the correlation is strongest if the task is dissatisfying, frustrating, or stressful. Achievement-orientation of the leader is positively correlated with the expectancy that efforts will lead to effective performance for unstructured tasks. Participative leader behavior is positively correlated with both satisfaction and motivation when the task is unstructured and the subordinates have ego-involvement in the task; and participative leader behavior is related to a more favorable response under conditions of high task structure when the subordinates are non-authoritarian and not ego-involved in the task than when they are authoritarian and do not have high needs for independence and self-control.

The latter one-third of the past decade has seen continued empirical research under the umbrella of Path-Goal Theory, but with tests of a much wider range of contingency variables than shown in Table 1. One of the most recent was an investigation by Janet Schriesheim (1980) of the effects of degree of group cohesiveness. She found that leader structuring behavior was positively related to subordinate role clarity, satisfaction, and self-related performance under conditions of low group cohesiveness; and leader consideration was correlated with the criteria when the group cohesiveness was high.
Additionally, Greene and Schriesheim (1980) looked at the size and newness of the group as contingency variables. The next two sections of this chapter will deal with strengths and criticisms of the Path-Goal Theory, and additional contingency variables will be covered under a special sub-section dealing with various modifier variables.

**Strengths of Path-Goal Theory**

It is clear that Fiedler's Contingency Theory and Path-Goal Theory are the two approaches that have dominated the leadership literature of the 1970's with respect to attempts at replication and tests of possible extension of the theories (Schriesheim & Kerr, 1977; Mitchell, 1979). One of the strengths of the Path-Goal Theory, then, is that it has been the source of further research. Although the results of several of the studies have not supported some of the basic propositions (Downey, Sheridan, & Slocum, 1975, 1976; Dessler & Valenzi, 1977), Path-Goal Theory has been a vehicle for a large amount of leadership research, and this is primarily what House and his associates intended. "Path-Goal Theory is offered more as a tool for directing research and stimulating insight than as a proven guide for managerial action" (House & Mitchell, 1974, p. 95).

One of the reasons to introduce a new theory is to find an approach that will answer some of the questions still unanswered by the previous models or theoretical statements. Filley, House, and Kerr concluded their review of Path-Goal Theory with their finding that, "...tests have been sufficiently promising to warrant continued research." Osborn (1974) represented Path-Goal Theory as rich in
face validity and conceptual flexibility such that it appeared to mesh well with the conventional wisdom of industrial psychologists. He believed that it tended to confirm some older suspicions and helped resolve some conflicting findings. Schriesheim and Kerr (1977) revealed that post hoc analyses show that Path-Goal Theory is congruent with a large body of empirical research. Mitchell (1979) concluded that in general the considerable research granted by the theory did provide support for the underlying theoretical propositions. Thus, another strength of the Path-Goal Theory is that it turned out to be a new theory that tended to explain a little more of the relationships between various leader behaviors and subordinate attitudinal and behavioral responses.

However, if Path-Goal Theory is considered as a product of leadership researchers, it might be considered to be past maturation on the product life cycle. That is, the peak of leadership research stimulated directly by Path-Goal Theory has passed (Schriesheim, 1980b.) Nevertheless, it certainly was the model employed throughout the 70's in a large share of the research that has been accomplished in the contingency-behavior leadership areas; and it added some of the situations that helped clarify some of the earlier leader behavior research. Furthermore, while several new theories have recently emerged--Vertical Dyad Linkage, exchange theory, attribution theory, the operant paradigm, and new looks at charisma and social influence--and received attention, none of these have yet replaced Path-Goal Theory as a general paradigm for continued study of the interaction between leader behavior and subordinate response under various situations.
A fair question, therefore, is, "If it is accomplishing the purpose for which it was intended—framework for research—and it can explain some of the issues in conflict in previous theories, why may its use be on the decline?" The answer to this question can be found in the answers to two additional questions. What are we learning from the vast amount of Path-Goal research? And are there still some leadership phenomena that remain equivocal under Path-Goal Theory scrutiny? These are a few of the new areas to be covered by the several criticisms of and suggested improvements in the theory.

Criticisms of Path-Goal Theory

One of the first good critical examinations of Path-Goal Theory was by Schriesheim and Kerr (1977) in which they used internal consistency, external consistency, operational properties, generality, and parsimony as the criteria for assessment. Schriesheim and Kerr gave Path-Goal Theory good marks on parsimony and internal consistency, although for the latter they warned that the lack of precision with which the theory has been stated makes this difficult to assess. However, under the external consistency criterion, they raised the question of the validity of the Expectancy Theory on which Path-Goal Theory is based; and they pointed out that nearly 20 tests on the moderating effects of task structure were low to marginal in their support for the theory. In explaining these inconsistent results and in exploring the operationality issue, Schriesheim and Kerr brought out two other weaknesses, measurement inconsistencies and construct inconsistencies. And in dealing with the generality question, they pointed out the lack of true performance criteria in the statement of the theory and the
absence of statements regarding the circumstances under which other
contingency variables should be considered.

From the above, it is apparent that there are five major areas
that should be explored in more detail in reviewing the major criticisms
of the Path-Goal Theory. Four of them—the expectancy theory basis,
measurement problems, construct problems, and lack of performance
criteria—are discussed in this section. The fifth, other possible
contingency variables, will be the subject of the next major section
of this chapter.

Expectancy Theory Basis for Path-Goal Theory

As indicated above, Schriesheim and Kerr (1977, p. 15) expressed
concern that Path-Goal Theory was tied to Expectancy Theory when recent
research"...on Expectancy Theories has not provided strong support for
this conceptualization of the determinants of employee effort, perfor­
man ce, and satisfaction." Behling and Starke (1973) presented mine
assumptions required for the mathematics of Expectancy Theory to hold;
ye then cited literature and results from decision theory that ques­
tioned the validity of these assumptions. Consequently, they concluded
that the underlying assumptions of Expectancy Theory are at odds with
the results of decision-theory-based research. Mitchell (1974) did a
ten-year review of Expectancy Theory. He concluded that the evidence
for causal relations between the expectancy formulation and behavior
was only moderate and that there was mixed support for this theory.
And, finally, Campbell and Pritchard (1976) found in their review that
there was a low correlation between valence of outcomes and effort and
between valence and performance. They found intuitive support for the correlation between expectancy and performance; and they found that high instrumentality is one of the variables that is correlated with high performance. However, they called many of the studies they reviewed suspect. Their conclusion, then, was that, "When all is said and done, we think the heuristic value of the expectancy framework will remain as a powerful force in organizational psychology even though its empirical house is not in order." Thus, we are left with a theory of leadership that is built on a foundation that seems solid from an intuitive standpoint but is weak empirically.

Measurement Problems in Path-Goal Theory Research

The next two concerns can be related to some of the threats to validity as stated by Cook and Campbell (1979), these are measurement and construct inconsistencies, which are interrelated. In order to differentiate between the two, "measurement problems" will refer to issues that Cook and Campbell label threats to internal validity, and "construct variations" will refer to those situations that they call "construct validity" issues. This subsection deals with measurement difficulties; they can result from two problems: differences in alternate forms of the same basic instrument, which is analogous to the Cook and Campbell instrumentation threat to internal validity, and the general problems involved in the use of subordinate surveys, which relate to Cook and Campbell's selection-maturation and selection-history threats to internal validity.
Schriesheim and Kerr (1977) conjectured that the degree to which a study supports the Path-Goal Theory may depend on which version of the Ohio State Surveys is used to measure leader behavior. In fact, Schriesheim and Von Glinow (1977) actually demonstrated empirically that initiating-structure leader behavior was moderated in its correlation with satisfaction by task structure as predicted by Path-Goal Theory if either form of the Leader Behavior Description Questionnaire (LBDQ) is used. But if the Supervisory Behavior Questionnaire (SBDQ) is used to measure leader behavior, the moderating relationships of task structure are the opposite from what Path-Goal Theory would predict. In fact, Schriesheim (1978) found that the Ohio State University leadership scales suffered from shortcomings as far as their psychometric properties are concerned. For many variables, House and his associates (House & Dessler, 1974), developed their own instruments; but according to Schriesheim (1978), the psychometric properties of these questionnaires are also suspect. Accordingly, Schriesheim (1978) developed his own instruments which have been well received and have been used in recent studies. The rather obvious need to use a consistent set of psychometrically sound instruments in developing and validating a theory is underscored by Korman (1974, p. 194): "The need for better measurement in leadership theory is a matter of prime necessity."

The other measurement problem is inherent in the use of subordinate surveys. Schriesheim and Kerr (1977) pointed out that when subordinates are asked to describe the behavior patterns of their leader,
even descriptions of the same individual tend to vary quite a bit. Part of the variance, they pointed out, is caused by different actual leadership acts directed towards different subordinates as documented in the Vertical Dyad Linkage literature (Dansereau, Graen, & Haga, 1975). However, part of the problem is that performance cues and implicit theories of leadership that are held by the rater will affect the LBDQ ratings (Eden & Leviatan, 1975; Rush, Thomas, & Lord, 1977). Thus, different subordinates will also view the same behavior differently based on their different perceptual interpretations. This problem may well be one that researchers in the behavioral sciences will simply have to live with and include in the error variance.

The problem of the differences in measuring instruments and in the relatively poor psychometric properties of various instruments, on the other hand, can be corrected. As indicated above, Schriesheim (1978) developed psychometrically improved instruments for use in leadership research. Yukl and Nemeroff (1979) gave a progress report on an ongoing effort to also develop a set of psychometrically sound instruments for the measurement of several elements of leader behavior. If any of these are considered to be valid standards for leadership research in the future and are consistently used across a large number of studies, this serious problem could be significantly reduced. However, there is nothing that can be done, of course, about the inconsistencies in measurement across the large number of studies performed over the past decade in attempts to replicate or extend Path-Goal Theory.
Construct Problems in Path-Goal Theory Research

The measurement obstacles discussed above primarily covered the means of determining leader behaviors, and in particular the initiating-structure or directive (called instrumental by Schriesheim) behavior and the consideration or supportive behavior. However, if that problem could be somehow minimized, other problems exist that are just as perplexing for somebody who wishes to integrate the large body of Path-Goal research into a useful predictive or explanatory model. Following are a few examples of the confusion resulting from construct inconsistencies.

In his original statement of the theory, House (1971) used the degree of structure of the task as the contingency variable in studying the impact that initiating structure and consideration would have on satisfaction and performance-related criteria. Some of the studies he used as examples employed task ambiguity, job autonomy, and task scopes as constructs for task structure. Other constructs that have been used for this variable are stressful tasks, dissatisfying tasks (House & Mitchell, 1974), occupational level (Sims & Szilagyi, 1975), size (Miles & Petty, 1977) and task repetitiveness (Stinson & Johnson, 1975). Furthermore, in some of the studies, the decision as to whether the task structure was high or low was made by the researcher instead of by anybody in the work situation.

A second example of a multiple operational construct is the criterion, satisfaction. The instruments to measure satisfaction have variously been three facets—work, supervision, and promotion—of the
five facets of the Job Description Index (JDI) (Sheridan, Downey, & Slocum, 1975), his own questionnaire (House, 1971), the JDI work scale (Schuler, 1976; Greene, 1979), the Minnesota Satisfaction Questionnaire (MSQ) short form (Schriesheim & Murphy, 1976; Jermier & Berkes, 1978), and the entire JDI (Downey, Sheridan, & Slocum, 1975).

Cook and Campbell (1979) recommended the use of more than one measure of a construct as a means of improving construct validity. The point that is made here is that often each researcher used a single measure of a construct, introducing a mono-operation bias that made comparability from one study to the next difficult.

These two problems indicate the difficulty in integrating the numerous Path-Goal studies. However, if results had been consistent, integration may still have been possible based on a weight of evidence. Behling (1980b, p. 488) pointed out, "It is likely to be the weight of evidence, not the crucial study that defines scientific law in organizational behavior and organization theory." However, the results have often been inconsistent; consequently, it is difficult to know whether or not the differences in measurement instruments and constructs are the reasons for the inconsistencies in results.

Lack of Actual Performance Variables

Another of the issues that Schriesheim and Kerr raised was the lack of performance measurements as outcomes. Instead, the theory itself (House & Dessler, 1974; Filley, House, & Kerr, 1976) specifies the affective outcomes of expectancies that effort will lead to performance (E-I) and that performance will lead to rewards (E-II). Since...
addition, some of the Path-Goal researchers have added role clarity (Greene, 1979b; Stinson & Johnson, 1975; Sims & Szilagy, 1975). Use of the expectations and satisfaction, which is related to valence, is consistent with the Expectancy Theory basis for this leadership concept. If one uses Expectancy Theory as a valid assumption, then knowing such outcomes as satisfaction and the two expectancies would allow one to predict performance. Fewer studies have addressed the performance issue compared to those with some form of satisfaction as the dependent variable (Mitchell, 1979); and only a few of those studies that did look at performance (Downey, Sheridan, & Slocum, 1975, 1976) have measured actual performance rather than the expectancies, E-I and E-II, or role clarity. Thus, Schriesheim and Kerr took the position that since Path-Goal theory makes no actual prediction about subordinate performance, its usefulness and generality are limited.

It could be argued, since other variables unaffected by leadership can insert themselves between the affective outcomes produced by leader behaviors and measurable subordinate performance, that measuring performance in an analysis of leadership effectiveness is of questionable value. However, in addition to Schriesheim and Kerr, others (Greene, 1979a; Schriesheim, Mowday, & Stogdill, 1979; Barrow, 1977) have taken the position that actual performance, absenteeism, and turnover should be included in leadership research in small groups and work groups in formal organizations.
The support for not including actual performance measures is primarily implicit, either by House and his associates in the statement of the theory, or by other researchers who comply with that statement in their choice of dependent variables in their studies. In contrast, the position that actual performance measures should be used has been very explicitly taken.

Summary of Path-Goal Research Criticism

Before labeling the items criticized above as weaknesses, they should be viewed in the perspective of the original intended purpose and accepted strengths of the Path-Goal Theory. The reader will recall that the theory was intended as a framework for leadership analysis and that it is said to explain some of the leadership phenomena that other systems had not explained—for example, why structuring has a correlation with performance in some studies and not in others. Taking each criticism in turn, we should be able to assess its severity in light of the intent of the theory.

The fact that the motivational theory that is used as a basis for the theory has more heuristic than empirical support should not be a fatal error in a model that was intended primarily to stimulate research. In fact, Path-Goal is really a conceptual model that has been in the process of being transformed into a pseudo-scientific model by the Path-Goal researchers. Indeed, Schriesheim and Kerr, in their review of the theory, commented that much of the evidence to support the theory was also used to construct and revise the theory. Thus, Path-Goal Theory is a concept that has stimulated research in
an evolutionary path from concept to model building and testing to revised concept, new model development and testing, etc. This has some merit.

Now, what about the large varieties of measurement instruments and the numerous constructs used for the various studies? There are pros and cons to this. Because of these inconsistencies, it is very difficult to integrate the work into some grand predictive model. But does this mean that all the research has been for naught? Has it merely served to provide publishing opportunities for leadership scholars? Have we really learned anything? The perspective that sheds the most favorable light on these questions is Behling's (1980b) weight-of-evidence argument for definition of scientific law in organizational behavior. Viewed in these terms, we have learned a few things; the greatest indictment may be that in this period of time we should know much more than we do.

The final criticism was that actual performance criteria are not specified. This means that the results are really not of considerable value to practitioners even though they can, in a weight-of-evidence context, add to some degree to the body of knowledge in the leadership and motivational area. Again, though, that is reasonable if the theory was indeed offered more as a tool for directing research than as a guide for managerial action.

The simple truth is that what we got is what was advertised that we would get. We have a leadership concept based on an intuitively acceptable motivational theory that has stimulated a decade's worth
of research. The research has sufficient weight in a few areas to provide some support for the underlying propositions that have been developed in those areas (Mitchell, 1979). What we do not have, of course, is either a concept or a well-defined framework on which a workable scientific model is being developed and verified for use in real world analysis and or problem solving. Furthermore, there still exists some equivocality, and support is weak even in the so-called supported areas. According to Schriesheim and Kerr, House attributed this to (1) the different forms of instruments—as discussed above—and to (2) the possibility of other moderator variables at work in an interaction. The next section of this chapter lists some of the moderator variables that have been proposed as additions to those included in the Filley, House, and Kerr statement of the theory that is reproduced in Table 1.

Additional Path-Goal Theory Modifier Variables

Essentially, Path-Goal Theory states that one of four leader behaviors—directive, supportive, participative, or achievement oriented—will be effective in producing performance and satisfaction outcomes depending on the particular situation as determined by contingency variables. These contingencies come under the heading of subordinate characteristics or environmental characteristics. Numerous additional contingency variables have been recommended in the leadership literature either directly or indirectly for the purpose of improving the Path-Goal Model or for providing an alternative for all or part of it. These recommendations have appeared in several forms. It is not
the purpose of this review to present an unabridged list of such variables; nevertheless, it is important to provide a substantial representative list of these contingencies. Three major sources of these variables are (1) the House and Baetz (1979) reflection on the past and future of Path-Goal research, (2) the so-called "substitutes-for leadership" literature by Kerr and his associates (Kerr & Jermier, 1978; Kerr & Slocum, in press), and (3) additional reports of Path-Goal type research in which specific additional situational variables have been tested. These variables will be identified under these three sources in the subsections below and then summarized by category in the next section of this chapter.

**House and Baetz 1979 Comments on Path-Goal Theory Research**

In their chapter on some empirical generalizations and recommendations for new directions in leadership research, House and Baetz (1979) devoted one section of their work specifically to Path-goal theory. They discussed the following contingency variables that provide a new dimension or a different one from the six variables listed in Table 1: task ambiguity, subordinate ego-involvement, intra-group conflict, intrinsically satisfying nature of the task, organization size, and organization structure (mechanistic or organic). Furthermore, in their recommendations for future research, House and Baetz proposed the following contingencies be tested: leader competence; subordinate need for achievement, need for affiliation, and tolerance for ambiguity; and subordinate role orientation--relevance of job to future career objectives (Graen & Ginsburgh, 1977). Additionally, in discussing future
research recommendations, House & Baetz (pp. 393-394) reviewed the "substitutes" literature and concluded that, "Clearly, a better understanding of how environmental factors operate as substitutes or neutralizers of leadership is required."

"Substitutes-For-Leadership" Literature

This notion, that there might be "substitutes" for our traditional leadership behaviors, is sufficiently important to some of the theory development in this thesis that a brief discussion of the literature is in order. Accordingly, this section will include a brief overview of this literature (Kerr & Jermier, 1978; Kerr & Slocum, in press), a few comments about the relative position of the "substitutes" articles in the perspective of the history of leadership research, and the additional Path-Goal variables implied by the work.

Overview of the Literature. Kerr and Jermier (1978) used some of the Path-Goal Theory findings (House & Mitchell, 1974) as motivation for their work. Path-Goal Theory predicts that under certain circumstances attempts by the leader to clarify paths and goals will be perceived as redundant and unnecessary; however, implicit in most theories of leadership is the conviction that traditional, hierarchical leadership is always important. The "substitutes" notion, therefore, is set forth as a conceptualization to explain these inconsistencies. Kerr & Jermier (p. 277) pointed out that certain contingencies act to determine which leader behavior will be most successful while others act as "...'substitutes for leadership,' tending to negate the leader's ability to either improve or impair subordinate satisfaction and performance."

They then proposed a taxonomy of situations "...where we should
not be studying 'leadership' (in the formal hierarchical sense) at all."

In elaborating on this concept, Kerr and Jermier distinguished between neutralizers, which they defined as situations that cause effective hierarchical leadership to be impossible, and substitutes, which are characteristics rendering task-oriented and relationship-oriented hierarchical leadership to be unnecessary.

Kerr and Slocum (in press) elaborated on some of the categories of "substitutes" identified by Kerr and Jermier. Then they compared each under four leadership-element tests: (1) Will it tell subordinates what to do? (2) Will it tell them how to do it? (3) Will it provide feedback on how well it was done? (4) Is it a source of motivation to perform? They found a positive answer to these questions for most of their "substitutes." Consequently, they concluded that organizations—particularly those which operate in a rapidly changing environment—must begin to consider means to identify, acquire, and establish effective "substitutes" for formal leadership.

**Historical Perspective of the "Substitutes" Literature.** There is a hint of the "substitution" notion in one of Stogdill's statements (1974, p. 299):

> The hypothesis that formal structure and structuring behaviors limit follower freedom of action and block satisfaction of needs for autonomy and self-actualization is not supported by research results. The findings indicate that some degree of structure is necessary for the satisfaction of the follower needs.

Implicit in the above statement is that either formal structure or hierarchical leader behavior can provide that necessary degree of
structure. Four of Miner's (1975) five sources of control are various alternatives to hierarchical leadership in an organization. This suggests a concentration in cell 23 of the Figure-1 matrix, the contingent-other-influences cell. Addressing leadership phenomena covered by cell 23 is important for the increased understanding of influence and control in an organization setting. Hunt and Osborn (in press) claimed adjusted R^2's in regressions of performance criteria and maintenance criteria on leadership behaviors were as high as .39 and .85, respectively, when macro variables were introduced.

There are two subtly different approaches to interpretation of cell 23 research. Schriesheim and Kerr (1977) quoted a 1976 opinion of Kerr's that the ultimate goal of the "substitutes" line of inquiry might be to derive a true situational theory of leadership which will limit its propositions and predictions to those situations in which hierarchical leadership ought to make a difference. Presumably, then, one would eliminate from tests of leader effectiveness those situations that would make traditional leadership impossible and/or unnecessary.

Another approach, that will be used here, is to add the "substitutes" situations to the other Path-Goal contingencies and concommitantly add a new leader behavior called laissez-faire. Thus, a new extension of Path-Goal is proposed that now addresses the set of cells 22 and 23 of Figure 1. The reasoning for this will be more apparent in Chapters 3 and 5: however, it basically is done to suggest that (1) the hierarchical leader is still important from the standpoint of insuring that the "substitutes," in fact, provide the needed amount and proper
direction of structuring and/or consideration, (2) hierarchical leaders should be there to provide direction and support should the "substitutes" falter, and (3) under certain circumstances laissez-faire is an effective leader behavior. Thus, as Nadler, Hackman, and Lawler (1979, p. 166) phrased it, "...the leader may have little to do other than 'fine tune' a well-designed person-job relationship." Or, as stated by Katz and Kahn (1978, p. 592), "The concrete case always needs something of interpretation and adaptation, embellishment, or thoughtful omission." A laissez-faire behavior would consist of fine tuning when needed.

Contingency Variables from the "Substitutes" Literature. Kerr and Jermier listed six situations or characteristics of the subordinate, task, or organization that they believed will neutralize task-oriented leader behavior. They are: (1) ability, experience, training, and knowledge of the subordinate, (2) unambiguous, routine, and methodologically invariant tasks, (3) a task that provides its own feedback, (4) organization formalization, (5) organization inflexibility, and (6) highly-specified advisory and staff functions. They listed one situation that should neutralize people-oriented leader behavior, (7) an intrinsically satisfying task. And they placed six others in the category of neutralizing both types of leader behavior. These are: (8) subordinate need for independence, (9) subordinate professional orientation, (10) subordinate indifference toward organizational rewards, (11) a closely-knit cohesive work group, (12) organization structure that eliminates organizational rewards from the leader's
control, and (13) spatial distance between supervisor and subordinate.

Kerr and Slocum only used the following categories of "substitutes": (1) task-provided predictability, feedback, and incentive to perform, (2) subordinate experience, knowledge, and professional orientation, (3) cohesive work groups, and (4) organizational training and development programs. Item (1) combines (2) and (3); item (2) combines (1) and (9); item (3) is a repeat of (11); and item (4) is new. What should be considered, then for possible inclusion in the extended version of the Path-Goal model are the 13 items from Kerr and Jermier and item (4) from Kerr and Slocum. Some of these are, of course, direct repeats or heavily overlapping rephrases of situational characteristics already listed in the Table-1 statement of Path-Goal Theory or already itemized by House and Baetz (1979). The following, though, are appropriate additions to the taxonomy of contingency variables: task-provided feedback and incentives to perform, organizational training and development programs, subordinate need for independence, subordinate professional orientation, subordinate indifference towards organizational rewards, work group cohesiveness, reward power of the leader, and spatial distance between supervisor and subordinate.

**Other Contingency Variables Tested by Path-Goal Research**

Several of the contingencies discussed by House and Baetz were based on Path-Goal studies completed prior to their writing their chapter. However, there have been a few 1980 articles that should also be reviewed for their tests of moderating variables. Greene and Schriesheim (1980) found that both instrumental and supportive leader
behavior had greatest effects on group arousal and group cohesiveness in new groups as opposed to those that had been organized for a period of time. Janet Schriesheim (1980) showed that in highly cohesive sub-groups leader consideration was highly correlated with subordinate role clarity, satisfaction and self-rated performance while in a low-cohesive sub-group leader initiating structure was highly correlated with the criteria. And, finally, Chester Schriesheim (1980) found that in non-unionized organizations, leader behaviors were more highly correlated negatively with the motivation to leave and with absenteeism than in unionized organizations.

Of course, group cohesiveness has been previously considered, but group age and organization unionization are new contingencies to be considered.

**Modified Path-Goal Model**

A modified Path-Goal framework has been fabricated by this writer from the criticisms and recommendations outlined above. Table 2 lists the independent, moderating, and dependent variables that have evolved from this review. If the Yukl and Nemeroff (1979) Managerial Behavior Survey scales are eventually considered for Path-Goal Theory use, the number of leader behaviors could substantially increase. However, based on those in use today plus the additional one added with the "substitutes" variables, the independent variables would be the five leader behaviors: directive (or instrumental), supportive, participative, achievement-oriented, and laissez-faire. Then since Schriesheim (1978) differentiated between different forms of instrumental behavior, directive behavior could be replaced by the three instrumental leader
behaviors: role clarification, specification of procedures, and work assignment.

The moderating variables developed in the section above can be grouped under subordinate characteristics, environmental characteristics, and supervisor characteristics. Furthermore, the environmental section can be factored into external environmental, organizational, work group, and task characteristics. The complete taxonomy of contingencies is shown in Table 2.

Finally, to provide a response to the above mentioned criticism of dependent variables, the following performance criteria should be considered in addition to those used in the present statement of the Path-Goal Theory: individual and group performance and organizational and group commitment. These are somewhat general and imprecise without the constructs for these variables. But a discussion of the various means of operationalizing the dependent variables—as well as many of the other variables of Table 2—would provide more detail than is appropriate for this overview. However, Table 2 will be used in Chapter 3 as the basis for the model developed for this paper, and the constructs of those variables that are retained will be detailed in Chapter 5.

One of the strengths proclaimed for Path-Goal Theory at the outset of this chapter was its framework for leadership research. It is clear that in somewhat of a disorganized manner it has been that. Although task structure as a moderator between supportive or directive behavior and job satisfaction is by far the most researched combination, other
TABLE 2
PATH-GOAL LEADERSHIP MODEL WITH MODIFICATIONS SUGGESTED BY RECENT LEADERSHIP LITERATURE

<table>
<thead>
<tr>
<th>Leader Behavior</th>
<th>Situational Variables</th>
<th>Dependent Variables</th>
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<td>Subordinate Characteristics</td>
<td>Environmental Characteristics</td>
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<td>Instrumental:</td>
<td>Ability</td>
<td>External Environment:</td>
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<td>Role clarification</td>
<td>Locus of control</td>
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<td>Specification of rules and pro-</td>
<td>Authoritarianism</td>
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<td>Work assignment</td>
<td>Ego-involvement</td>
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<td>Supportive</td>
<td>Need for achievement</td>
<td>Formal Organization:</td>
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<td>Participative</td>
<td>Need for affiliation</td>
<td>Formal authority structure</td>
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<td>Achievement-oriented</td>
<td>Tolerance for ambiguity</td>
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<td>Laissez-faire</td>
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<td>Organizational training &amp;</td>
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<td>Role orientation</td>
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<td>Task ambiguity</td>
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<td>nature of the task</td>
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<td>Group age</td>
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leader behaviors and other contingencies have been tested. In a few studies, two contingencies have been investigated along with their interaction effects. But by and large, little is known about the interrelations between many of the variables in Table 2.

Of the five tests used by Schriesheim and Kerr (1977) to assess Path-Goal Theory, only two were given good marks; and caution was advocated in the assessment of one of those. The remaining strength according to their review was parsimony. The biggest difficulty with the model as modified here and presented in Table 2 is that now even parsimony is gone. One of the objectives of the next chapter is to restore a degree of parsimony to the Table-2 modification of Path-Goal Theory to provide a concept of leadership inquiry that addresses in a contingency manner leader behaviors and other leadership acts than those perceived as leader behaviors.
CHAPTER 3
THE FUNCTIONAL CONCEPT

An overview of the major leadership theories was presented in Chapter 1. Dissatisfaction with each approach is evidenced by the shift from cell to cell in the Figure-1 matrix. Neither the trait nor the behavioral approaches produced satisfactory results in all situations. Furthermore, uncertainty over the LPC measurement of leader characteristics caused problems with the one major contingent-trait theory. This experience led the field to the dominant contingent-behavior cell, the Path-Goal Theory. Consequently, Path-Goal Theory was reviewed in more detail in Chapter 2; as was apparent in this review, Path-Goal too has come under its share of criticism. Because of these problems several suggestions for additional moderating variables have been made and other moderators have been tried in order to improve the usefulness of the theory. Based on both implicit and explicit recommendations for extending and possibly improving the explanatory power of Path-Goal Theory, a modified version of the theory was fabricated near the end of Chapter 2. Still problems exist. The fabricated modification is far from parsimonious. A model that explains the interrelationships among all of the numerous variables in the Path-Goal framework does not actually exist. Some attempts at replicating a few of the propositions that do
exist have produced contradictory results. And, finally, little knowledge derived from Path-Goal Theory has been put into use by practitioners. Thus, even though there have been a few principles that we have learned from its use—a few are listed in the first subsection of Chapter 2—our current dominant theory also possesses major shortcomings. It was, therefore, proposed in Chapter 1 that an alternate approach, a functional analysis of leadership, may have the potential for minimizing some of the problems found in past leadership theories.

The functional approach should give us an opportunity to break out of any single cell of the Figure-1 matrix and to get a better glimpse of the shared leadership functions. This will result in a line of inquiry that addresses what leader behaviors are most effective under various circumstances and when other types of activities will have some appropriate leader-like influence. Another way of phrasing this, using some of the definitions of Chapter 1, is to determine when various leader behavior processes will be appropriate for fulfilling the leadership functions in an organization and under what conditions other processes will fulfill a large portion of the functions. The purpose of this chapter is to further develop the basis for a functional approach; to identify the leadership functions; and to identify, by using many of the variables from the modified Path-Goal model of Chapter 2, the processes that fulfill those functions and the contingency situations. This will result, then, in a functional concept of leadership.
Basis for a Functional Approach

In writing on the dimensionality of leadership phenomena, Dubin (1979, p. 276) questioned, "What are the circumstances for the enactment of leadership behaviors?" He then commented that another way to state the issue is to analyze the functions of leadership. What is meant by function in this context was metaphorically explained in Chapter 1 with a comparison between the steering function of a ship and the leadership function of an organization. Behling (1980, p. 214) has provided additional insight into the functional approach to a behavioral science investigation as follows:

To be classified as functionalism..., an approach must necessarily:

1. See understanding of events, artifacts, or processes . . . in terms of their consequences . . . for superordinate systems of which they are parts, rather than by attempting to identify those things which "cause" them.

2. Do so using concepts and constructs derived from study of the specific type of situation under investigation, rather than by attempting to impose single conceptual frameworks on all areas of study.

Behling also pointed out three uses or advantages of the functional approach for organizational study: (1) functionalism can serve as an alternate means for attempts to describe organizational phenomena, (2) functionalism can be used to aid in explaining as well as describing organizational phenomena, and (3) it could reduce the difficulties involved in applying research findings to the solution of managerial problems. Additionally, Behling listed five limiting conditions for a functional approach: (1) functional processes need not be recognized
by organizational participants, (2) functionality per se cannot be used to justify the existence of processes, (3) normally functions can be filled by several processes, (4) not every process need be eufunctional, and (5) functional analysis can only be applied to systems with organic unity.

This study proposes a functional conceptual framework, and from it two different models are developed for the purpose of analyzing the functions of leadership in a large variety of organizations. The analysis concerns the interrelationships and relative effects of several different processes in fulfilling leadership functions in an organization. However, these models do not list all contingency variables to allow prediction of what leadership processes will predominate and what combination will be the most successful in a variety of situations. The conceptual framework developed in this study can be used in a variety of organizations for analyzing what is happening and why. However, the actual analytical results obtained in the organization would not necessarily have applicability in other organizations.

According to one of Behling's five limiting conditions, not all functional processes need be recognized by organization members. In the context of functional analysis of leadership, this simply means that the unseen acts of various leaders might also be included as leadership processes. A case is made in Chapter 5 to limit the processes in this investigation involving specific influence by leaders to only those acts that are perceived by the organization members. However, in keeping with Behling's comment, a few processes are included that may be perceived to be independent of any leader act, although in actuality they
In order to provide a deeper appreciation of the functional approach and to explain its particular applicability to leadership research, the third of Behling's list of five limiting conditions will be considered in more detail. Functionalism is especially useful in explaining situations, like steering a ship and leading organization sub-groups, in which one or more of several processes can be employed to fill the function. Later in this chapter, several such processes will be discussed in detail. However, these will be previewed with a few examples. Those familiar with literature on informal organizations (see Dubin, 1958) are aware that one of the actions performed by the informal group is to fill in voids in formal organizational directions on how to accomplish a task, and to provide the necessary detail. Furthermore, Lord (1977) states that leadership was conceptualized by Cartwright and Zander (1965) in terms of functional behavior that could be provided by any group members, rather than just the behavior of the formal leader. Thus, again, several alternative processes (different leaders) are available to fulfill the leadership functions.

One more issue that should be resolved at this point is the role of those items in the other-influences category (cell 23 of Figure 3, Chapter 2) as leadership processes. Lord (1977, p. 122) wrote that "...non-interpersonal behavior, such as that involving only the actor's reaction to a task, was not interpreted as leadership behavior. As Bowers and Seashore (1966) have pointed out, such behavior does not fulfill any leadership function." This position appears consistent with
positions of Katz and Kahn (1978), who based their incremental influence definition on their belief that human beings rather than computers are in positions of authority and power. On the other hand, Dubin (1979) reminded us that there are situations of leadership which do not involve face-to-face relations with followers. Many of these situations result in the design of what might be perceived by the subordinate as non-interpersonal. Kerr and Jermier (1978) argued that if we want to know more about consequences of various influence processes in organizations, we should be prepared to study them whether or not they are provided through hierarchical leadership. And Jauch, Osborn, and Terpening (1980) showed that professional identification, organizational loyalty, or peer loyalty were alternatives that could influence such things as satisfaction and turnover. This dilemma is resolved in this paper by using the definitions set forth in Chapter 1. All types of influence acts or actions are used as processes that fulfill the various leadership functions; however, those that are interpersonal and generally hierarchical in nature are called leader behavior or hierarchical leadership processes.

As a final item in this section, one of the statements made earlier in this chapter needs further emphasis: results obtained in the analysis of one organization may not be generally applicable to other organizations. This is probably the case in most leadership research (Hunt & Larson, 1977, p. 242-243), but it is certainly true when the functional approach is used as an analytical tool. Behling cautioned that functionalism probably will not even work as a tool for analyzing an organization lacking organic unity. It is the function of
leadership in larger organizations that is examined here. Moreover, even though leaders occupy similar positions in units with similar missions, they are unlikely to face identical organizational conditions (Hunt & Osborn, in press), nor is the function likely to be fulfilled in exactly the same fashion. Although the results obtained in any one organization would not necessarily be transferable to another, this does not mean that the results are of no practical use. Results of such studies should at least be usable for organization-specific leadership training. It is the purpose of the remainder of this chapter to develop a functional conceptual framework in preparation for the subsequent development of a concept and two models of leadership process interactions.

Identification of the Leadership Functions

The obvious first step in functional study is to identify the functions that the focal sub-part carries out in the overall system. To understand the function of the sub-system it is necessary to first know what the superordinate system must do to survive and then learn how the subsystem functions to assist the larger system to survive and accomplish its goals. In the case of a ship, it must be able to reach a destination and it must be able to do so without sustaining damage that would cause it to sink or fail to carry out its mission. The function of the steering system, then, is to maintain desired headings in order that this ship may avoid dangers to navigation and in order that it may ultimately reach its destination. For a work group to survive and carry out its goals, it must receive resources from the
larger organization and in order that these resources may be forthcoming, it normally has to accomplish some task that contributes to the goals of the superordinate organization. Thus, one of the functions of leadership is to influence members of the organization toward task accomplishment. In addition, in order that a work group may survive, the members must receive sufficient benefit and support to cause them to continue to contribute. Therefore, a second function of leadership is to enhance the maintenance of the group.

**Task and Maintenance Functions**

The task and maintenance functions of leadership were used by Behling (1980) as an example of the use of the functional approach in organizational behavior. The literature on groups, such as Bales and Slater (1955) and Thibaut and Kelley (1959), was the source of Behling's (1980) primary motivation for the use of task and maintenance. Bales and his associates developed the notion of the task-specialist and the social-emotional specialist, and Thibaut and Kelley (1959) spoke of the need for the task function and the maintenance function. Later Cartwright and Zander (1965) suggested that functional behaviors are instrumental to goal attainment or serve to maintain a group.

**Additional Leadership Functions**

Other writers who have written about leadership and management have included other functions in addition to task and maintenance. Not all functions of a manager are also functions of a leader; however, it is worthwhile to examine these lists for evidences of additional leadership functions. Dubin (1979) listed four problems that an organization
must handle: (1) to constantly evaluate the coordinating and integrating mechanisms of an organization and make necessary changes to improve outcomes, (2) to assist organizations in adapting, (3) to reduce conflict, and (4) to keep the organizational goals clear for its participants. Furthermore, Stogdill was referring specifically to leadership when he listed the following six functions identified by the behavioral theorists and researchers:

- Defining objectives and maintaining goal direction
- Providing means for goal attainment
- Providing and maintaining group structure
- Facilitating group action and interaction
- Maintaining group cohesiveness and member satisfaction

The Stogdill and Dubin lists raise the question of whether or not other functions should be added to Behling's task and maintenance functions.

**Justification for Use of Task and Maintenance As the Functions of Leadership**

The issue, then, is not whether or not task accomplishment and group maintenance are functions of leadership but whether other functions should also be included. An examination of Dubin's items reveals that they are really means of providing the task and maintenance functions. For example, monitoring and improving the organization integrating and coordinating mechanisms and resolving conflict—acts which fit the definition of leadership in Chapter 1—are means of promoting both the task and the maintenance functions. Keeping organizational goals clear is a task-related function, and assisting an organization in
adapting consists of leadership and other management acts designed to maintain the task and maintenance functions during externally or internally forced change. Stogdill's functions can be dichotomized as follows: 1, 2, and 6 are means of carrying out the task function and 3, 4, and 5 are related to the maintenance function. Stogdill also implies the necessity for performing these two functions through possible change with his "maintaining goal direction" and "maintaining group cohesiveness and member satisfaction."

In addition to the group literature cited earlier, there is additional organizational literature support for factoring the functions into task and maintenance. In the words of March and Simon, the functions of leadership are to influence the members "...to stay in the organization and produce" (1958, p. 51). Also Kahn (1960) included in a definition of organizational effectiveness the extent to which an organization fulfills its objectives without incapacitating its means and resources and without placing undue strain upon its members.

Since there is some literature support for using just the two functions and since other functions that are listed can be factored into task and maintenance, these are the leadership functions that are employed in this paper. However, the suggestion in the Dubin and Stogdill taxonomies that these two functions must be maintained through organizational change is an important concept that will be considered in a later section dealing with contingency variables.

Identification of Leadership Processes

The next step in the development of the functional concept for leadership study is to identify the various leadership processes that
might fulfill each of the functions. The list of these basic processes for each function will be developed in this section, and the constructs for these processes will be established in Chapter 5.

The Leadership Processes

If we reflect on the various influences over the behaviors of members of an organizational work group, we can identify the following six sources of influence: leader behaviors, self-control characteristics of the individual work group members, influences from the primary work group itself, characteristics of the task to be accomplished, structural characteristics of the formal organization, and work-related influences from activities external to the group's superordinate formal organization. It is postulated that there is a leadership process under each of these categories that has the potential of filling part or all of each of the two leadership functions.

There is some literature support for using these influences as functional processes in this study. Miner (1975) listed five sources of organizational control: self, hierarchical, professional or ideological, group, and task. Barrow (1977) reviewed the leadership literature and proposed a three-dimensional framework for studying various leader behaviors (one dimension) under leader characteristics (second dimension) and environmental factors (third dimension). This framework was based on the assumption that a certain leader behavior would interact with the leader characteristics to produce various levels of effectiveness contingent on environmental conditions. Barrow's categories of environmental conditions are organization, group, task, and subordinate
characteristics. These overlap with Miner's list with the organization characteristics as an additional item. Moreover, Osborn (1974) stated that most of the current models seem to give at least passing reference to four sources of influence: environment of the system, internal structure and processes, nature of groups, and characteristics of the individuals. If processes are compared to tasks and internal structures paired with organizational characteristics, then the only thing new in Osborn's list is the environment of the system, of which outside professional influence from Miner's list would be a subset. Miner, Barrow, and Osborn provide support for the above six sources of possible control or influence. However, since in the perception of the work group member, the task and formal organizational structure may be difficult to differentiate, these two processes will be combined in the development of the functional conceptual framework. Thus, the functional processes used in the remainder of this study are individual self-management, the task itself\(^3\) and formal organization, external environmental influences, work group influences, and hierarchical leader behaviors.

\(^3\)In order to distinguish the characteristics of the task to be performed, used herein as a functional process, from the task-accomplishment function, the term task itself refers to the task to be performed and the single word task is used to indicate one of the two functions.
Special Considerations Regarding the Hierarchical Leadership Processes

Two decisions must be made in selecting the hierarchical leadership processes: (1) what level(s) of supervisory personnel to include and (2) which leader behaviors to choose. The first problem will be resolved in this section and the second in Chapter 5.

In examining various processes that might fulfill the two leadership functions, we should look further than the leader behavior of the supervisor in investigating the full impact of hierarchical leader behavior. Donald H. McGannon stated, "Leadership is action, not position" (Peter, 1977, p. 296). Yet, with very few exceptions, leadership research has concentrated on the relationships between a supervisor or manager and that person's immediate subordinates. Though numerous writers (Stogdill, 1974; Calder, 1977) suggested that we should look elsewhere, few studies have done so; and those that have, have been limited to only the second level of supervision. In fact, low correlations between leader behavior and performance outcomes may well be caused by the fact that many first level managers are expected to manage within faulty organizational systems, and they have neither the mandate nor the authority to alter these systems (Nadler, Hackman, & Lawler, 1979). This suggests that we should look higher in the organization for leader influence. Bass (in press) found that executives identified immediate supervisors, a family friend, a management consultant, and managers several levels higher in the hierarchy when asked to name a person who influenced them to seek higher order needs than previously. This is consistent with the Hunt, Osborn, and Larson (1975) finding that
top-level administrators set the climate within the organization, which in turn influences satisfaction or performance. The importance of looking at several levels is also supported by another area of inquiry on the impact on subordinates of leader behaviors at one level that complement leader behaviors at another level (Katz & Kahn, 1978; Kerr, Schriesheim, Murphy, & Stogdill, 1974).

Two studies by Hunt and associates (Hill & Hunt, 1973; Hunt, Hill, & Reaser, 1973), that measured the impact of first and second level leader behaviors on psychological need satisfaction and performance and satisfaction, found that although the impact on criteria was smaller for the second level of supervision, such an impact did, in fact exist. However, the leadership measurements were taken from questionnaires filled out by the lower level personnel reporting on their supervisors and from questionnaires filled out by those supervisors reporting on their seniors. What has not been done yet is to have the lower level employee report their perceptions of the leader behaviors at several levels.

In addition to leadership exercised by those at higher levels of supervision, especially influential peers also exhibit leader behaviors that impact on work group outcomes. House and Baetz (1979) reported that when formally appointed group leaders fail to perform task-oriented behaviors, an informal leader emerges and performs the task-oriented behaviors necessary for success. Leadership may be either supervisory or mutual (Bowers & Seashore, 1966). In fact, Katz and Kahn (1978) reported that in many situations peer influence is more readily accepted than influence from organizational supervisors.
Peer leadership, then, should be included in the leader-behavior process.

Although it has not been done extensively in leadership research, the above referenced works and opinions provide support for the decision to include both influential peers as well as several levels of supervision in a study of the impact of hierarchical leader behavior on work group outcomes. This is especially important in a functional analysis that includes as one of its premises that there are several methods for satisfying specific functions. Accordingly, the hierarchical leader behavior processes for this study consist of behaviors of immediate supervisors as well as behaviors of other members in the hierarchy including influential peers.

**Significance of Leader-Behavior Processes**

Theories of leadership, prior to the "substitutes" literature, were based on a conviction that hierarchical leadership is always important (Kerr & Jermier, 1978). However, Greene (1979, p. 1) claimed that "...at this point, there are still very few empirically valid prescriptions about how a leader can affect subordinate behavior and attitudes." Nevertheless, there are a few statements of support for the feeling that if a leader does, in fact, lead, he/she may be more effective than the other leadership processes presented here. According to Hunt and Osborn (in press), leader action attributed to the supervisor is expected to have a more dramatic impact on subordinate affective states than action that is attributed to role requirements or what might be considered mere compliance with the formal authority structure. Katz & Kahn (1978, p. 536) struck another blow on behalf
of the leader: "Every supervisor functions within the limits of formal policy but within these limits, he or she adds and improvises."

Oldham (1976) was supporting the hierarchical leader when teaching that personally rewarding, setting goals, designing feedback systems, placing personnel, and designing job systems correlate with effectiveness. House and Rizzo (1972) found that the relationship between supportive leader behavior and satisfaction are slightly and consistently greater than the relationship between supportive organizational practices and the dependent variables. And Stogdill (1974, p. 332) stated that "Esteem for the leader is more highly related to group performance than esteem of the followers for each other."

None of this provides convincing support that under any condition the leader-behavior process will be the most effective. In fact, the above citations fairly well damn such an idea with faint praise, which leaves us with perhaps even a better appreciation for the importance of the two contingency variables.

What does all of this mean? There is a hint here that many other things being equal, if the leadership functions are perceived as being provided more from the hierarchical leadership processes than from other processes, these units may be more effective than those wherein the non-hierarchical leadership processes are dominant. This tentative conclusion leads to a proposition that is somewhat soft in nature but which is worthy of testing.
Interrelationships Between Task and Maintenance Processes and Functions

Thus far in the concept development, it has been assumed that task leadership processes will fulfill task leadership functions and that maintenance processes fill maintenance functions. However, literature on leadership has shown various degrees of cross influence, particularly in the task-process-to-maintenance-function direction. House (1971), House and Dessler (1974), House and Mitchell (1974), Sheridan, Downey, and Slocum (1975), Sims and Szilagyi (1975), Greene (1979) and others have found that under various contingencies, usually with low task structure and/or high subordinate authoritarianism, task-oriented leader behaviors are related to various facets of maintenance outcomes.

In the other direction, Greene & Schriesheim (1980) found that in new groups both task and maintenance leader behaviors had positive effects on a task-related outcome. House and Rizzo (1972) reported that role conflict acted as a moderator that contributed to a correlation between maintenance leader behavior and organizational effectiveness. And Janet Schriesheim (1980) showed that for a high cohesive group, maintenance leadership was correlated with task performance. Moreover, Larson, Hunt, and Osborn (1976), in reviewing the importance of a leader high in both functional leader behaviors, found that they could predict performance by knowing that a leader was high in either behavior. But the most frequent impact in the maintenance-process-to-task-function direction is the role of maintenance leader behavior as a moderator that allows sufficient task-orientation for high performance.
without a loss of maintenance criteria. For example, in group theory, according to Thibaut and Kelley (1959), a task specialist is identified simply by virtue of his/her initiating the largest number of task relevant interactions. These activities exact costs if action is not taken by a social-emotional specialist. Greene (1975) found that a maintenance leader behavior moderated the task process-performance relationship such that with highly maintenance-oriented leaders, emphasis on task caused higher subordinate performance. Miles and Petty (1977) claimed that task leader behaviors increase subordinates' levels of tension and anxiety, while maintenance behaviors serve as a palliative.

The functional concept of leadership proposed here assumes that in general task processes fulfill task-accomplishment functions and maintenance leadership processes are the major contributor to the fulfillment of the maintenance functions. Nevertheless, this cross influence is important and is included in the conceptual framework primarily in a contingency relationship. In brief, it is proposed that the most effective groups are those with high performance and low costs (high organizational commitment), and that these in turn are the groups in which both the task and the maintenance processes are present in an optimum fashion for leadership function fulfillment.

Contingency Variables

It was pointed out above that the opposite processes (task processes when dealing with the maintenance function and vice versa) have a moderating effect on the relationship between functional processes and outcomes. This section considers additional moderating variables. A fair question to ask is, "What do contingency variables
moderate in a functional approach to study of leadership in an organization?" This question may well arise since many of the processes are similar to variables that had been used as moderators in the modified version of the Path-Goal framework. However, in order to increase understanding of the leadership phenomenon in an organization, it is helpful to have some means of predicting or explaining when certain processes will be more effective in fulfilling the leadership function than others. Contingency variables, then, must be identified to allow prediction or explanation of primary and secondary effects of processes. Two moderating variables are proposed: use of leader power and situational instability.

**Use of Leader Power as a Contingency Variable**

Both possession of and use of leader power are included in this study in a moderating variable termed *use of leader power*. It has already been pointed out how work groups act to provide direction when direction from the formal organization is lacking. The reverse is also true; Hunt and Osborn (in press) postulated that hierarchical leadership is particularly important when the existing bureaucratic structure and processes are inadequate. Thus, under varying circumstances, different leadership processes will serve as primary means of fulfilling the leadership function. The leader's ineffectiveness may cause one of the other processes to take over. Fiedler (1965, 1967), of course, used position power of the leader as one of his three contingencies in what has already been pointed out to be one of the first major contingency approaches to leadership research. According to Mowday (1979), research interest in power in organizations has increased noticeably
in recent years. However, probably one of the best illustrations of how this variable affects hierarchical leadership effectiveness can be found in a recent book by Nadler, Hackman, and Lawler (1979). Their explanation is as follows:

If the power base of a leader is limited, then he or she may have great difficulty in wielding enough influence to get the work done. This sometimes is the case for first-line supervisors in hierarchical, structured organizations with strong labor unions. These individuals often have very little reward or coercive power and highly restricted legitimate power. This forces the supervisor to rely on expert and referent power. Yet for some complex or highly technical task, subordinates may have more task-relevant expertise than the supervisor, which leaves the supervisor with only referent power to use in influencing the subordinates.

For a respected and admired supervisor, referent power may suffice; subordinates may comply because they like and identify with their boss. But if the supervisor in such circumstances is not respected, he or she may have virtually no clout to use in getting the work done. This is an untenable management situation, and one to which most supervisors do not respond well...

Not to have a base of power is not to be a leader. (p. 161).

Just having the power, though, is still not enough. Nadler et al. continued:

Having a solid power base is, however, far from the whole story. The leader must also be willing and able to use the power he or she has; that is to administer rewards and punishments when needed, to share expertise, and to issue requests and commands with full expectation that they will be followed. (p. 161).

And Katz and Kahn (1978) pointed out that, "...one supervisor may utilize his or her legitimate power in appropriate and telling ways to maximize his or her influence in the structure, whereas another may fail conspicuously to use the organizational structure to get the job done" (p. 528). The above quotations from the theoretical
literature provide support for the choice of leader power as a determinant of the relative impact of various leader processes in fulfilling the leadership functions.

**Situational Instability as a Contingency Variable**

In the selection of the two major functions of leadership, it was promised that the importance of maintaining these functions through change— as suggested by Dubin's (1979) taxonomy—would be covered in some way in the functional concept. Thus, change or situational instability is proposed as a second variable that acts as a determinant of the relative impact of hierarchical leadership vis-a-vis the influence of the other functional processes. Although the degree of change in a group or organization has seldom been used as a contingency variable in empirical research, the theoretical literature indicates that it should be. Over five decades ago, Mary Parker Follett (1925), in discussing giving orders, pointed out that the situation is always evolving.

The reason that organizational change is a contingency variable in the functional concept is that the hierarchical leadership process probably has the greatest chance of being the process that can best adapt to the new situation in a way that is beneficial to the organization and in a way to give direction to the subordinates. That is, the leader has the highest potential to develop the requisite variety (Weick, 1978) to adapt to a changing environment. As Stogdill stated, "...leaders tend to change certain aspects of their behavior in response to changes in group task demands" (1974, p. 169).
The fear of change or crisis is another change-related situation in which the importance of the leader has been documented. Stogdill (1974) mentioned this several times. "Leaders were found to wield more influence during crisis than during non-crisis periods." (p. 296). "Under conditions of extreme hardship and stress, a group's chances of survival are enhanced when it has a leader who maintains its integrity, keeps it realistically informed of the situation confronting it, fulfills the expectations of its members ..., and maintains its commitment and goal direction." (p. 402). "Competent leadership is especially needed in times of crisis to unite the efforts of members and strengthen group cohesiveness around a common purpose." (p. 420). (Note that both of the leadership functions are clearly identified in these last two quotations).

A recent study by Hunt and Osborn (in press) has change as one of its contingency variables in the form of "environmental volatility" which the authors used as one ingredient of "complexity," They found support for their hypothesis that greater complexity not only increases the need for hierarchical leadership but also provides more opportunity for it. One of their supported propositions was that as complexity increases, those leaders who used their leadership, over and above routine management, have more successful units.

The above quoted literature provides support for the selection of change or organizational instability as another moderator in the determination of which leadership process will fulfill the leadership function most effectively.
The Functional Concept of Leadership: A Summary

The best means of summarizing the material in this chapter is to show how the components fit together in a conceptual framework and then to review the major components of the functional leadership concept. The next chapter will be devoted to modeling the leadership phenomenon more specifically. Figure 2 presents a diagram of the various functional processes developed in this chapter and of how they are connected to form a framework. The various processes are shown in circles with the process sources identified in capital letters. Within the circles the task and maintenance processes are identified and separated with the task-related processes in the upper portion and the maintenance-related processes in the lower half. The small arrows indicate that there are several task-related and maintenance-related influences acting on the individuals of a group to add to their task and maintenance self-management processes. The collection of these individuals with their task and maintenance influences leads to an organizational work group within which there are individual and group outcomes that are the results of fulfillment of task and maintenance functions. In the work-group rectangle these are also split along functional lines with the task functional outcomes again on top and with the individual outcomes at the outer extremes of the work-group rectangle and the group results in the middle. Thus, the combination of group task and maintenance criteria determine group effectiveness, which in turn provides the focal group's contribution to overall organizational effectiveness.
Represented by two rectangles, the contingency variables, use of leader power and situational instability, are shown moderating the degree to which the hierarchical leader behaviors will impact on the individuals and group relative to the impact of the other processes. The joining arrows leading from the individuals of the group, having been influenced by the various functional processes, to the work group indicate that generally task-related processes lead to task-related outcomes and maintenance-related processes correlate with maintenance-related outcomes but that there can be a cross influence in a contingency manner. The shorter arrow and larger circle for the leader-behavior process is a visual suggestion that holding the contingencies constant, the best results should come from effective leader-behavior processes.

A summary of the variables used in the above described framework follows. For the task function, the independent variables are represented by the task processes, which come from the following five sources: the individual members of the work group, leader behavior (including leaders throughout the hierarchy in addition to the supervisor), the work group, the task itself within the formal structure of the organization, and external activities. The task-related independent variables are task outcomes both at the individual and group levels. For the maintenance function, the independent variables are the maintenance processes derived from the same sources as for the task processes. And the maintenance independent variables are individual and group measures of fulfillment of the maintenance function.
Figure 2. Diagram of Organizational Leadership Functions and Processes.
The conceptual framework depicted in Figure 2 and described above is a general statement of the functional analysis. However, it lacks a statement of how the concept variables interact, phrased in such a way that test, predictions, and explanations can be made for particular organizations. In the next chapter this conceptual framework will be extended into models that can be tested, while Chapter 5 will explain the methods for the conduct of tests of hypotheses derived from the models.
CHAPTER 4

THE FUNCTIONAL MODELS

The previous chapter developed the broad concept for a functional analysis; this chapter, then, is devoted to explaining in more specific terms how the variables of the conceptual framework interact. There are two broad ways of framing this: (1) the processes can be treated as separate variables in a complex interactive model and their relative impact under various conditions can be determined, and/or (2) the processes can be combined into an additive model with equal weightings for a determination of the relationship between, say, the combined task processes and the task criteria. Both methods will be addressed in this paper. The combination method will be discussed first because it stems from a relationship that is strongly suggested by general behavioral science literature but, strangely, not considered to any degree in the leadership literature. Furthermore, Behling and Dillard (1980) demonstrated that while additive models with equal weightings are simple in terms of format, they do not lack conceptual richness.

The Additive Functional-Process Model of Leadership

As indicated above, combining leadership process variables may lead to a better understanding of the leadership phenomenon. Each of the process influences are really vectors, and the most common
way of combining vectors is to add them. Consequently, literature support for adding the variables will be explored first, and what we might do with the summed functional processes will be treated next.

Additivity of Respective Leadership Processes

Intuitively it makes sense to add the various processes that fulfill each of the functions. For example, it would seem that the clearer is the understanding of the method of completing a task and of the expected quantitative and qualitative goals, especially when it comes from several complementary sources the better the task performance will be; this generalized statement follows naturally from the Kerr, Schriesheim, Murphy, and Stogdill (1974) view that the more the leader is able to provide subordinates with valued, needed, or expected services, the higher the positive relationship will be between leader behavior measures and subordinate satisfaction and performance.

Small-group researchers such as Dubin (1958) have established that the non-formal behavior of an organizational group complements the formal communications channel in providing direction. This suggests adding the group processes to hierarchical processes. Miner (1975) warned that relying on self-control alone invites organizational anarchy, thus suggesting that individual processes must be added to others. And Jauch, Osborn, and Terpening (1980) found that either organization, peer, or professional loyalties could influence several of the maintenance criteria, thus suggesting a summation would be a better predictor than had any of the three influences been used alone.
This is a modest amount of support for the concept of combining the functions; however, if they are to be combined, it is clear from the above that a summation is the proper method, and the conclusions of Behling and Dillard (1980) provide motivation for such a model. Another body of literature, however, presents us with a dilemma. Miner cautioned that if two or more types of control are used at one time, a high probability of negative outcomes results. Furthermore, a review of Path-Goal Theory by Filley, House, and Kerr (1976) suggested that if we were to add task-itself and formal organization task processes (which would be high if the task itself is providing clear structure) and leader instrumental behaviors, we may get very little or a negative correlation with task-related criteria.

All this suggests that as structuring continuously increases, performance will reach a maximum and then decline; similarly as supportive processes are superimposed on one another, social-emotional criteria will peak and then decline. This is not surprising since the curvilinear relationship, the inverted "U" curve, is so common in the behavioral sciences. Campbell and Pritchard (1976, p. 92), in summarizing their comments on Expectancy Theory (on which Path-Goal Theory is based), wrote that, "There is inherent in the model a general notion that the world is built in a linear or at least monotonic fashion... All these linearity assumptions are grounds for debate." Even though most behavior-contingent leadership research (cell 22 of Figure 1) has assumed linearity, almost a decade ago, Fleishman (1973) noted that an increasingly insistent theme is the trend away from the assumption of simple linear relations to describe the data of leadership research.
What is proposed here, then, is that the relationship between the sum of the task-accomplishment processes and the task-accomplishment dependent variables will be curvilinear and the same will be true for the maintenance function. Literature support for the curvilinearity propositions for both the task-accomplishment and maintenance functions follows.

Curvilinearity of the Task-Accomplishment Function

Figure 3 is a graph of the hypothesized relationship between the sum of the task-accomplishment processes and performance measures. As indicated above this same curve is used to describe other phenomena in the behavioral sciences. If the x-axis is changed to activation level, the Figure-3 curve remains otherwise the same (Scott, 1966);

Figure 3. Curvilinear Relationship Between Task Criteria and the Sum of the Task Processes
and activation level is assumed to covary with the sum total of stimulation from all sources. Now, if the abscissa is changed to stress, again the curve is similar to one by Yerkes and Dodson (1908) and close to the curve of Selye's (1956) from the point at which it first crosses the x-axis. This makes sense in the functional approach to leadership because a continued provision of direction from several sources could eventually lead to role overload or role conflict, which in turn can lead to stress (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; McGrath, 1976). And, finally, if the x-axis is changed to information, the curve again describes the relation accurately; according to Keen and Scott Morton (1978), there is an optimal balance of information input to any one individual. Too little or too simple an input load leads to boredom and too much leads to panic. And, finally, although Nadler, Hackman, and Lawler (1979) presented an excellent case for the importance of a considerable power base for a leader, they also explained that excessive use of leader power usually destabilizes and decreases the effectiveness of the leader and the work unit.

The curve of Figure 3 is not only consistent with the above cited phenomena, but it also may possibly explain the results of Path-Goal Theory research as well as some of the equivocality. Although Path-Gaol Theory assumes a linear relation (House & Mitchell, 1974) between leader behaviors and expectancies, the slope is predicted to increase under certain conditions and decrease under others; but some study results (House & Dessler, 1975; Downey, Sheridan, & Slocum, 1975) show no slope of significance. It may be that these differences reflect the curvilinear relation; that in some cases the leader behavior
is occurring on the up side of the curve, sometimes near the maximum when the slope is very small, and in some circumstances on the down side. For example, with no external or group instrumental influence, there should be an almost positive linear relationship between hierarchical instrumental leadership and performance criteria. On the other hand, if several of these other influences provide direction and clarity, there is every reason to believe that a leader vigorously supplying instrumental leadership would be working on the down side of the curve.

Curvilinearity of the Maintenance Function

Much of the Path-Goal literature has shown that overcontrol in the task processes decreases the job satisfaction; and, as related above, a few articles have shown a similar negative impact on performance measures. But what about the impact of the sum of the maintenance processes on maintenance outcomes? Is it possible that redundancy in social-emotional support can negatively affect maintenance criteria such as satisfaction on the job.

A few theories in Organizational Behavior literature suggest that redundant support mechanisms are dissatisfying; the Deci (1972) notion that extrinsic rewards will decrease intrinsic motivation, for example, suggests that if a person is ego-involved in an intrinsically satisfying task, an additional amount of extrinsic support may be seen as removing some internal causality and will have a negative effect on the member's maintenance-related outcomes. Another theory that hints at the psychology of dissatisfaction with excessive reinforcement is the overpayment portion of equity theory (Adams, 1965), in which it is
hypothesized that if a person receives more output for a given input than that of a comparison other person, he/she will take some actual or cognitive steps to equalize the imbalance. Neither Deci's nor Adams' theory is directly applicable to the functional leadership maintenance curvilinearity relationship, but they both provide substance to a notion of a human characteristic that beyond a certain number of different forms of reward and social-emotional support, satisfaction levels off and may begin decreasing. It would seem

![Organizational Commitment vs Sum of the Maintenance Processes](image)

**Figure 4.** Curvilinear Relationship Between Maintenance Criteria and the Sum of the Maintenance Processes
reasonable, therefore, to expect a curvilinear relationship for the maintenance functions similar to the one for the task-accomplishment function. If there is a considerable redundancy in social-emotional support, it could be treated with suspicion and have a dysfunctional effect on maintenance outcomes.

It is hypothesized here, then, that a relationship similar to that represented in Figure 4 exists. That is, as the sum of the leadership maintenance processes increases, satisfaction with the job and commitment to the work organization will increase with a slowly decreasing slope, level off, and then decrease.

Interrelationships Between the Task and Maintenance Curve

In Figure 2, arrows from the functional processes to group outcomes represent cross-function influences. There are several leadership literature suggestions of cross-function influences; this section explores this phenomenon in more detail.

The documentation for the cross-function influences fit into four separate categories as follows: (1) Excessive maintenance processes relative to task processes decrease performance. (2) Maintenance processes can moderate the otherwise negative aspects of excessive task processes to increase performance. (3) Excessive task processes relative to maintenance processes decrease job satisfaction and organizational commitment. (4) Task processes can moderate the otherwise negative aspects of excessive maintenance processes to increase job satisfaction and organizational commitment.
In order to explain these interrelationships more clearly, a graphical representation will be used. Figure 5 has been produced by simply rotating the maintenance-function curve of Figure 4 180° about its $y$-axis and superimposing this reversed Figure 4 on to Figure 3. The task accomplishment curve is shown with solid lines and capitalized labels, while the maintenance curve is drawn with dashed lines and labelled with lower-case letters. Figures 6 through 9 are specific cases of Figure 5 that correspond to the four interrelationships under discussion. To explain how these two curves function together, it is assumed that the end of the two curves act as two magnets and when close enough, they are linked together.

**Excessive Maintenance Processes Decrease Task Outcomes.** This case is shown in Figure 6. An excessive amount of maintenance processes has taken the maintenance curve over its maximum at point A to the downside at point B with a concommitant decrease in task processes to cause a lowering of task outcomes. This, of course, is well documented in the history of the early organizations that swung in the full direction toward the human relations form of management. The early human relations "...training programs often had no effect at all on productivity . . . " (Filley, House, & Kerr, 1976). In this case, the leaders were so preoccupied with increasing subordinate job satisfaction that they did not spend sufficient time in providing direction necessary for peak performance.

**Moderating Effect of Maintenance Processes on Excessive Task Processes.** This case is depicted in Figure 7. If the amount of task processes were otherwise to have the effect of over-control and reducing
Figure 5. Interrelationships Between Task and Maintenance Curves.

Figure 6. Impact of Excessive Maintenance Processes on Task Criteria.

Figure 7. Moderating Effect of Maintenance on Excessive Task Processes.

Figure 8. Impact of Excessive Task Processes on Maintenance Criteria.

Figure 9. Moderating Effect of Task Processes on Excessive Maintenance Processes.
performance to point A, an additional amount of maintenance could moderate the effects of the extra supervision and push the situation back to a higher performance at point B. The productive management of stress, as discussed by Benson and Allen (1980), is one example of this. If there is a role overload that is causing stress, one means of reducing the stress is with supportive leadership actions. This is consistent with the notion held by Miles and Petty that support acts as a palliative to the increased tension and anxiety resulting from a large amount of structuring. Another possibility is that point A is reached because the high degree of structuring has resulted in boredom. In this case, Scott (1966) has suggested that social activity might serve to increase activation level to cause sufficient arousal for optimum performance. Thibaut and Kelley (1959), quoted earlier, indicated that a social-emotional specialist can compensate for the costs of excessive structuring in a group. And, finally, Greene's (1975) leadership causal studies indicated that support moderated the structuring-performance relationship such that with high maintenance-oriented leaders, emphasis on task accomplishment caused higher subordinate performance.

Excessive Task-Accomplishment Processes Decrease Maintenance Outcomes. Figure 8 shows this case; it is a mirror image of the first case shown in Figure 6. Here the task processes have been built up to the extent that they have passed the maximum at point A and arrived at point B with a diminished amount of satisfaction and commitment. This is probably the most intuitively obvious and what has actually been covered most in statements about Path-Goal Theory. For example,
for the highly structured situation, the wording is "...attempts by leaders to clarify paths and goals will be redundant and will be seen by subordinates as an imposition of unnecessary close control". (Filley, House, & Kerr, 1976). This implies a decrease in maintenance outcomes.

Another portion of the Thibaut and Kelly comment on the emergence of group leaders, the reader will recall, was that initiating a large number of task relevant interactions exact costs. This idea is clearly explained in *Leadership and Exchange in Formal Organization* (Jacobs, 1971). This book contains a list of four ways that supervisory costs are increased, two of which are (1) excessive requirements for compliance, and (2) unnecessary reduction in the worker's autonomy through close supervision. Costs here imply lack of maintenance outcomes.

**Moderating Effects of Task Processes on Excessive Maintenance Processes.** Figure 9, a mirror image of 7, portrays a situation in which an excess of maintenance processes would otherwise have resulted in reduced maintenance outcomes at point A, but by the addition of some structuring and increased performance, the maintenance outcomes are pushed back up to point B. Stress management literature, such as that by Benson and Allen (1980) again is applicable. If a country-club atmosphere that results in both low performance and low satisfaction is present, task processes that increase stress to a healthy point can be beneficial.

One of the reasons Blake and Mouton (1964) gave for eventual dissatisfaction with 1,9 leadership is that conflicts that arise never get resolved. Katz (1977) speculated that since high group performance usually resolves conflict, initiating structure may well be a good
means of reducing affective conflict.

The High-High Controversy. The interrelationships postulated above suggest that relatively high task accomplishment process sums and relatively high maintenance process sums will place the focal group effectiveness at the peak of both functional outcomes. This corresponds to Stogdill's (1974, pp. 396-397) findings that, "Several studies indicate that consideration and structure interact to influence productivity and satisfaction. The most effective leaders tend to be described high on both scales." On the other hand, Larson, Hunt, and Osborn (1976) questioned what they termed "the great hi-hi- behavior myth." They found that knowledge of either consideration or structuring enabled them to predict performance in the cases that they reviewed and that in 10 cases of 14 either behavior could predict satisfaction. The question of the effectiveness associated with a leader's use of people-centered style or behavior, a task-centered style or behavior, or both has permeated the theoretical leadership and management training literature such as the Managerial Grid (Blake & Mouton, 1964), the Life Cycle or Situational Leadership Theory (Hersey & Blanchard, 1977), and the 3-D Management Style Theory (Reddin, 1970); the empirical organization leadership literature from the Ohio State studies and the University of Michigan Studies; and the group literature. Since the group literature generally focuses on the idea of two different specialists, the question is advanced as to whether a single leader can even fulfill both functions. Such a person who can is considered to be so rare that Filley, House, and Kerr (p. 217) treated such a person as a "great man." They interpreted the group literature as indicating that "According to the 'great man' theory,
anyone exhibiting both instrumental and supportive leadership behavior will be an effective leader in any situation."

The Managerial Grid and the early leader behavior studies at The Ohio State University and University of Michigan support the value of a "great person" who could exercise both types of styles. Yet, Fiedler's Contingency Theory, Path-Goal Theory, and Life Cycle support the situational notion. A key to resolving this controversy lies in the functional approach. Barrow (1977) claimed that the Life-Cycle Theory of Hersey and Blanchard has not been validated; however, it is widely used in leadership training. How could they possibly explain their theory that for a relatively mature group of subordinates, the leader can get by with high consideration and low structuring and for full mature groups he should use both low structuring and low consideration? Their explanation is that the group of mature workers supply both of these things themselves. It is important to note here that Hersey and Blanchard always use the word low, never zero. This explanation can be encompassed in the functional approach. Fundamental to the model developed here is that both functions must be fulfilled in an effectively operating group. The leader(s) must determine whether or not these functions are filled in an optimum manner and if not, to use the appropriate process(es) to augment what is already there.

The functional model also provides insight into the controversy (Hill & Hunt, 1973; Storm, 1977) over whether or not two levels of hierarchical leaders should have the same or complementary styles. The controversy exists because the wrong question is asked; the real issue is whether or not both functions are fulfilled. If neither is satisfied
by another process and the supervisor is task-oriented, then somebody else in the hierarchy (or some other leadership process source) must provide the maintenance process, and vice versa. However, if the maintenance function is fulfilled, hierarchical leaders can all be low in supportive behavior and high in instrumental behavior.

Since Path-Goal research has generally paired only one leadership behavior with one—and at the most two—contingency variables, some of the results have been in conflict. House (Schriesheim & Kerr, 1977) has already explained that one of the reasons for this equivocality is that some other variable may be at work. The functional model attempts to consider most of the processes that could contribute significantly to fulfilling the two vital functions for effective organizational performance. Thus, its use should uncover any conjugate variables and explain some of the conflicting findings in Path-Goal research also.

Knowing how the curvilinear functional model works is valuable for several reasons; (1) a few somewhat broad predictions can be made as to the relative effectiveness of traditional hierarchical leadership processes. (2) It can be used for teaching managers, at various levels, what options they have under many different situations of partial or extensive fulfillment of the two functions by non-leader-behavior processes to increase either or both of the functional outcomes. And (3) it provides a model for understanding the results of a large body of leadership literature. However, the additive, curvilinear model will not provide insights into which of the various processes in a given organization are having the greatest impact on the functional outcomes.
The Complex Interactive Functional Model of Leadership

Behling and Dillard (1980) have used a simulation to demonstrate that a complex interactive model linking several explanatory variables with a dependent variable does not yield sufficiently higher predictive power over an additive model with equal weights to justify the use of the more complex model. They pointed out that this is particularly true in the case of organizational research in which the variable measurements are so imprecise. However, the use of the more complex model may give more detailed insight in the comparison of different activities or organizations and into the impact of moderating variables.

The remainder of this chapter will be devoted to deriving propositions from both the additive, curvilinear functional model of leadership and from the complex interactive functional model taken from the conceptual framework. However, with the above explanation of the two models, we should now be able to get a better understanding of the degree to which this approach is consistent with Behling's requirements for classification of an approach as functionalism, as discussed in the first two pages of Chapter 3. The additive model is, in fact, a general model that should be useful in either general or specific leadership training programs. However, whether the characteristics of any particular organization and the type of employees it attracts are such that traditional leaders would be operating at any particular section of the curve must be the subject of inquiry for each organizational situation. On the other hand, the complex interactive model is primarily a means of finding out what moderators are impacting the leadership functions in a particular setting; that information along with additional knowledge
of the focal system should provide excellent inputs into a problem solving approach to management improvement.

Propositions Derived From the Functional Models of Leadership

The development of propositions from this functional approach to leadership study requires drawing from one or the other of the two models described above. The names of the models and other terms that have been used in the development of these models are somewhat cumbersome, but they were employed to avoid confusion among different concepts containing the same word and to differentiate some of the concepts of this approach from those used in previous leadership studies. However, at this point, terms used here should be sufficiently clear that we can proceed with the development of the propositions based on the two models.

Basic Proposition

Implicit in the very basis for this entire functional approach is the requirement that in any adequate organizational group, both functions are being fulfilled. Furthermore, it is assumed that some process appropriate to each function is operating to satisfy that function. The first and basic proposition, then, is as follows:

Proposition 1: At least one task-accomplishment process and at least one maintenance process is present in every satisfactorily effective organizational group.

Propositions Derived from the Additive Model

The literature review in the early portion of this chapter showed a degree of support for the following elements in a functional approach to leadership analysis in an organization: (1) The task function and
the maintenance function can be fulfilled partially or entirely by
task or maintenance processes, respectively, originating in the follow­
ing sources: individual members, hierarchical leader behavior, an in­
formal or primary work group, external influences, or the task-itself.
(2) One means of determining the degree to which each function is satis­
fied is to sum the appropriate functional processes from the five process
sources. (3) The relationship between the sums of the functional
processes and the functional outcomes will be curvilinear and approximate
an inverted-U curve. That is, as more and more task direction, clarifi­
cation and structuring is supplied to an individual, the individual's
performance will begin to increase linearly and positively, then decrease
in slope, level off at a maximum criteria level, and begin to decline.
The same is true for the maintenance function, and in many cases there
are relationships between the two curves as shown in Figures 6 through 9.
For any given individual there are several places that he/she may be on
the curve; some of the possibilities are shown in Figure 10. The basic
additive-model proposition is that the curvilinearity relationships shown
in Figures 3 and 4 exist.

**Proposition 2a:** The relationship between the sum of the self,
leader-behavior, group, external, and task-itself maintenance
leadership processes and the maintenance functional outcome
variables at both the group and individual levels of analysis are
curvilinear approximating an inverted U.
The basic Figure-10 diagram shows both functional dependent variables at their peak. This could result from both processes providing precisely the optimum amount of fulfillment of the two functions or it could result from an excessive amount of either of the two processes coupled with the moderating impact of the other function. The second of these suggest the following interrelationships.

**Proposition 3a:** Dysfunctional effects of an excess of the task processes can be reduced by high levels of the maintenance process to allow the dependent variables for both the task and the maintenance functions to be optimum. In other words, for cases in which the sums of the maintenance processes are high, the relationship between the sums of the task processes and the task dependent variables will be positive and linear or monotonically increasing.

**Proposition 3b:** For cases in which the sums of the task processes are high, the relationships between the sum of the maintenance processes and the maintenance dependent variables will be positive and linear or monotonically increasing.

The remaining propositions of interest in this paper concern the relative impact of the various processes on the functional criteria under various circumstances. If only one process is active in fulfilling a function, there is a high probability that the positive, linear portion of the curve will describe the relationship. Consequently, the following situations, that are derivable from either the functional model or Path-Goal Theory, are proposed.
Figure 10. Possible Relationships Between Functional Processes and Functional Outcomes.
Proposition 4a: If the self, group, external, and task-itself task processes are low, there will be a positive linear correlation between aggregate perceived leader behavior and both individual and group task outcomes.

Proposition 4b: If the self, group, external, and task-itself maintenance processes are low, there will be a positive linear correlation between aggregate perceived leader maintenance behavior and both individual and group maintenance outcomes.

Proposition 4c: If the self, group, external, and task-itself task processes are all high, there will be a negative correlation between aggregate perceived leader task behavior and task outcomes.

Proposition 4d: If the self, group, external, and task-itself maintenance processes are all high, there will be a negative correlation between aggregate perceived leader maintenance behavior and maintenance outcomes.

There was modest support presented in the development of the conceptual framework for an advantage of the aggregate leader behavior notion over any single focal leader behavior. Furthermore, the functional approach itself suggests that there will be a higher correlation between dependent variables and the sum of the functional processes than between criteria and aggregated leader behavior. This should be true even though the curvilinearity exists. The following propositions follow from these priorities.
Proposition 5: With possession and use of leader power and situational stability held constant, there will be a higher correlation between aggregate leader behavior and both individual and group criteria for both functions than between supervisor leader behavior and criteria.

Proposition 6: With possession and use of leader power and situational stability held constant, there will be a higher correlation between the sum of the functional processes and both individual and group criteria for both functions than between aggregated leader behavior and criteria.

Propositions Derived from the Complex Interactive Model

The following propositions are derived from the discussion of the leader's possession and use of power and situational stability as moderator variables in the development of the conceptual framework:

Proposition 7: With situational stability held constant, the aggregate leader behavior process will be the most significant process for both functions for groups in which the possession and use of power by the leader is high.

Proposition 8: With use of leader power held constant, aggregate leader behavior will be the most significant process for both functions in those groups in which the situational instability is high, i.e., the focal group is in the midst of a planned or environmentally forced change.
Propositions to be Tested

The primary purpose of this dissertation is to empirically test the propositions derived from the additive model, Propositions 2 through 6. Accordingly, organizations and sub-groups within the organizations, along with the necessary population size, will be chosen to accomplish the test of the basic concept and the curvilinearity relationships. However, data on the moderating variables will be collected, if feasible, so that a multivariate analysis of the organization leadership can be conducted by use of the complex interactive model; thus, propositions 7 and 8 may be tested only if the data is available. In the methodology chapter that follows, tests will also be proposed for these last two propositions in the fortuitous case that the data may be available. Although no formal hypothesis was developed for Proposition 1, a method will be shown for insuring that at least one process for each function is strong enough to fulfill the function in each organizational group.
In Chapter 3 the leadership functions and the sources for the functional processes were identified. In Chapter 4 the functional concept and two models were developed to describe the interrelationships between the various processes and the functional outcomes. In order to test these models, several propositions were proposed, and it was stated that the purpose of this research is to test Propositions 2 through 6 as a minimum and Propositions 7 and 8 if the necessary data for those tests is available. This Chapter, then, presents the method by which these propositions were tested.

In order to completely describe the method for these tests, the following elements are covered: desired and actual characteristics of the sample organization(s); the constructs for the dependent, independent, and moderating variables, and the operational instruments used to measure these variables; the data collection procedures that were utilized; and the analytical methods used, including the mathematical statement of the models, the hypotheses to be tested, and the statistical methods employed to test these hypotheses.

Sample Organization

A pilot test of the additive model, in a large city police organization using surrogates for the various task leadership processes as described in the previous chapter, showed support for the curvilinearity
notion at a .06 level of significance. The graphs of the task criteria versus the sum of the task processes showed that curvilinearity existed, but there were such large numbers of cases near the middle of the sum-of-the-task-processes range compared to so few at the two extremes that the middle greatly influenced the regression equation. It was evident from this trial run that in order to adequately test the curvilinearity hypothesis, data sources must be selected that represent a fairly even distribution across the range of the sum of the task and maintenance processes.

Organization and Group Specifications

In addition to the special requirements dictated by the nature of the curvilinear hypotheses, sample sizes for significance for various statistical tests as well as the availability and value of archival organizational dependent variables also caused a high importance to be placed on the data collection process. Accordingly, the following specifications were established to aid in the selection of the organizational test site and in the selection of the work groups to be tested. A work group, as used in the specifications, was required to be (1) an organizational working unit (2) consisting of at least three members at the same level in the organization and their immediate supervisor (3) with at least two organizational levels over the group's supervisor. Therefore, the desired specifications for the test groups and the test organization were as follows:

1. In order to conduct the statistical tests for Proposition 2 for the group level of analysis, there should be 40 work groups.
2. In order to provide the range for the curvilinearity tests of Proposition 2, the following issues should be considered in the selection of groups to be sampled:

   a. A complete range of both the sum of the task processes and the sum of the maintenance processes is desirable. For example, there should be some groups engaged in unstructured tasks with little group and external influence; some at the other extreme, i.e., highly structured tasks and both group and external influence; and some—preferably one-half or fewer of the total number of groups—in between these extremes. Jobs should also vary in intrinsic satisfaction.

   b. Within each category above, there should also be a range of individual locus-of-control. In addition, there should be a range of leader task-oriented and maintenance-oriented behaviors. A natural distribution of personal characteristics should take care of this issue; it is listed here to insure not going into an organization that attracts all of one particular type of individual.

3. Among the 40 groups, there should be a measurable range of group performance and group personnel-related costs (absenteeism, turnover, accident rate, and grievance rate).

4. Although not mandatory, it would be preferable if the organization used individual performance evaluation instruments that are very similar across all groups being tested and that it has some means of evaluating relative group performance.

5. The organization should have records available and accessible on absenteeism, turnover, and other personnel-related costs that can be broken down by work groups.
6. The group members should be spatially close enough that they at least know the names and titles of their managers two levels above their supervisor and have some knowledge of some of their activities.

7. Finally, some level within the hierarchy, between the members and three levels of supervision above the members, should have outright authority, or at least a strong influence over promotion, compensation, and/or hire and fire decisions affecting the group members. This should be true for at least some of the groups. Responsibility for completing performance evaluations that are used to a significant degree in promotion or pay-raise decisions fulfills this requirement.

It was apparent that some degree of compromise of the above preferred specifications would have to be made. Nevertheless, every effort was made to meet requirements 1 through 3 and as many others as possible.

Sample Selection

The organizational setting chosen is a large Department of Defense activity that supports operating units of all the armed services. The organization, hereafter termed the Center, is commanded by a flag officer of one of the armed services; however, the overwhelming majority of the approximately 5,000 employees are civilians. There are six staff offices—Security, Counsel, Planning and Management, Data Systems, Comptroller, and Civilian Personnel—and six major departments whose directors report to the Commander of the Center. Workers at the Center are represented by two labor unions. To obtain a spread of job structure and group and external influence, the following activities were surveyed: the Accounting and Finance Division, the Office of Counsel, the Office of Civilian Personnel, the Repair Parts
Division, and the Technical Services Division. A sixth, the Office of Planning and Management, was added at the request of the Director of that office.

Sample Characteristics

Of the 493 members of the six Center activities, 380 members completed survey questionnaires. The respondents represented 52 work groups of which up to 42 were used in most of the group analyses. A summary of this information is shown in Table 3. As noted in the table, 77% of the on-board strength for the six activities conscientiously participated in the survey. Those groups that were not used contained only one or two participants or a higher number of participants than the group on-board strength. In addition, one group was eliminated when observational dependent variables were used since the observational data was for the entire group, and fewer than 37%—less than one-half of the average response rate—of the members of the group participated in the survey.

Table 4 presents a summary of the demographic profile of the sample. About five-eights of the participants are female, and the participants are distributed according to the Bureau of Census race codes as 23% black, 1% American Indian or Alaskan Native, Asian or Pacific Islander, or Hispanic, and 76% white (not of Hispanic origin). Ages range from 18 to 70 with a mean of 42.3. And although there are several newcomers to the organization and to their jobs, years with the organization are as high as 39 and years with the same supervisor as high as 20. Finally, about six out of ten of the respondents have had at least some education or training beyond the high school level.
TABLE 3
ORGANIZATION SAMPLE DATA

<table>
<thead>
<tr>
<th>Functional Office</th>
<th>Members On Board</th>
<th>Survey Participants</th>
<th>Percent Work Groups Sampled</th>
<th>Work Groups Used&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting and Finance Division</td>
<td>148</td>
<td>120</td>
<td>81</td>
<td>18</td>
</tr>
<tr>
<td>Office of Counsel</td>
<td>13</td>
<td>6</td>
<td>46</td>
<td>1</td>
</tr>
<tr>
<td>Civilian Personnel</td>
<td>93</td>
<td>68</td>
<td>73</td>
<td>10</td>
</tr>
<tr>
<td>Planning and Management</td>
<td>61</td>
<td>47</td>
<td>77</td>
<td>8</td>
</tr>
<tr>
<td>Repair Parts Division</td>
<td>78</td>
<td>56</td>
<td>72</td>
<td>9</td>
</tr>
<tr>
<td>Technical Services</td>
<td>100</td>
<td>73</td>
<td>73</td>
<td>6</td>
</tr>
<tr>
<td>Miscellaneous&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>493</td>
<td>380</td>
<td>77&lt;sup&gt;c&lt;/sup&gt;</td>
<td>52</td>
</tr>
</tbody>
</table>

<sup>a</sup>For the group level of analysis, only those groups with three or more participants were used.

<sup>b</sup>Ten participants did not designate their work group.

<sup>c</sup>Number of survey participants divided by number of members on board.

TABLE 4
DEMOGRAPHIC DATA FOR SURVEY SAMPLE

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Range</th>
<th>Mean</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td>37% male, 63% female</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td>23% black, 76% white</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td>37% single, 63% married</td>
</tr>
<tr>
<td>Number of children</td>
<td>0 to 8</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>18 to 70</td>
<td>42.3</td>
<td></td>
</tr>
<tr>
<td>Years in occupation</td>
<td>&lt;1 to 45</td>
<td>10.7</td>
<td></td>
</tr>
<tr>
<td>Years in job</td>
<td>&lt;1 to 35</td>
<td>6.1</td>
<td></td>
</tr>
<tr>
<td>Years in organization</td>
<td>&lt;1 to 39</td>
<td>8.3</td>
<td></td>
</tr>
<tr>
<td>Years with supervisor</td>
<td>&lt;1 to 20</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>&lt;high school</td>
<td></td>
<td>58% had some training or ed-</td>
</tr>
<tr>
<td></td>
<td>to doctorate</td>
<td></td>
<td>ucation above high school</td>
</tr>
</tbody>
</table>
Measurements

The variables to be measured are discussed in the following sequence: first the construct definition for each variable is identified and its use justified, then the measuring instrument is identified and its choice explained, and, finally psychometric and statistical properties of the variables from this research are reported, as appropriate. Dependent variables, indicating the degree of fulfillment of the task functions followed by the dependent maintenance variables are covered in the first section. Subsequent sections will cover independent task, independent maintenance, and the two moderating variables. For the dependent variables, a further division is made between individual and group measures. In order to facilitate discussion of the actual operational variables, abbreviations—the same as used in the computer program—from Table 5 are used.

The survey questionnaire for all the independent variables and for the self-rated dependent variables is reproduced in detail in Appendix A. Table 20 in Appendix A is a detailed question assignment for all the variables to be obtained by the survey questionnaire.

Task Dependent Variables

As indicated above, the dependent variables used in individual analyses are separated from those used at the group level.

Task Dependent Variables for Individual Level of Analysis

As an indication of the degree of fulfillment of the task function at the individual level, both affective and observed measures of performance were desired. The use of observational data in leadership
TABLE 5
VARIABLE DESIGNATIONS

<table>
<thead>
<tr>
<th>Category</th>
<th>Variable</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables</td>
<td>Task Processes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aggregate instrumental leader behavior</td>
<td>AGGILB</td>
</tr>
<tr>
<td></td>
<td>Total instrumental leader behavior</td>
<td>TOTILB</td>
</tr>
<tr>
<td></td>
<td>Attributed instrumental leader behavior</td>
<td>ATTILB</td>
</tr>
<tr>
<td></td>
<td>Individual locus of control</td>
<td>INLOC</td>
</tr>
<tr>
<td></td>
<td>Group instrumental influence</td>
<td>GPIINF</td>
</tr>
<tr>
<td></td>
<td>Task-itself clarity</td>
<td>TSKCLAR</td>
</tr>
<tr>
<td></td>
<td>External instrumental influence</td>
<td>EXTIINF</td>
</tr>
<tr>
<td></td>
<td>Sum of the task processes</td>
<td>SUMTSKPR</td>
</tr>
<tr>
<td></td>
<td>Maintenance Processes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aggregate supportive leader behavior</td>
<td>AGGSUPLB</td>
</tr>
<tr>
<td></td>
<td>Total supportive leader behavior</td>
<td>TOTSUPLB</td>
</tr>
<tr>
<td></td>
<td>Attributed supportive leader behavior</td>
<td>ATTSUPLB</td>
</tr>
<tr>
<td></td>
<td>Individual occupational commitment</td>
<td>INDOCCOM</td>
</tr>
<tr>
<td></td>
<td>Group supportive influence</td>
<td>GPSUPP</td>
</tr>
<tr>
<td></td>
<td>Task-itself intrinsically satisfying nature</td>
<td>TSKINSAT</td>
</tr>
<tr>
<td></td>
<td>External supportive influence</td>
<td>EXTSUPP</td>
</tr>
<tr>
<td></td>
<td>Sum of the maintenance processes</td>
<td>SUMMNTPR</td>
</tr>
<tr>
<td></td>
<td>Possession and use of leader power</td>
<td>LDRPOWER</td>
</tr>
<tr>
<td></td>
<td>Situational instability or group change</td>
<td>GPCHANGE</td>
</tr>
<tr>
<td>Moderating Variables</td>
<td>Task Function Outcomes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collective term for dependent task variables</td>
<td>TSKDEPEN</td>
</tr>
<tr>
<td></td>
<td>Individual expectancy that effort will lead to performance</td>
<td>EXPECONE</td>
</tr>
<tr>
<td></td>
<td>Individual expectancy that performance will lead to desired reward</td>
<td>EXPECTWO</td>
</tr>
<tr>
<td></td>
<td>Sum of expectancies one and two</td>
<td>EXPECTCY</td>
</tr>
<tr>
<td></td>
<td>Individual performance</td>
<td>INDPERF</td>
</tr>
<tr>
<td></td>
<td>Group arousal</td>
<td>GPAROUS</td>
</tr>
<tr>
<td></td>
<td>Group performance</td>
<td>GPPERF</td>
</tr>
<tr>
<td>Dependent Variables</td>
<td>Maintenance Function Outcomes:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collective term for dependent maintenance variables</td>
<td>MNTDEPEN</td>
</tr>
<tr>
<td></td>
<td>Individual job satisfaction</td>
<td>INDJSAT</td>
</tr>
<tr>
<td></td>
<td>Group cohesiveness</td>
<td>GPCOHES</td>
</tr>
<tr>
<td></td>
<td>Group loyalty to organization</td>
<td>GPLOYAL</td>
</tr>
<tr>
<td></td>
<td>Organizational commitment:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aggregated</td>
<td>GPORGCOM</td>
</tr>
<tr>
<td></td>
<td>Lack of absenteeism</td>
<td>GPPRSNT</td>
</tr>
<tr>
<td></td>
<td>Lack of turnover</td>
<td>GPSTAY</td>
</tr>
<tr>
<td>Category</td>
<td>Variable</td>
<td>Designation</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Lack of grievances</td>
<td>GPCOMMIT</td>
<td></td>
</tr>
<tr>
<td>Lack of accidents</td>
<td>GPSAFE</td>
<td></td>
</tr>
<tr>
<td>Dependent Variable</td>
<td>Group DIMES score</td>
<td>GPDIMES</td>
</tr>
<tr>
<td>Judged group performance by Directors</td>
<td>GPJGPERF</td>
<td></td>
</tr>
<tr>
<td>Components</td>
<td>Voluntary turnovers or &quot;quits&quot;</td>
<td>GPLOSSSES</td>
</tr>
<tr>
<td>Total number of non-legitimate-illness hours absence per group</td>
<td>GPHRSABS</td>
<td></td>
</tr>
<tr>
<td>Group on-board strength</td>
<td>GPONBD</td>
<td></td>
</tr>
</tbody>
</table>
studies is consistent with the numerous recommendations reported in Chapters 1 and 2.

**Self-Report Dependent Variables.** The individual task-oriented self-reported criteria are expectancy (EXPECTCY) and the individual perceptions of group arousal (GPAROUS). The perceived probability or expectancy that effort will lead to performance (EXPECONE) and the expectancy that performance will lead to desired reward (EXPECTWO) are used in the Path-Goal Theory, and GPAROUS is recommended as a group task-oriented self-reported variable by Stogdill (1965). EXPECONE and EXPECTWO are both taken directly from Schriesheim's work and are included in Appendix A, questions B2 to 47. E-II (EXPECTWO) is divided by Schriesheim into intrinsic and extrinsic reward expectancies, but for the purposes of this paper these two facets are combined into a single E-II measure; and EXPECONE and EXPECTWO are combined into a single expectancy measure, EXPECTCY.

Group arousal is measured by five of the 15 questions from B131 to 145 on group characteristics. These were developed by Stogdill (1965), who reported a Kuder-Richardson reliability for group arousal (group drive) of .71 averaged across 6 companies. The actual instruments used are from a 1975-revision of the original group descriptions that accompany the 1965 manual.

**Observational Dependent Variables for the Task Function.** No observational individual performance measures are used in any of the analyses in this study. However, individual performance (INDPERF) was to be taken from performance evaluations in organization archives covering the most recent six-month period. In the event that such
information was not available, an attempt was to be made to give the respondents a standard blank evaluation form with their survey questionnaire and ask them to fill it out as close as they could remember to what they actually received on their latest evaluation.

It turned out to be infeasible to obtain archival performance data on individuals and tie it in any way to the survey questionnaire. The liaison official proposed that for one of the activities only, participants could be persuaded to fairly accurately duplicate their most recent evaluations—the Performance Element Appraisal—on a blank form and insert it in their questionnaire booklets. However, he was willing to try this with only one activity because he wanted to pick a division in which he knew virtually every employee well. This was done, and a good spread of scores was obtained. But there were only 55 members in this group, and since they were all from a single activity, the lack of spread of independent variables rendered the results unuseable.

**Summary of Task Dependent Variables for Individual Level of Analysis.** In view of the difficulties with observational measures at the individual level, only EXPECTCY and individual scores on GPAROUS are used as task functional criteria for individual analyses. Table 6 shows the characteristics of the three components of EXPECTCY: EXPECONE and the two components of EXPECTWO, the extrinsic facet (EXPTWOEX) and the intrinsic facet (EXPTWOIN). Cronbach's Alpha measures of reliability (Hull & Nie, 1979) are as follows: EXPECONE .74, EXPTWOEX .89, and EXPTWOIN .75. The reliability of the GPAROUS instrument reported in Table 6 is .90.
Task Dependent Variables for the Group Level of Analysis

The group measure of arousal (GPAROUS) and group performance (GPPERF) are used as the indication at the group level that the task function is being satisfied. GPAROUS scores for the group level of analysis are obtained by simply averaging the group members' scores for that instrument.

A group performance measure was to be obtained by combining two methods of obtaining observational performance data. The first method was to use existing group performance criteria employed by the test organization. The second method was to ask the lowest common superior to Q-sort the sample groups based on criteria of performance he/she considered appropriate. The scores would then be averaged to produce a GPPERF variable. The averaging would tend to dampen any unfair scoring of a group which had performed well in the opinion of management but which did not look good for reasons over which the group had no control, on "hard" effectiveness measures. As Campbell (1977b), has wisely pointed out, in the end, organization effectiveness is what the relevant parties decide it should be.

Operationalization of Group Performance. Approximately two-thirds of the participants are from activities for which monthly evaluations are officially made on each work group. The system compares the monthly output with a standard that has been established for each group. This system is known as the Defense Agency Integrated Management Engineering System (DIMES). The DIMES information is the average of these measures for each applicable work group for the past three-month period. The range of the GPDIMES is 92% to 156%. The
### TABLE 6
CHARACTERISTICS OF OPERATIONAL DEPENDENT VARIABLES

<table>
<thead>
<tr>
<th>Level of Analysis</th>
<th>Function</th>
<th>Constructed Variables</th>
<th>Component Cronbach’s Alpha</th>
<th>Valid Cases</th>
<th>Mean</th>
<th>S.D.</th>
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</thead>
<tbody>
<tr>
<td><strong>Individual</strong></td>
<td>Task</td>
<td>INDPERF&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
<td>55</td>
<td>32.6</td>
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<tr>
<td></td>
<td></td>
<td>EXPECONE</td>
<td>.74</td>
<td>366</td>
<td>45.6</td>
<td>5.45</td>
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<tr>
<td></td>
<td></td>
<td>EXPECTWO</td>
<td></td>
<td>340</td>
<td>123.5</td>
<td>16.97</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXPECTWOX</td>
<td>.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXPECTWON</td>
<td>.75</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>EXPECTCY</td>
<td></td>
<td>334</td>
<td>169.4</td>
<td>20.64</td>
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<tr>
<td></td>
<td></td>
<td>EXPECONE</td>
<td>.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXPECTWO</td>
<td>.89, .75</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>GPAROUS&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Individual perception</td>
<td>369</td>
<td>17.1</td>
<td>3.95</td>
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<td><strong>Maintenance</strong></td>
<td>INDJSAT</td>
<td>.90</td>
<td></td>
<td>370</td>
<td>72.4</td>
<td>11.80</td>
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<tr>
<td></td>
<td>GPCOHES&lt;sub&gt;b&lt;/sub&gt;</td>
<td>Indiv.perc. .48</td>
<td></td>
<td>372</td>
<td>18.3</td>
<td>3.40</td>
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<tr>
<td></td>
<td>GPLOYAL</td>
<td>Indiv.perc. .75</td>
<td></td>
<td>368</td>
<td>17.6</td>
<td>2.40</td>
</tr>
<tr>
<td><strong>Group</strong></td>
<td>Task</td>
<td>GPDIMES&lt;sup&gt;a&lt;/sup&gt;</td>
<td>arc.&lt;sup&gt;c&lt;/sup&gt;</td>
<td>25</td>
<td>110.3</td>
<td>17.51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPJGPERF&lt;sup&gt;a&lt;/sup&gt;</td>
<td>arc.</td>
<td>39</td>
<td>7.5</td>
<td>1.12</td>
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<tr>
<td></td>
<td></td>
<td>GPPERF</td>
<td>arc.</td>
<td>23</td>
<td>129.0</td>
<td>10.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPAROUS</td>
<td>Individ. GPAROUS .90</td>
<td>42</td>
<td>17.1</td>
<td>2.20</td>
</tr>
<tr>
<td></td>
<td>GPPRSNT</td>
<td>GPHRSABS</td>
<td>arc.</td>
<td>35</td>
<td>14.2</td>
<td>6.20</td>
</tr>
<tr>
<td></td>
<td>GPSTAYS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>GPLOSSSES</td>
<td>arc.</td>
<td>35</td>
<td>9.2</td>
<td>0.97</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPONBD</td>
<td>arc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GPORGCOM</td>
<td>GPHRSABS</td>
<td>arc.</td>
<td>35</td>
<td>113.2</td>
<td>38.96</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPLOSSSES</td>
<td>arc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>GPONBD</td>
<td>arc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GPCOHES&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Individ. GPCOHES .48</td>
<td></td>
<td>42</td>
<td>18.1</td>
<td>2.01</td>
</tr>
<tr>
<td></td>
<td>GPLOYAL</td>
<td>Individ. GPLOYAL .75</td>
<td></td>
<td>42</td>
<td>17.6</td>
<td>1.06</td>
</tr>
</tbody>
</table>

<sup>a</sup>Items not used for further analysis.

<sup>b</sup>Items to be used as secondary dependent variables for the individual level of analysis.

<sup>c</sup>Archival data.
only drawback to DIMES is that it primarily measures quantity of output with very little means of adjustments for variations in quality. Accordingly, as intended, another measure was obtained by asking each Director to assign a score from 1 to 10 (10 being the best) that was indicative of the degree to which each work group was fulfilling its intended mission or meeting its goals. This system of judged group performance (GPJGPERF) ranges from 5 to 9.7.

The GPDIMES and GPJGPERF scores each have shortcomings. However, as intended, these two variables are combined to produce a group performance score, GPPERF. In order to give the two components approximately equal weights but with slightly more weight to the judged performance, GPPERF is computed by dividing the GPDIMES percent by two and adding ten times the GPJGPERF score. This gives a range of GPDIMES from 46 to 78 and of GPJGPERF from 50 to 97. The GPPERF score compensates for the lack of quality in the GPDIMES dimension and for the lack of hard substantiating data in the judgments of the Directors; but it gives slightly more weight to the judged score in accordance with Campbell's comment about effectiveness being what the relevant parties decide. GPPERF is the best available group performance measure, but degrees of freedom are sacrificed since DIMES data is kept for only 25 work groups. As shown in Table 6, GPPERF has a mean of 129 with a standard deviation of slightly more than 10.
Maintenance Dependent Variables

Maintenance Dependent Variables for Individual Level of Analysis

The major individual construct that indicates the degree of fulfillment of the maintenance function is individual job satisfaction (INDJSAT). Individual scores of group cohesiveness (GPCOHES) and group loyalty (GPLOYAL) are secondary measures of the maintenance function. No archival measures for the maintenance function at the individual level are employed.

The individual job satisfaction scale consists of questions B60 to 79 taken directly from the Minnesota Satisfaction Questionnaire (MSQ) short form (Weiss, Dawis, England, and Lofquist, 1967). The MSQ short form has facet scales of intrinsic, extrinsic, and general satisfaction, but they are combined into one satisfaction measure for this study. Weiss et al. reported Hoyt reliability coefficients for the three facets as .88, .79, and .90, respectively. This short form has been used by Schriesheim and Murphy (1976) and Jermier and Berkes (1979) among other leadership researchers.

The two group scales, along with the GPAROUS scale, may be found in the area of the Appendix-A questionnaire from B131 to 145; these also came from the Stogdill (1965) group descriptions. Reliabilities reported by Stogdill for these measures are GPCOHES .72 and GPLOYAL .57. In this study the Cronbach's Alpha reliability for INDJSAT is .90 and for GPLOYAL .75 as shown in Figure 6. However, the reliability for GPCOHES is .48; consequently, since this is so low compared to Stogdill's findings, GPCOHES is not used for either the group or the individual levels of analyses.
Maintenance Dependent Variables for Group Level of Analysis

At the group level, the maintenance-oriented criteria are GPLOYAL as described above, group organizational commitment (GPORGCOM) and the reverse of the degree of group absenteeism (GPPRSNT). GPLOYAL for the group level of analysis like GPAROUS, is the average of the individual scores of GPLOYAL for the members of each group.

Group organizational commitment (GPORGCOM) was intended to be the aggregate of reversed personnel-related costs such as absenteeism, turnover, accident rate, and grievance rate. These rates would be collected, normalized, linearly combined with weighting factors supplied by the personnel department to correspond to relative costs to the organization, and reversed. The absenteeism would include excused, unexcused, and minor sick absences. Fitzgibbons and Moch (1980) used these three measures separately, but for this paper, they were to be combined.

Nicholson, Brown, and Chadwick-Jones (1976) used the total number of days as one of their absence measures and the number of times absent per unit of time as another absence measure. Here, however, absenteeism was to be measured in total absentee days per person per time period for each group. Turnover was to be the total number of voluntary transfers per quarter. Miles and Petty (1977) used voluntary resignation, voluntary transfer, and total turnover as observational measures of turnover. Of these three, only voluntary transfers seemed to relate to maintenance leader activities. Grievance rate would be the number of significant grievances submitted per quarter, and accident rate would be measured in dollars lost through organization-related accidents per quarter.
Operationalization of Group Maintenance Criteria. The search for personnel-cost data produced some surprising results. First, the Safety Branch did not keep accident information by work group but merely by department. Second, there was only one grievance over the past six months for the entire Center of sufficient importance to be recorded in the Center documents. In view of this, an attempt was made to collect EEO grievances to be used as a possible substitute for general grievances since over half of the respondents were female, black, or both. This proved to be another fruitless search since no EEO grievances were filled over the preceding six months for the six activities sampled. Third, data on voluntary transfers, or "quits" (GPLOSSSES) were requested. There was an indication of possible problems with analytical use of this data since half of the groups had zero quits and an additional one-quarter of the groups had only one each. Finally, figures on the abuse of sick leave were investigated. The person who kept this data had been doing so for several years and was well aware by length of leave, time during the week, and other patterns, whether various periods of sick leave represented an actual illness or were merely used as a means of absenting oneself for a few hours or a day. Since unexcused absences were virtually non-existent, she was asked to provide the total hours of non-legitimate-illness absence over the past three months for each of the sample groups. This variable of group hours absent (GPHRSABS) ranged from 0 to 409 and when divided by the on-board strength (GPONED) produced a range from 0 to 22 hours per time-period per person. This was the best apparent measure of personnel costs, but even this variable resulted in 40% of the groups having zero hours of
Thus, all of the group observational measures had their shortcomings. Nevertheless, there was a possibility that some promise may result from the use of the reverse of GPHRSABS. Since nearly 75% of the GPLOSSES scores were either zero or one, GPLOSSES alone was not used for further analysis.

As intended, however, the two variables GPHRSABS and GPLOSSES are used in combination of a GPORGCOM measure. Since the cost of a quit to the Center is estimated to be about 400 times the cost of one hour of absence, the following formula is used for the computation:

\[
GPORGCOM = 150 - \frac{400 \times GPLOSSES + GPHRSABS}{GPONBD}
\]

In order to use the reverse of absences (GPPRSNT) as another measure of commitment, calculations for this variable are made as follows:

\[
GPPRSNT = 22 - \frac{GPHRSABS}{GPONBD}
\]

Statistical data for these variables are shown in Figure 6. GPPRSNT has a mean of 14.2 with a standard deviation of 6.2; GPORGCOM has a mean of 113.2 and standard deviation of 39.0, and GPLOYAL statistics are 17.6 and 1.6, respectively.

**Independent Variables: The Functional Processes**

All of the independent variables are merely constructs of the various functional processes. Thus, for the task function, some constructs must be chosen for the processes reviewed in Figure 2: leader task-related behavior, task-related self-management, the task-oriented characteristics of the job to be accomplished, and task direction
### Table 7

**Modified Path-Goal Variables Arranged by Leadership Function and by Leadership-Process Sources**

<table>
<thead>
<tr>
<th>Leadership Function</th>
<th>Leadership Process Sources</th>
<th>Continency Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Individual</td>
<td>Task and Form- External Organization</td>
</tr>
<tr>
<td>Task</td>
<td>Ability</td>
<td>Ambiguity</td>
</tr>
<tr>
<td></td>
<td>Locus of control</td>
<td>Structure</td>
</tr>
<tr>
<td></td>
<td>Authoritarianism</td>
<td>feedback and incentives to perform</td>
</tr>
<tr>
<td></td>
<td>Need for achievement</td>
<td>Formal authority structure</td>
</tr>
<tr>
<td></td>
<td>Tolerance for ambiguity</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>Ego-involvement</td>
<td>Role orientation</td>
</tr>
<tr>
<td></td>
<td>Need for affiliation</td>
<td>Intrinsically satisfying</td>
</tr>
<tr>
<td></td>
<td>Need for independence</td>
<td>nature of task</td>
</tr>
<tr>
<td></td>
<td>Indifference</td>
<td>Formal authority structure</td>
</tr>
<tr>
<td></td>
<td>to organizational rewards</td>
<td></td>
</tr>
</tbody>
</table>

120
received from group and external influences. A similar list of processes applies to the maintenance function. One of the proposed advantages of functional analysis is that it could tie what we have learned from Path-Goal Theory to some of the other current theories. Consequently, in order to retain what has been learned from Path-Goal theory, the fabricated expanded version of Path-Goal Theory shown in Table 2 is rearranged in matrix form with the rows determined by the leadership functions and the columns showing the six leadership process or control sources plus a seventh column that merely lists possible contingency variables. This rearrangement is displayed in Table 7; the table provides a list of possible measurable leadership processes for each of the process sources. The following paragraphs provide identification and justification for the processes selected from Table 7. Since the explanatory variables are the various leadership processes, some are measurable by the same instrument or modifications of the same instruments while others require unique measurement devices. The survey questions for all the independent variables are reproduced in Appendix A. Table 20 of Appendix A is a detailed question assignment for all the variables measured by the questionnaires.

For the additive model the five task processes have to be added and the five maintenance processes also have to be added. Epstein (1980) gave four means of aggregating to improve psychological research, one of which is to aggregate over stimuli. In order that they would all have equal weights, all processes are normalized to range from 0 to 20. For example, if the range on one of the processes (PROCESS) is from 15 to 105 (15 items scored from 1 to 7), to normalize PROCESS, the
<table>
<thead>
<tr>
<th>Function</th>
<th>Constructed Variables</th>
<th>Component Variables</th>
<th>Cronbach's Alpha</th>
<th>Valid Cases</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<tr>
<td>Task</td>
<td>TOTILB</td>
<td></td>
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<tr>
<td></td>
<td>ILBRCa</td>
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<td>1.58</td>
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<td></td>
<td>ILBRCb</td>
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<tr>
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<td>.58</td>
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<tr>
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<td>353</td>
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<tr>
<td></td>
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<td></td>
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<td>.68</td>
<td></td>
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<td></td>
<td>EXTIINF</td>
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<td>.83</td>
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<td>5.0</td>
<td>6.16</td>
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<tr>
<td>Maintenance</td>
<td>TOTSUPLB</td>
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<td>12.1</td>
<td>2.54</td>
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<tr>
<td></td>
<td>SUPPLBb</td>
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<td></td>
<td>GPSUPP</td>
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<td>TSKINSAT</td>
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<td>EXTSUPP</td>
<td></td>
<td>.67</td>
<td>369</td>
<td>5.3</td>
<td>6.54</td>
</tr>
</tbody>
</table>

*Final letters A, B, and C refer to questionnaire items for the supervisor, supervisor's supervisor, and other designated leader for TOTILB and TOTSUPLB component variables. ILBRC = instrumental leader behavior, role clarification; ILBspec = instrumental leader behavior, specification of rules and procedures; ILBWa = instrumental leader behavior, work assignment; and SUPPLB = supportive leader behavior. GPIINFRC = group instrumental influence, role clarification; and GPIINFSP = group instrumental influence, specification of rules and procedures.*
raw score is adjusted by the formula:

\[
\text{PROCESS} = (\text{PROCESS}_\text{raw} - 15)^2/9, \\
\]

such that a raw score of 15 converts to 0, 60 to 10, and 105 to 20.

For the group level of analysis, all variables obtained in this manner for individuals are simply averaged by groups. Table 8 presents the actual characteristics of the individual operational instruments from which the explanatory variables are computed and the statistics obtained in the research for each of the computed variables.

Task-Oriented Independent Variables: Task Processes

Self-Management Task Processes

Construct. Miner (1975) specified self-control as one of the major sources of organizational control, but he added that self-control alone would not provide sufficient direction to form an effective group. Manz and Sims (1980) supported Miner's positions but underscored the self-management importance in providing a portion of the task-accomplishment function. In general, literature references to individual characteristics have treated high ability, internal locus of control, low authoritarianism, high need for achievement, and high tolerance for ambiguity as compatible characteristics. Furthermore, Anderson and Schneir (1978) have shown a high correlation between group performance and leader internal locus of control. Lefcourt (1973) reported that externals are less apt to engage in achievement activity and are more likely to be involved in unquestioned submission to authority. Valecha (1972) stated that the internal individual appears to function better than his external counterpart and that one can make better progress if one believes that achievement is determined by what one
does rather than what happens to one. It follows, then, that a worker with a high internal locus of control would have task-oriented self-management qualities. Accordingly, degree of internal locus of control is used to measure the self-task-accomplishment process.

**Operationalization.** The Rotter (1966) scale is frequently used as a measure of locus of control (for use in leadership research, see Runyon, 1973). This is a 23-item forced choice questionnaire, with 6 additional filler items. For each question, the respondent chooses either an externally-oriented or an internally-oriented statement. Scale means range anywhere from 7.4 to 14.0 (Lefcourt, 1976, pp. 177-183). This is not compatible with other instruments that have 5 or 7 choices for each item such that the mid point (3 or 4) as an average score for an item could be considered a neutral amount of the process being measured. However, Valecha (1972), has modified the Rotter scale by choosing the 11 most adult-oriented items and allowing a degree of choice between the two statements such that each item (pair of statements) can be scored 1 through 4. Valecha, like Rotter, arranged the scoring in the external direction. Valecha found a cumulative mean of between 22 and 23 where the range is from 4 to 44. He also reported reliabilities about the same as those for the generally well-accepted Rotter scale—an average of about .70. Thus, in order to have a scale compatible with the other multiple-choice scales, the Valecha instrument is used.
For the purposes of this functional approach, internality indicates a self-process that is highly task-related; therefore, questions A13 to 23 are used in this study such that "1" indicates that the respondent's own opinion is "much closer" to the external statement, "2" is slightly closer to the external statement, "3" is slightly closer to the internal statement, and "4" is much closer to the internal statement. The choice is actually between statements a or b with the a-statement being internal in five items and the b-statement internal in the other six.

Although locus of control (INDLOC) is the first instrument on the questionnaire, the reliability coefficient is only .48 in this study. The reason for the relatively low reliability for this administration of the Valecha locus-of-control instrument is unknown. However, Valecha found a reliability for over 1,000 black subjects of .49 and for over 3,000 white subjects of .66. Since 23% of the Center respondents were black, a reliability of .48 is perhaps not unreasonable.

Leader Behavior Task Processes

Construct. Two decisions need to be made in selecting hierarchical leadership processes: (1) which leader behaviors to choose and (2) what level(s) of supervisory personnel to include. The second problem was resolved in Chapter 3. In view of the literature support and the functional nature of this study, leader behaviors by the immediate supervisor, the supervisor's superordinate, and an additional person—a peer or a person at some other location in the organizational hierarchy to whom leadership qualities are attributed (Calder, 1977)—
are measured.

The second decision is to choose which of the following task-related leader behaviors to use from Table 7; the three instrumental behaviors, achievement-oriented, laissez-faire, or participative. This decision in itself has two parts: (1) whether or not to measure the subordinate's perception of leader behavior alone or in conjunction with actual leader behavior and (2) the specific behaviors to measure. The first question raises the issue of whether to include the unseen, non face-to-face acts (Barnard, 1938; Dubin, 1979). Lord (1977) argued that little is known of the processes of leadership partly because adequate process-oriented measures have not been developed but instead most researchers use perceptions of leadership. In fact, in a recent paper, Szilagyi (1980) clearly explained that all points of discussion would focus on the relationships with perceptions of leader behavior, not necessarily actual leader behavior. However, Bass (in press) said that one can look at leadership as a perceptual phenomenon under certain conditions or a behavior under others and accurately explain what is happening in both instances. Moreover, a case could be made that what is "actual" leader behavior is none other than behavior perceived by the leader him/herself or by some third observer. However, for the purposes of this functional approach—and it could be argued for other approaches as well—the perception of the subordinates is more pertinent than the perception of another person.
With the decision to use subordinate's perceptions of leader behaviors established, the laissez-faire behavior is unnecessary because it would be perceived as the obverse of instrumental behavior. Being able to achieve this type of parsimony is another advantage of the functional process. The notion of a laissez-faire leader behavior means that there are circumstances when a small amount of fine-tuning leadership from the supervisor can result in a very effective group. In the functional approach, it should be clear in a particular organization what other processes other than the supervisor's behavior are fulfilling the leadership functions so that the supervisor leader behavior can be minimal and the organization be very effective.

A few of the questions in Schriesheim's (1973) instruments to measure the role clarifying subset of instrumental behavior cover goal setting; therefore, achievement-oriented behavior can be eliminated if instrumental behavior is used. This leaves instrumental and participative behavior. Bass, Farrow, Valenzi, and Salomon (1975) linked participative leader behavior with clarity and warmth. This is why it is listed under both functions in Table 7. However, the identification with clarity means there is an overlap between participative and instrumental behavior. To be more specific, Jermier and Berkes (1979) found a .40 correlation between the two. Thus, although participative leadership is important as a single behavior that is both task and maintenance oriented, it is not considered necessary for this investigation.

In summary, then, the hierarchical task-accomplishment leader process used here is integrated instrumental leader behavior as perceived by the subordinates about the immediate supervisors, their supervisors'
superordinates, and another person who is a peer or located somewhere in the hierarchy and to whom leadership qualities are attributed.

**Operationalization.** The measurement of these items is accomplished by use of the Schriesheim (1978) scales for leader supportive behavior and for the three facets of leader instrumental behavior, role clarification, specification of procedures, and work assignment. Prior to filling out this section of the questionnaire (questions B80 through 130), the member is asked to designate the position of a leader, besides the supervisor and the supervisor's immediate superordinate, who have provided guidance and support. The choices are a peer, the third level of supervision, top management, the head of the organization, a manager in the personnel department, or other. The instructions recommend that the member should fill out the instrumental leader behavior questions in Column A for his/her supervisor, then fill them out again in Column B for the supervisor's superordinate, and, finally, fill them out a third time in Column C for the other designated leader if there is such a person. The sum of the three instrumental facet scores is used for a single instrumental leader behavior measure. If the other leader is not designated and Column C is not filled in, the lowest possible score for the Column-C leader is used in the analyses.

In order to make the questions applicable to the other two leaders, the questions are modified from lead-in-wording such as "MY IMMEDIATE SUPERVISOR gives ..." to "THE LEADER COMMUNICATES ..." An explanation of the meaning of *communicates* is given in the instructions to this section of the questionnaire. In the wording of all of Schriesheim's instruments, the leader behavior directed at the individual is emphasized,
and yet in some cases in this study group criteria are used. According to Schriesheim (1979), this procedure is satisfactory; he claimed that subordinate ratings of leader behavior directed towards the individual and leader behavior directed towards the group produces substantially the same results.

Schriesheim (1978) tested reliability and validity of these instruments through (1) scale internal consistency, (2) scale stability, (3) scale convergent and discriminant validity analysis, (4) scale concurrent and predictive validity analysis, and (5) scale nomological network analysis. All results generally supported the reliability and validity of the scales.

**Aggregation of Task Leader Behaviors.** For the task process, two different means of aggregating the leader behaviors from the three evaluated leaders (supervisor, second level, and other) are used. In order to implement one of these, the respondent is asked, on completion of evaluating all three leaders, to indicate which of the three, A, B, or C, he/she believes to exhibit those qualities that he/she most closely indentifies with an effective task leader. The scores for the leaders so chosen are then used for each respondent as the AGGILB score. This is an attribution form (ATTILB) of aggregation. The second method of aggregating the three scores is simply to sum the scores (TOTILB) for the three leaders that are evaluated. This is consistent with Epstein's (1980) proposal for aggregating over stimuli.

The final issue to resolve regarding the use of aggregated leader behavior is which of the two methods to use. Bowers (1968) used control by the home office of a life insurance company, the regional managers,
and the district managers and found that total control related positively to organizational effectiveness. Based on this result, adding the three would be appropriate. On the other hand, attribution theory (Calder, 1977) would suggest using the behavior of that person to whom task-related leadership is attributed. In order to resolve the issue, each of the two methods are used in a test of correlation with both individual and group dependent variables to determine which produces the most significant correlation coefficients. The one that proves to perform best on this test is then used for the remainder of the study.

Results of the Task Leader Behavior Aggregation Tests. The choices made by the respondents regarding the other leader whom they rated are important to both aggregation methods. Furthermore, the subjects' designations of good task— and for the maintenance counterpart to this problem, good maintenance—leaders are important to the attribution method of aggregating the leader behaviors. Table 9 is a summary of this information. Three out of eight chose not to rate a third leader and another one-eighth rated somebody but failed to indicate who it was. Over one-quarter selected a peer and another one-eighth picked the third level of supervision above them. For the attribution of task leadership qualities, 59% chose the supervisor, 27% the next level up, and 14% the other leader who was rated; for comparison purposes, the figures for maintenance leadership qualities were 66%, 19%, and 15%, respectively.

Table 10 gives us a comparison between the two methods of aggregating leaders' behaviors and the dependent variables chosen in the previous section. It is apparent that the additive method of aggregating
TABLE 9
LEADER AND EXTERNAL ACTIVITY DESIGNATIONS

<table>
<thead>
<tr>
<th>Requested Designations</th>
<th>Choices</th>
<th>Percent Chosen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Leader</td>
<td>Peer</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Third level of seniority</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Top management</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Head of the organization</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Manager in personnel department</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>37</td>
</tr>
<tr>
<td>Best Task Leader</td>
<td>Supervisor</td>
<td>59</td>
</tr>
<tr>
<td></td>
<td>Supervisor's supervisor</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Other designated leader</td>
<td>14</td>
</tr>
<tr>
<td>Best Supportive Leader</td>
<td>Supervisor</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Supervisor's supervisor</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Other designated leader</td>
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<td>External Influential</td>
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</tr>
<tr>
<td>Activity</td>
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</tr>
<tr>
<td></td>
<td>Family member</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Cultural or religious group</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>58</td>
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TABLE 10
COMPARISON OF TWO SYSTEMS OF AGGREGATING LEADERS’ BEHAVIORS

<table>
<thead>
<tr>
<th>Level of Analysis</th>
<th>Function</th>
<th>Dependent Variable</th>
<th>Correlation With TOTILB or TOTSUPLB</th>
<th>Correlation With ATTILB or ATTSUPLB</th>
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<td>.14**</td>
<td>.10*</td>
<td></td>
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<tr>
<td></td>
<td>EXPECTWO</td>
<td>.20***</td>
<td>.15**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ECPECTCY</td>
<td>.20***</td>
<td>.14**</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>INDJSAT</td>
<td>.59***</td>
<td>.50***</td>
<td></td>
</tr>
<tr>
<td>Group Task</td>
<td>GPAROUS</td>
<td>.16</td>
<td>.19</td>
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<td>GPPERF</td>
<td>.08</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>GPLOYAL</td>
<td>.35*</td>
<td>.28*</td>
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<td></td>
<td>GPPRSNT</td>
<td>-.28*</td>
<td>-.25</td>
<td></td>
</tr>
</tbody>
</table>

*p < .05
**p < .01
***p < .001
is slightly superior in statistical significance to the attributional method; consequently, TOTILB--and TOTSUPLB for the maintenance function—are used for the remainder of the analysis. Table 8 shows the Cronbach's Alpha reliabilities for all the facets of the total instrumental leader behavior and the statistics from this study. The reliabilities range from .52 to .84 with an average of .70. TOTILB is also normalized to range between 0 and 20; the mean of TOTILB for this study is 11.6 with a standard deviation of 1.58.

**Task Itself and Formal Organization Task Processes**

Table 7 lists the task itself and the formal organization as two separate sources of leadership processes. However, since perception by the subordinate is used, it is probable that an overlap between the two exists. It does not make much difference whether there is some characteristic of the task itself or whether it is the explicit rules and directives of the formal organization that makes it clear what is intended both in how to do it and how much of it to do per unit of time.

**Construct.** Several aspects of the task have been tested and reported in the literature: degree of structure, scope, difficulty, and occupational level. However, the least equivocal results have been obtained when task ambiguity is used. According to House and Baetz (1979), stress and ambiguity serve to stimulate a desire on the part of subordinates for highly structured leader behavior. Also, House and Rizzo (1972), Kerr, Schriesheim, Murphy, and Stogdill (1974), and Dessler and Valenzi (1977) have given strong support to the use of task ambiguity as a valid moderating variable between leader directive
behavior and outcomes. Consequently, in order to keep all processes positive, task clarity—the reverse of task ambiguity—is used for the task and formal organization task-accomplishment leadership process.

Operationalization. To measure task clarity or lack of ambiguity, the six role-ambiguity items factored from a role-conflict/role-ambiguity questionnaire by Rizzo, House, and Lirtzman (1970) are used with a slight modification (questions B54 to 59). As the questions by Rizzo et al. are worded, they measure ambiguity that generally exists without regard to cause. Thus, in order to measure the clarity of the task itself as a process that helps fulfill the task leadership function, questions are changed so that each question begins with, "The nature of the task itself is such that ...." For example, the item, "I feel certain about how much authority I have," is changed to, "The nature of the task itself is such that I feel certain about how much authority I have."

Breaugh (1980) suggested that slightly better psychometric properties were possible if the Rizzo et al. scale is combined with two newer ones. However, the other two do not lend themselves to modification for task-itself use as well as the Rizzo et al. items do.

The role ambiguity scale itself has been used extensively (Stinson & Johnson, 1975; Miles & Petty, 1977; Dessler & Valenzi, 1977). Dessler and Valenzi reported that a personal conversation with House revealed internal consistency reliabilities in excess of .70 based on seven different samples. As reported in Table 8, the reliability obtained for the task clarity (TSKCLAR) variable in this study is .73. This variable has one of the highest means, 13.6, and the standard deviation for TSKCLAR is 2.83.
Group Influence Task Processes

**Construct.** In Table 7, only group cohesiveness is listed as a reasonable means of rating group influence as a leadership process. In Stogdill's (1965) group cohesiveness instrument, there are work-related and social-emotional-related questions. For this reason, group cohesiveness is placed opposite each of the two functions in the table. However, Stogdill's group cohesiveness instrument is not large enough—five questions—to split; and, furthermore, group cohesiveness is measured as one of the dependent variables. For these reasons, the respondents are asked to rate their primary work group as a source of the role clarification and specification of rules and procedures facets of instrumental leadership as the group-influence task leadership process.

**Operationalization.** For the task group-influence processes, the Schriesheim (1978) scales for instrumental leader behavior are modified for use with groups. The lead-in for the group-influence section (questions B146 to 172) is, "MEMBERS OF MY WORK GROUP, AS A GROUP, COMMUNICATE TO ME..." However, not all the Schriesheim questions are applicable in this format, and the entire work-assignment list is not usable. Consequently, the instrumental scale is reduced from a total of 38 questions to 18. As shown in Table 8, the reliabilities for the two facets of instrumental group influence (GPIINF) are .68 and .83, and GPIINF for this study has a mean of 10.7 with a standard deviation of 2.08.
**External Influence Task Processes**

**Construct.** The idea of the influence of the professional colleague group on those professionals working in organizations was introduced in the "substitutes" literature (Kerr & Jermier, 1978). It had also been used by Nealey and Blood (1968) as an explanation of why initiating structure was positively related to job satisfaction at the first level of supervision when nurses were supervising aides and related negatively at the next level where nurses were supervising other nurses. The professional or ideological control was one of Miner's (1975) sources of organizational control. However, Schriesheim (1980) also showed a definite moderating effect between leader behaviors and decisions not to participate based on whether or not the organization was unionized. This brings into question whether there might not be other external influences that would act as a task-accomplishment or maintenance process. Farris and Butterfield (1973), among others, found that several findings about leadership in a non-U.S. culture were at odds with U.S.-based leadership theory. Perhaps there are unique cultural influences within our own country that have a similar influence. Bass (in press) also listed a family friend as a person who some executives claimed had a transformational impact on them. Thus, for the external influence task leadership process, subordinates are asked to rate an outside professional colleague group, the union, cultural norms, or a family member on the role clarification and specification of rules and procedures facets of instrumental leader behavior.
Operationalization. For the external influence measure, the member is first asked to pick the most influential from among the following possible external sources: professional association, labor union, family member, and person of similar cultural background. Then for this external activity, the modified Schriesheim scales (questions B173 to 193) are again used. The lead-in for this section reads, "THE EXTERNAL ACTIVITY THAT I HAVE NAMED COMMUNICATES TO ME. . ." Here even more of the original questions are inappropriate; a total of 14 items comprise the instrumental measure. Table 8 reveals an unusual statistical result for the instrumental external influence instrument, EXTIINF; the mean is 5.0 and the standard deviation 6.16. The range for this variable is also 0 to 20; however, there are a large number of zeroes since that is the value assigned to the 58% of questionnaires in which the respondents indicated that there is no external activity that has an instrumental influence on their job situation. The bottom entries in table 9 show these selections. In addition to the large number who indicated no external influence, the other interesting result is that only 2% indicated an impact from the labor unions involving the Center personnel. The reliability of EXTIINF for this study is .83.

Maintenance-Oriented Independent Variables:

Maintenance Processes

The constructs and methods of operationalizing each of the maintenance processes are covered in this section. However, many of the decisions made in the previous section for task processes are applicable to maintenance processes as well.
Self-Management Maintenance Processes

Construct. Of the three Table-7 possibilities for a type of self-maintenance measure, ego-involvement, need for affiliation, and need for independence, only the degree of ego-involvement is a likely candidate. Schuler (1976) used such a variable and found a moderating effect in interaction with task structure between leader behavior and satisfaction. However, the so-called "ego-involvement" measure was, in fact, task-involvement based on original work by Lodahl and Kejner (1965). In their study, task-involvement was more of a behavior and attribute that subjects had developed with respect to the work in which they were engaged rather than a personal-characteristic type of commitment. Accordingly, an occupational commitment measure similar to that used by Berkes (1979) is a better measure of the ego-involvement characteristic of the individual and is used here.

Operationalization. A measure of an inherent occupational commitment (INDOCCOM) (questions A24 through 38) has been derived from a modification of the Organizational Commitment Questionnaire (OCQ) developed by Mowday, Steers, and Porter (1978). Even though organizational commitment is often used as a dependent variable, Mowday et al. (p. 29), in fact, suggested using commitment as a predictor of behavior. Their instrument for organizational commitment showed reasonably strong evidence for internal consistency and test-retest reliability with what they considered acceptable levels of convergent, discriminant, and predictive validity.
To modify this instrument for occupational commitment, most all of the items from the OCQ are simply rewritten to apply to the person's basic occupation rather than his/her organization. Two questions, 35 and 36, do not lend themselves to a simple change. For example, item 35 is worded, "Often, I find it difficult to agree with this organization's policies on important matters relating to its employees," and item 36 reads, "I really care about the fate of this organization." Thus, the following two items taken from Berkes' instrument are substituted:

35. It is not easy to be enthusiastic about the type of work my occupation offers.

36. I would describe myself as having a real dedication in working in my occupation.

Table 8 shows a reliability for the individual occupational commitment instrument (INDOCCOM) of .85, a mean of 13.2 and a standard deviation of 3.6.

**Maintenance Leader Behavior Processes**

**Construct.** Since most of the explanation of the task leader behavior construct also applies to maintenance leader behavior, only the comparison between laissez-faire, supportive, and participative behaviors needs to be made. For the reason explained previously, laissez-faire behavior is not measured. However, there is a strong motivation to use supportive behavior. In one of the few studies in which causal direction has been verified, Greene (1975) found that consideration (similar to House' supportive) behavior caused subordinate satisfaction. And participative behavior overlaps with supportive behavior as it did with role clarification; correlations between the two have been reported
as .37 by Greene (1979) and .47 by Jermier and Berkes (1979). Consequently, the maintenance leader behavior process consists of the subordinates' perceptions of supportive behavior exhibited by their supervisors, their supervisors' superordinates, and peers or other persons in the hierarchy to whom they attribute leadership qualities. The three ratings are aggregated by the same two methods described for task leader processes.

Operationalization. The measurement of this item is accomplished by use of the Schriesheim (1978) scale for leader supportive behavior. Of course, the same thoroughness with which the instrumental leader behavior instruments were tested by Schriesheim for reliability and validity also was used in similar testing of the supportive leadership instrument. The questionnaire items for this scale are questions B89 through 101. As with the instrumental leader behavior questions, the member fills out the questions in Column A for his/her supervisor, in Column B for his/her supervisor's supervisor, and in Column C for that person whom he/she indicates as the other designated leader.

The aggregation methods discussed for the instrumental leader behaviors also apply to the supportive leader behavior. Table 10 shows the results of the correlational tests of the relative advantages of the summing method, TOTSUPLB, and the attribution method, ATTSUPLB. The results are not as convincing for the maintenance variables, but nothing suggests that the summing method cannot also be applied to supportive behavior. Consequently, TOTSUPLB is used for all the analytical procedures. This produces a TOTSUPLB variable with a mean of 12.1 and standard deviation of 2.54. As shown in Table 8, the
relabilities of the three components of TOTSUPLB are .89, .87, and .90.

Task-Itself and Formal Organization Maintenance Processes

Construct. Both of the Table 7 task-itself maintenance items, role orientation (Graen & Ginsburgh, 1977; Murnighan & Leung, 1976) and the intrinsically satisfying nature of the task (Katz, 1977; Kerr & Jermier, 1978; Kerr, Schriesheim, Murphy, & Stogdill, 1974) have been discussed in the literature and both show promise as a moderator in the Path-Goal sense. Role orientation is defined as the match between a person's career interests and the task. An instrument that combines role orientation with the intrinsically satisfying nature of the task is used for this task and formal organization maintenance leadership process.

Operationalization. The intrinsically-satisfying-nature-of-the-task instrument is constructed from the three items from Kerr and Jermier (1978), in which they reported a Kuder-Richardson Formula 8 reliability of .85, plus two additional statements (questions B49 to 53 in Appendix A). The two extra items are designed to tap the role-orientation notion used in the work by Graen and Ginsburgh (1977). They are:

52. I consider that the tasks that I generally perform at work are very important for my work career.

53. The tasks that I generally do in my job have little to do with the kind of work that really interests me.

This five-item instrument shows a reliability of .62; its mean is 13.6, and the standard deviation is 3.08.
Group and External Influence Maintenance Processes

The construct definitions and operationalizations for these two processes are very similar to those used for the task-related group and external influences. The variables are measured by appropriate questions taken from the Schriesheim (1978) leader behavior scales with modifications to the lead-in portion of the question.

Specifically, the lead-in for the group-influence section (questions B155 to 163) is, "MEMBERS OF MY WORK GROUP, AS A GROUP, COMMUNICATE TO ME . . ." And for the external-influence section (questions B180 to 186), the lead-in statement is, "THE EXTERNAL ACTIVITY THAT I HAVE NAMED COMMUNICATE TO ME . . ." As is the case for the instrumental scales, not all items are appropriate for group and external scales. Therefore, the supportive instruments are reduced from 13 items for the leader behavior questionnaire to 9 for group supportive influence (GPSUPP) and to 7 for external supportive influence (EXTSUPP).

In this study, for GPSUPP the reliability is .84, the mean is 12.9 and the standard deviation is 3.02; for EXTSUPP these figures are .67, 5.3, and 6.54, respectively. Again, the unusual mean and standard deviation for the EXTSUPP dimension is due to the large number of zeroes assigned to those respondents' questionnaires in which no external activity was designated as having any job-related influence.

Moderating Variables

A persual of the contingency variables of Table 7 suggests two major factors which may moderate the impact of leader behaviors on functional outcomes relative to the impact of the other processes. First, organization size, spatial distance, leader competence, and
leader reward power all are partial determinants of hierarchical leaders' use of power. What this implies is that the leader has positive power and competently uses it. The second major contingency variable evident in Table 7 is the degree of situational instability. Both the age of a group and whether or not it is undergoing internal conflict determine degree of instability. Thus, the conceptual framework developed in Chapter 3 uses possession and use of leader power (LDRPOWER) and situational instability (GPCHANGE) as moderating variables that might influence the relative impact of the various functional processes on the functional criteria. The short time available to collect data precluded collection of information on either of the two contingency variables. However, as moderators, they could be operationalized by seeking the assistance of peer supervisors and higher level managers to dichotomize the groups according to each of these two contingencies. For example, the groups in which the supervisor's possession and use of power is relatively high can be separated from those in which possession and use of leader power are low. Similarly, those groups involved in a high degree of change can be separated from the more stable groups.

Data Collection

As intended, both survey and archival data were collected. Two actions by the Commander of the Center significantly facilitated both types of data retrieval. First, the Commander appointed, as a liaison for this research, a person associated with the Center in an official capacity who had previously been employed in the Office of Civilian Personnel at the Center and who currently conducts opinion surveys
and survey feedback for several Defense Department establishments. Second, the Commander strongly endorsed the research at a weekly Center staff meeting.

**Administration of Survey Questionnaires**

Several problems were anticipated with the size of the total questionnaire. A glance at Appendix A reveals a total of 23 pages of instructions and questions, including three pages of questions to be answered for three different leaders, and a numbering system that ends in question 193 for one section. In actuality, there are a total of 12 demographic questions plus 321 survey-instrument items. This suggested four concerns. (1) Would participants turn in uncompleted survey forms because of dissatisfaction with the time and effort involved? (2) Would the time involved cause early participants to discourage those scheduled for later sessions? (3) Would those who did remain to complete the entire form answer the last few pages less conscientiously than the first? (4) Finally, would the total loss of time to the sample activities cause friction between the Directors and the researcher? In order to minimize these problems, precautions were taken relative to (1) the survey instrument itself, (2) the administration of the survey, and (3) liaison with each of the Directors involved.

**The Survey Questionnaire.** Since the Center liaison official knew the population to be surveyed, he was asked to recommend changes in the wording and length of the printed instructions. (Of course, nothing could be done to the survey items themselves). His recommendations along with a few other modifications, made possible a simple, short set
of instructions for most of the sections. Second, the questions were renumbered, beginning with question 1 for each subsection. And, finally, the questionnaire was typed on 11" x 15" paper with elite, 12-characters-per-inch type. This resulted in 12 pages, which were reduced 25% and printed by an offset press to form a 12-page (three 11" x 17" sheets folded and saddle stitched) booklet. Appendix B is a copy of this final questionnaire that has, unfortunately, been further reduced to fit the size requirements of this document.

Survey Administration. The survey was administered during five time-periods (three afternoons and two mornings) over a three-day period in the Center auditorium that contains about 200 seats with fold-up arm desks. Directors were given the opportunity to send any portion of their employees at any of the scheduled periods. In order to take advantage of the excellent rapport between the participants and the liaison official, he gave the general opening remarks regarding the survey administration and introduced the researcher who thanked the participants for for their cooperation and emphasized the instructions on page 7 regarding filling out the same items three times for three different leaders. In order to avoid any perception of threat to anonymity, participants were given the option to not answer 11 of the 12 demographic questions, but all were requested to specify the code letters for their work group. Furthermore, participants were encouraged to silently get up and walk around or leave temporarily at any time in order to remain alert. Finally, each person was personally greeted as he/she entered and again when he/she turned in the completed questionnaire to the researcher.
**Liaison with Directors.** On the first day of the questionnaire administration, a personal office call was made by the researcher in company with the liaison official on each of the Directors of participating activities. During these meetings, it was explained that the Directors would receive the information obtained on the leadership functions in their own organizations within three months. These meetings were cordial and indicative of the importance of the strong backing by the Center Commander during the previous week.

**Procedural Results of the Survey Administration**

There were 400 Center employees who attended the sessions. Twelve left without completing their questionnaire and another eight filled out several pages of all 1s or all 5s. Thus, questionnaires from 95% of the attendees were usable. Other than a few comments about the length of and apparent repetition in section C (the expectancy instruments) and that "It was a long one," verbal comments were positive; and non-verbal responses by those departing were all positive except for three or four persons per session. The average time to complete the total questionnaire was approximately 50 minutes, with a range from 30 minutes to 90 minutes.

Cronbach's Alpha reliabilities (Hull & Nie, 1979) for each instrument are displayed in Table 11. Of particular interest is the very small change in alpha as the identical instruments were used three successive times for three different leaders. The scales for the three instrumental leader behavior facets and for supportive leader behavior average .76 the first time through (for the supervisor), .75 the second time (for the supervisor's supervisor), and .73 on the third iteration (for
### TABLE 11

**Cronbach's Alpha Reliabilities of All Survey Measurement Instruments**

<table>
<thead>
<tr>
<th>Type of Variable</th>
<th>Instrument</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent</strong></td>
<td>Expectancy I</td>
<td>.74</td>
</tr>
<tr>
<td></td>
<td>Expectancy II (extrinsic)</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>Expectancy II (intrinsic)</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>Job Satisfaction</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Group Arousal</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Group Cohesiveness</td>
<td>.48</td>
</tr>
<tr>
<td></td>
<td>Group Loyalty to Organization</td>
<td>.75</td>
</tr>
<tr>
<td><strong>Independent</strong></td>
<td>Instrumental Leader Behavior-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Role Clarification:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for Supervisor</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>for Supervisor's Supervisor</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>for Other Designated Leader</td>
<td>.82</td>
</tr>
<tr>
<td></td>
<td>Specification of Rules and Procedures:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for Supervisor</td>
<td>.70</td>
</tr>
<tr>
<td></td>
<td>for Supervisor's Supervisor</td>
<td>.71</td>
</tr>
<tr>
<td></td>
<td>for Other Designated Leader</td>
<td>.69</td>
</tr>
<tr>
<td></td>
<td>Work Assignment:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for Supervisor</td>
<td>.62</td>
</tr>
<tr>
<td></td>
<td>for Supervisor's Supervisor</td>
<td>.58</td>
</tr>
<tr>
<td></td>
<td>for Other Designated Leader</td>
<td>.52</td>
</tr>
<tr>
<td></td>
<td>Locus of Control</td>
<td>.48</td>
</tr>
<tr>
<td><strong>Independent</strong></td>
<td>Instrumental Group Influence-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Role Clarification:</td>
<td>.68</td>
</tr>
<tr>
<td></td>
<td>Specification of Rules and Procedures</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>Task Clarity</td>
<td>.73</td>
</tr>
<tr>
<td></td>
<td>External Instrumental Influence</td>
<td>.83</td>
</tr>
<tr>
<td></td>
<td>Supportive Leader Behavior:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>for Supervisor</td>
<td>.89</td>
</tr>
<tr>
<td></td>
<td>for Supervisor's Supervisor</td>
<td>.87</td>
</tr>
<tr>
<td></td>
<td>for Other Designated Leader</td>
<td>.90</td>
</tr>
<tr>
<td></td>
<td>Occupational Commitment</td>
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</tr>
<tr>
<td></td>
<td>Group Supportive Influence</td>
<td>.84</td>
</tr>
<tr>
<td></td>
<td>Intrinsically Satisfying Nature of Task</td>
<td>.62</td>
</tr>
<tr>
<td></td>
<td>External Supportive Influence</td>
<td>.67</td>
</tr>
</tbody>
</table>
the other designated leader). Furthermore, depending on whether or not respondents mark an external influential activity, the last questions of the survey are part of the External Instrumental Influence instrument or comprise the Group Instrumental Influence instrument, both of which have reliabilities of .83.

While the questionnaire was long, it apparently did not exceed the tolerance of the respondents. However, the reliability tests and the receipt of 77% valid, completed survey forms attest to the fact that the form was within feasible operational limits at least for the organization sampled.

**Analytical Procedures**

This section is primarily concerned with the tests of the first five hypotheses. However, before proceeding with the test procedures, mathematical statements of the models are presented using the variable designations listed in Table 5.

**Mathematical Statement of the Models**

The two models developed in Chapter 4 can be represented as follows:

**Additive Model:**

\[

tskdep = b_0 + b_1 \text{SUMTSKPR} + b_2 (\text{SUMTSKPR})^2, \text{ where } \text{SUMTSKPR} = \text{AGGILB} + \text{INDLOC} + \text{GPIINF} + \text{TSKCLAR} + \text{EXTIINF}.
\]

(1)

\[

mntdep = b_0 + b_1 \text{SUMMNTPR} + b_2 (\text{SUMMNTPR})^2, \text{ where } \text{SUMMNTPR} = \text{AGGSUPPLB} + \text{INDOCCOM} + \text{GPSUPP} + \text{TSKINSAT} + \text{EXTSUPP}.
\]

(2)
Complex Interactive Model:

$$\text{TSKDEPEN} = B_0 + B_1 \text{AGGILB} + B_2 \text{INDLOC} + B_3 \text{GPIINF} + B_4 \text{TSKCLR} + B_5 \text{EXTIINF} + B_6 (\text{AGGILB} \times \text{DVPOWER}) + B_7 (\text{AGGILB} \times \text{DVCHANGE}) + B_8 (\text{AGGILB} \times \text{DVMAINT}) + B_9 \text{DVPOWER} + B_{10} \text{DVCHANGE} + B_{11} \text{DVMAINT} + B_{12} (\text{AGGILB} \times \text{GPIINF})$$

where the following dummy variables are involved:

- $\text{DVPOWER} = 1$ if $\text{LDRPOWER}$ is high, and $\text{DVPOWER} = 0$ if $\text{LDRPOWER}$ is low;
- $\text{DVCHANGE} = 1$ if $\text{GPCCHANGE}$ is high, and $\text{DVCHANGE} = 0$ if $\text{GPCCHANGE}$ is low;
- $\text{DVMAINT} = 1$ if $\text{SUMNTTPR}$ is high, and $\text{DVMAINT} = 0$ if $\text{SUMNTTPR}$ is low.

$$\text{MNTDEPEN} = F(\text{AGGSUPLB}, \text{INDOCOM}, \text{GPSUPP}, \text{TSKINSAT}, \text{EXTSUPP}, \text{DVPOWER}, \text{DVCHANGE}, \text{DVTASK})$$

where the function is the same as for TSKDEPEN above, and $\text{DVTASK} = 1$ if $\text{SUMTSKPR}$ is high, and $\text{DVTASK} = 0$ if $\text{SUMTSKPR}$ is low.

With the above models as a background, the methodology for testing the hypotheses can be described.

**Hypothesis Testing**

As indicated previously, tests for hypotheses corresponding to each of the Propositions 2 through 8 developed in Chapter 4 are covered in this section. Hypotheses 1 through 7 correspond to these propositions.
Hypothesis 1a: With the cases represented by the upper 30% of the sums of the maintenance processes removed\(^4\), the relationships between the sum of the self, leader-behavior, group, external, and task-itself task leadership processes and the task functional outcomes at both the group and individual levels of analyses are curvilinear.

First, only the lower 70% of the cases, as measured by the sum of the maintenance process scores, are selected. For group averaged process scores and individual process results, the sum of the five task processes are computed and group and individual dependent variables, respectively, are regressed on the sum of the task processes plus the square of the sum. (TSKDEPEN = $\text{SUMTSKPR} + \text{SUMTSKPR}^2$). If the squared term is significant, the relationship is curvilinear.

Hypothesis 1b: With the cases represented by the upper 30% of the sums of the task processes removed\(^4\), the relationships between the sum of the five maintenance leadership processes and maintenance functional outcomes at both the group and individual levels of analyses are curvilinear.

The procedure here is the same as the procedure for Hypothesis 1a with maintenance variables substituted for task variables.

Hypotheses 2a and 2b: For cases in which the sums of the maintenance processes are high, the relationship between the sum of the task processes...
processes and the task dependent variables will be positive and linear; and for cases in which the sums of the task processes are high, the relationships between the sum of the maintenance processes and the maintenance dependent variables will be positive and linear.

Using the maintenance processes as a moderating variable by choosing only those cases involving the top 1/4 to 1/3 of SUMMNTPR sources, the regression equations used in the Hypothesis-2 tests should be linear. Thus, if only those cases are chosen in which SUMMNTPR is greater than, say, 3/4 SUMMNTPR the squared term of the equation, TSKDEPEN = SUMTSKPR + SUMTSKPR², should not be significant. The test for the other part of the hypothesis, 2b, is the same as for 3a with the task and maintenance terms reversed.

Hypotheses 3a and 3b: If the self, group, external, and task-itself processes are low, there will be a positive linear correlation between aggregate maintenance leader behavior and both individual and group maintenance outcomes.

Actually, Hypotheses 3a, 3b, 3c, and 3d are further tests of the curvilinearity hypotheses and are based on the assumption that hierarchical leader behavior influences the extremes of the relation between functional processes and outcomes. Thus, if no process but aggregated task leader behavior is present, as in Hypothesis 3a, only the first portion of the curve is in use and it is basically linear with a positive slope. Accordingly, those cases (individuals in one test and groups in a second test) in which (SUMTSKPR - AGGILB) is less than 1/3(SUMTSKPR - AGGILB)_max will
have a positive linear relationship between TSKDEPEN and AGGILB. Thus, for those cases, the correlation coefficient between TSKDEPEN and AGGILB with SUMMNTPR partialled out, is predicted to be positive and significant. The same should be true with the maintenance curve.

**Hypotheses 3c and 3d:** If the self, group, external, and task-itself task processes are all high, there will be a zero or negative correlation between aggregate task leader behavior and task outcomes; and if the self, group, external, and task-itself maintenance processes are all high, there will be a zero or negative correlation between aggregate maintenance leader behavior and maintenance outcomes.

Certainly from the discussion under Hypotheses 3a and 3b, above, if the hierarchical leader behavior is, in fact, operating at the extremes of the relation between functional processes and outcomes, them with the non-hierarchical leadership processes high, we should be operating on the level or down side of the curve. Thus, for those cases in which \((\text{SUMTSKPR} - \text{AGGILB})\) is greater than \(2/3(\text{SUMTSKPR} - \text{AGGILB})_{\text{max}}\) the correlation between TSKDEPEN and AGGILB will be negative and may or may not be significant. The same test is applicable to the maintenance curve.

**Hypothesis 4:** With possession and use of leader power and situational stability held constant, there will be a higher correlation between aggregate leader behavior and both individual and group criteria for both functions than between supervisor leader behavior and criteria.
This hypothesis is designed to show an improvement in percent of variance accounted for by hierarchical leadership when more than the immediate-supervisor leader behavior is considered. To test it, for high and low values of each moderating variable, Pearson correlations are computed between supervisor task and maintenance leader behaviors and task and maintenance dependent variables and between aggregated task and maintenance leader behaviors and outcomes. The correlation coefficients for the aggregated leader behaviors should be higher than for the supervisor leader behaviors. The Fisher z-transformation (Morrison, 1976) is used to determine if the correlation coefficient using aggregate leader behavior is greater than that using supervisor leader behavior.

**Hypothesis 5:** With possession and use of leader power and situational stability held constant, there will be a higher correlation between the sum of the functional processes and both individual and group criteria for both functions than between aggregate leader behavior and outcomes.

This test is a continuation of the correlational test of Hypothesis 4; here the correlations between the sum of the processes and dependent variables are compared to the correlations between the aggregate leader behavior and criteria that were used in the Hypothesis-4 test. Again the Fisher z-transformation is used to test for the statistical significance of the difference between the correlation coefficients.

**Hypothesis 6:** With situational stability held constant, aggregate leader behavior will be the process responsible for the highest percent of criteria variance for both functions for groups in which possession and use of power is high.
In a comparison of correlations of task and maintenance criteria with task and maintenance processes, for those groups in which the supervisor possession and use of power is high, the correlations should be highest for the aggregated leader behavior processes. Another substantiating test of the significance of the LDRPOWER variable is to use LDRPOWER as a dummy variable in the complex interactive model and note the significance of the beta coefficients in terms involving the LDRPOWER variable.

**Hypothesis 7:** With possession and use of leader power held constant, aggregate leader behavior will be the process responsible for the highest percent of criteria variances for both functions for groups in which the situational instability is high.

Here again, two tests can be performed exactly as specified for Hypothesis 6 but with GPCHANGE used as the moderating variable instead of LDRPOWER.

Although no formal hypothesis has been developed to test Proposition 1, it is possible to insure that at least one process is strong enough to fulfill each of the functions in each organizational group. Since all the process scores are normalized to a range of 0 to 20, a t-test that shows that the highest scored process for each group is greater than some number higher than 10, the midpoint of all the instruments, would be a valid test.

Actual data on the two contingency variables was not obtained during the limited data-collection period. Consequently, Hypothesis 6 and 7 could not be tested; these are left for future research. However, tests were conducted for the first five hypotheses; the results of these tests are reported in the next chapter.
CHAPTER 6

RESULTS

All Hypotheses were tested as planned at the individual level, and all but Hypotheses 2 and 3 were tested at the group level. The tests for Hypotheses 2 and 3 utilized only 25% to 30% of the cases; thus, for groups, this lowered the degrees of freedom to a point where the tests were not meaningful. Also at the group level, the results of the curvilinearity test were not conclusive for the maintenance function although they did provide weak support for the task function. Consequently, in addition to the tests originally planned, additional non-parametric tests were conducted with segments of the total curve to gain additional information regarding the stated predictions.

Furthermore, the results of the test of Hypothesis 2 were not conclusive for the task function when the cases in the upper 30% of SUMMTPRF were compared with the total sample. Consequently, the regression results with the total sample were compared with the results for cases involving the lower 70% of SUMMTPRF scores. Not only did this give support for Hypothesis 2, but it indicated a way of better testing the original statement of Hypothesis 1. (See footnote 4 on page 150.)
In addition to the tests of the first five hypotheses, a test was conducted to show, as stated in Proposition 1, that for each organizational group studied, there was at least one process that was strong enough to fulfill each function. *T*-tests were used to determine if the highest process mean score for each group was significantly greater than 12, 2 points above the mid-point for all process measures. For both functions, the tests were significant with \( p < .001 \).

**Basic Curvilinearity Hypotheses**

In order to test the basic curvilinearity hypotheses for the two functions, the effects of the opposite processes on the process-outcome relationships had to be eliminated. Consequently, the cases representing the upper 30% of the sum of the opposite processes were removed. For example, the test of the additive model with and without the squared term for task criteria regressed on the SUMTSKPR variable was performed with only those cases in the lower 70% of SUMMNTPR. Table 12 shows the results of this test for the individual level of analysis. For Hypothesis la, going from a simple straight-line regression of EXPECTCY on SUMTSKPR to a polynomial regression increases the adjusted \( R^2 \) from .020 at a significance of \( p < .05 \) to .046 with \( p < .01 \), and the \( F \)-test of the squared term is significant with \( p < .05 \). For individual perception of GPAROUS regressed on SUMTSKPR, the results for the simple regression are an adjusted \( R^2 \) of .024 at a significance of \( p < .05 \) as compared to the polynomial regression results of an adjusted \( R^2 \) of .064 at \( p < .001 \) with a squared term significant at \( p < .01 \). The maximum point of both the EXPECTCY and GPAROUS curves occurs at SUMTSKPR equal to 54.
Similarly, in the test for curvilinearity of the maintenance function, the adjusted $R^2$ for the straight line is .431 compared to .449 for the polynomial regression, and the squared term is significant to $p < .01$. Furthermore, the maximum point on the curve, with the upper 30% of task-process-sum scores removed, is 88. Thus, in this test, a small down-side of the curve appears within the 0-to-100 operational range of the abscissa.

### TABLE 12

TEST OF BASIC CURVILINEARITY FOR THE SUMS OF TASK AND MAINTENANCE PROCESSES USING THOSE INDIVIDUAL CASES WITH THE LOWER 70% OF OPPOSITE PROCESS SUMS

<table>
<thead>
<tr>
<th>Function</th>
<th>Dependent Variable</th>
<th>N</th>
<th>$\text{Adj. } R^2$ for Straight Line</th>
<th>$\text{Adj. } R^2$ for Polynomial</th>
<th>F-Test for Squared Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task</td>
<td>EXPECTCY</td>
<td>163</td>
<td>.020*</td>
<td>.046**</td>
<td>5.485*</td>
</tr>
<tr>
<td></td>
<td>GPAROUS</td>
<td>178</td>
<td>.024*</td>
<td>.064***</td>
<td>8.725**</td>
</tr>
<tr>
<td>Maintenance</td>
<td>INDJSAT</td>
<td>240</td>
<td>.431***</td>
<td>.449***</td>
<td>9.103**</td>
</tr>
</tbody>
</table>

$^a$For example, for the task functions, EXPECTCY and GPAROUS are regressed on SUMTSKPR for those cases in which SUMMNTPR is less than 64, the lower 70% of SUMMNTPR scores. For the maintenance function, the lower 70% of SUMTSKPR scores are used.

$p < .05$

$**p < .01$

$***p < .001$
Figure 11. Curves of Polynomial Regression Equations Obtained from Regression of Task Criteria on the Sum of Task Processes Using Cases in the Lower 70% of the Sum of the Maintenance Processes. (Figures in parentheses refer to the GPAROUS curve.)
Figure 12. Polynomial Regression Equation for the Regression of Individual Job Satisfaction on the Sum of the Maintenance Processes Using Cases in the Lower 70% of the Sum of the Task Processes.
For the statements of the basic curvilinearity hypotheses, therefore, good support is provided at the individual level of analysis for the existence of the inverted-U relationship between task dependent variables and the sum of the task processes. Furthermore, curvilinearity for the maintenance function is also supported. Although there is evidence of a small negative slope at the far end of the curve, it is far less dramatic than for the task function. Curves generated by the regression equations for the task function and for the maintenance function, respectively, are shown in Figures 11 and 12.

At the group level of analysis, the regression tests show less statistical significance, though there is support at the task level. Table 13 shows the results of these tests. In the regression of GPAROUS on SUMTSKPR for 29 groups, adjusted $R^2$ was .077 and significant with $p < .10$ for the simple regression compared to an adjusted $R^2$ of .151 at a significance of $p < .05$ for the polynomial regression, with the squared term significant at $p < .05$. Of slightly less statistical significance but of considerable interest is the regression results obtained with the regression of GPPERF—a task-function dependent variable composed of archival and observational data—on SUMTSKPR. In this case, the adjusted $R^2$ for the simple regression is -.045 and not

---

5 In analyzing the degree of curvilinearity in the relationship between functional outcomes and the sums of the functional processes, various portions of the curve used in the graphical representation of these relationships are discussed. The term near end refers to that portion of the curve nearest the origin of the graph, and far end refers to the portion of the curve farthest away from the origin.
statistically significant; however, for the polynomial regression the adjusted $R^2$ increases to .100 at a significance of about $p = .19$ and a squared term that is significant at $p = .054$. Thus, for the task function, support is not only provided at the group level but weak support is also in evidence with observed data as the dependent variable.

For the maintenance function, a very slight but insignificant decrease in adjusted $R^2$ occurs for GPLOYAL and GPPRSNT when moving from the simple regression to the polynomial regression, and the squared terms are not significant in the polynomial regression. For GPORGCOM the results for neither equation are significant.

Thus, in view of the inconclusive results obtained with regression tests with the maintenance function, non-parametric tests were applied to the data in an attempt to further clarify the relationships involved. It was hypothesized that if curvilinearity does exist, then the points in the middle of a plot of dependent variables scores versus the sums of the appropriate processes would be significantly higher than the points in the two end areas. To be more specific, in the relationship between GPAROUS and SUMTSKPR, the population of cases in the mid-section of SUMTSKPR values would have significantly higher levels of GPAROUS scores than the GPAROUS scores for the population of cases at both ends of the SUMTSKPR values. Table 14 shows the results of these tests. For example, when the cases with SUMTSKPR between 47 and 54 are compared with those cases with SUMTSKPR less than 47 and greater than 54, the Mann-Whitney $U$ (Siegel, 1956) shows that GPAROUS for the middle population has a higher mean score than GPAROUS for the end cases with a statistical significance of $p = .074$. Using a rank-sum test, a version
### TABLE 13

**REGRESSION TESTS OF CURVILINEARITY AT GROUP LEVEL USING LOWER 70% OF SUM OF OPPOSITE PROCESSES**

<table>
<thead>
<tr>
<th>Function Dependent Variable</th>
<th>Simple Regression</th>
<th>Polynomial Regression</th>
<th>SUMPR at Squared Term Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj.R²</td>
<td>F-Test</td>
<td>Adj.R²</td>
</tr>
<tr>
<td>Task</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPAROUS</td>
<td>.077</td>
<td>3.34*</td>
<td>.151</td>
</tr>
<tr>
<td>GPPERF</td>
<td>-.045</td>
<td>-.35</td>
<td>.100</td>
</tr>
<tr>
<td>Mainten-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPLOYAL</td>
<td>.524</td>
<td>24.10****</td>
<td>.520</td>
</tr>
<tr>
<td>GPORGCOM</td>
<td>-.045</td>
<td>.10</td>
<td>-.099</td>
</tr>
<tr>
<td>GPPRSNT</td>
<td>.101</td>
<td>3.35*</td>
<td>.100</td>
</tr>
</tbody>
</table>

*p < .10
**p < .05
****p < .001

### TABLE 14

**NON-PARAMETRIC TESTS OF CURVILINEARITY AT GROUP LEVEL USING LOWER 70% OF SUM OF OPPOSITE PROCESSES**

(Tests that middle of curves are higher than the two ends)

<table>
<thead>
<tr>
<th>Function Dependent Variable</th>
<th>Middle Segments</th>
<th>Test</th>
<th>Significance, p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task</td>
<td></td>
<td>Mann-Whitney U</td>
<td>.074*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rank-Sum</td>
<td>.069*</td>
</tr>
<tr>
<td>GPAROUS</td>
<td>47&lt;SUMTSKPR&lt;54</td>
<td>Mann-Whitney U</td>
<td>.050**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rank-Sum</td>
<td>.028**</td>
</tr>
<tr>
<td>GPPERF</td>
<td>46&lt;SUMTSKPR&lt;54</td>
<td>Mann-Whitney U</td>
<td>.100*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rank-Sum</td>
<td>.061*</td>
</tr>
<tr>
<td>Mainten-</td>
<td></td>
<td>Mann-Whitney U</td>
<td>.070*</td>
</tr>
<tr>
<td>GPORGCOM</td>
<td>54&lt;SUMMNTPR&lt;62</td>
<td>Rank-Sum</td>
<td>.022**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mann-Whitney U</td>
<td>.022**</td>
</tr>
<tr>
<td>GPPRSNT</td>
<td>55&lt;SUMMNTPR&lt;64</td>
<td>Rank-Sum</td>
<td>.022**</td>
</tr>
</tbody>
</table>

*p < .10
**p < .05
of the Wilcoxon test, for the same two populations, the median of GPAROUS for cases in the middle of SUMTSKPR is higher than the median of GPAROUS for cases at the ends at a significance of $p = .069$. For GPPERF, a variable fabricated from observed data, the two tests are even more supportive of the curvilinearity hypothesis with the Mann-Whitney $U$ significant at $p = .05$ and the rank-sum significant at $p = .028$. This test provides still more support for the task curvilinearity hypothesis since, added to the regression test results, we have a multi-criteria, multi-method series of tests of the hypothesis showing essentially the same results.

In attempting the non-parametric tests for the maintenance function, GPLOYAL versus SUMMNTPR showed too small a decrease at the far end to justify a comparison of the middle and the end populations. However, the non-parametric correlation between the first 4/5 of the SUMMNTPR scores and GPLOYAL is .53 at a significance of $p = .004$ while the correlation between the final 1/5 of SUMMNTPR scores and GPLOYAL is -.87 at a significance of $p = .167$. Mann-Whitney $U$ and rank-sum tests, though, were conducted for GPORGCOM and GPPRSNT. These results are shown in Table 14. Note that for GPORGCOM, which simply did not work in the regression test, the Mann-Whitney $U$ shows significance at $p = .10$ and the rank-sum at $p = .061$. The two tests for GPPRSNT yield even higher levels of significance ($p = .070$ for the Mann-Whitney $U$ and $p = .022$ for the rank-sum test). Again, weak but definite support for curvilinearity of the maintenance function has been provided by several methods and also with observational dependent variables—GPORGCOM and GPPRSNT—in the cases of the non-parametric tests of the segmented populations. However, for the maintenance function, the maximum point of the curve is at a higher
level of SUMMNTPR and the portion with a decreasing slope is much smaller than is the case for the task function.

Impact of Processes on the Opposite Functional Criteria

Given that curvilinearity may exist for the task function, Hypothesis 2a states that high maintenance processes will have the impact of countering the excessive task processes and preventing a decrease in performance. To test this, the polynomial regression was run only for the upper 30% of SUMMNTPR. The results of this test for EXPECTCY and for GPAROUS are compared in Table 15 with the results of the polynomial regression for the total samples. As predicted, the squared term drops to insignificance, but so do the results of the regression since the adjusted $R^2$ is insignificant. Therefore, it was decided to compare the results of the polynomial regressions of EXPECTCY and GPAROUS on SUMTSKPR for the lower 70% of the SUMMNTPR scores with the polynomial regression results for the whole sample. If the lower-70%-SUMMNTPR relationship shows more curvilinearity than the relationship for the total sample, then the high SUMMNTPR impact would be to straighten the curve as predicted.

Table 15 shows that the predicted results were obtained. For both EXPECTCY and individual perceptions of GPAROUS, the regression of the cases in the lower 70% of SUMMNTPR results in significant adjusted $R^2$'s ($p < .01$ for EXPECTCY and $p < .001$ for GPAROUS), significant $F$-tests for the squared terms ($p < .05$ for EXPECTCY and $p < .01$ for GPAROUS), and the maximum point on the curve at SUMTSKPR = 54. By comparison, for the total sample, with the upper 30% of SUMMNTPR now
included, the $F$-test for the squared term is statistically significant at a much lower level ($p = .18$ for EXPECTCY and $p = .14$ for GPAROUS), and the point of maximum on the curve moves from 54 to 72 and 73. This straightening effect is shown dramatically by the comparison of the two EXPECTCY curves in Figure 11. With the upper 30% of SUMMNTPR cases removed, the entire inverted-U is contained within the range of the SUMTSKPR scores, 0 to 100. Thus, for the individual level of analysis, excellent support is provided for Hypothesis 2a.

**TABLE 15**

IMPACT OF OPPOSITE FUNCTIONAL PROCESS SUMS ON THE RESULTS OF TASK AND MAINTENANCE POLYNOMIAL REGRESSION ANALYSES

<table>
<thead>
<tr>
<th>Function</th>
<th>Dependent Variable</th>
<th>Cases Used in the Regression</th>
<th>Adj. $R^2$</th>
<th>$F$-Test for Squared Term</th>
<th>Process Sum at Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task</td>
<td>EXPECTCY</td>
<td>Total sample</td>
<td>.095***</td>
<td>1.85</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper 30% SUMMNTPR</td>
<td>-.028</td>
<td>0.37</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower 70% SUMMNTPR</td>
<td>.046**</td>
<td>5.49*</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>GPAROUS</td>
<td>Total sample</td>
<td>.115***</td>
<td>2.24</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper 30% SUMMNTPR</td>
<td>-.025</td>
<td>0.57</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower 70% SUMMNTPR</td>
<td>.064***</td>
<td>8.73**</td>
<td>54</td>
</tr>
<tr>
<td>Maintain-</td>
<td>INDJSAT</td>
<td>Total sample</td>
<td>.468***</td>
<td>12.18***</td>
<td>94</td>
</tr>
<tr>
<td>ance</td>
<td></td>
<td>Upper 30% SUMTSKPR</td>
<td>.450***</td>
<td>3.11</td>
<td>99</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lower 70% SUMTSKPR</td>
<td>.449***</td>
<td>9.10</td>
<td>88</td>
</tr>
</tbody>
</table>

Range of possible scores for both SUMTSKPR and SUMMNTPR is 0 to 100.

*p < .05

**p < .01

***p < .001
Figure 13. Expectancy Versus the Sum of the Task Processes for Those Cases in the Lower 70% of the Sum of the Maintenance Process Scores (dashed lines) Along With the Same Curve for the Total Sample (solid line).
Figure 14. Individual Job Satisfaction Versus the Sum of the Maintenance Processes for Those Cases in the Lower 70% of the Sum of the Task Process Scores (dashed lines) Along With the Same Curve for the Cases in the Upper 30% of the Sum of the Task Processes (solid line).
Hypothesis 2b predicts the same straightening effect on the maintenance curve if only the upper 30% of SUMTSKPR cases are analyzed. The result of this analysis is also compared in Table 15 with the result of the polynomial regression of the maintenance function for the entire sample. This time, the impact could best be seen by comparing the maintenance-function polynomial regression for the lower 70% of SUMTSKPR with the polynomial regression for the upper 30% of SUMTSKPR. The significance of the squared term drops from $p < .001$ to $p = .08$, and the point of maximum on the curve moves from 99 to 88. This is not as dramatic an effect as seen for the task function; but, as shown in Figure 14, the straightening impact of higher SUMTSKPR scores does occur. Thus, there is weak support for Hypothesis 2b for the individual level of analysis. These tests were not run at the group level of analysis because of the small number of degrees of freedom that remained after taking only 30% of the cases.

**Impact of Curvilinearity on Analysis of Leader Behavior**

Again, assuming that EXPECTCY may have a curvilinear or inverted-U relationship with the sum of the five task processes, Hypothesis 3a predicts that the four non-hierarchical leadership processes are primarily responsible for the first portion of such a curve for any one individual and that the leader behavior will affect the far end. If this is true, then for low non-hierarchical-leadership process scores, most of the relationship is determined by leader behavior, and since it means working at the first-portion of the curve, there would be a significant positive relationship between EXPECTCY and TOTILB. On the
other hand, if the non-hierarchical-leadership process sum is high, it means that the leader behavior will be working at the middle or far end of the curve and there should be an insignificant or negative correlation between EXPECTCY and total leader behavior. As shown in Table 15, the correlation for the low end is positive and significant, and for the high end it is neither negative nor significant. This supports the low-end hypothesis and the lack of significance for the high end is as predicted, but there is no indication of a negative slope.

Hypothesis 3b predicts the same phenomenon for the maintenance function. Here again the result is highly significant on the low end. At the high end, the correlation is negative as predicted, and the statistical significance is low again as expected. Consequently, Hypotheses 3a and 3b both have good support for the low end of the curve, and at the high end the relationship is not significant as predicted.

**TABLE 16**
CORRELATIONS BETWEEN TOTAL LEADER BEHAVIORS AND DEPENDENT VARIABLES FOR UPPER AND LOWER LEVELS OF SUMS OF TASK AND MAINTENANCE NON-HIERARCHICAL LEADER PROCESSES

<table>
<thead>
<tr>
<th>Cases Analyzed</th>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Pearson Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>(SUMSKPR - TOTILB) ≤ 35</td>
<td>EXPECTCY</td>
<td>TOTILB</td>
<td>.18*</td>
</tr>
<tr>
<td>(SUMSKPR - TOTILB) &gt; 56</td>
<td>EXPECTCY</td>
<td>TOTILB</td>
<td>.16</td>
</tr>
<tr>
<td>(SUMNTPR - TOTSUPLB) ≤ 41</td>
<td>INDJSAT</td>
<td>TOTSUPLB</td>
<td>.57***</td>
</tr>
<tr>
<td>(SUMNTPR - TOTSUPLB) ≥ 64</td>
<td>INDJSAT</td>
<td>TOTSUPLB</td>
<td>-.13</td>
</tr>
</tbody>
</table>

*p < .05  
***p < .001
Advantages of the Functional Approach

Looking at a number of functional sources beyond the immediate supervisor's behavior should increase predictive capability and understanding of the leadership phenomenon. Accordingly, Hypothesis 4 predicts that a higher correlation will result if total leader behavior is used with task and maintenance criteria than if only supervisor behavior is used. This comparison is made in Table 17 for both functions for both individual and group levels of analyses. The predicted increase in significant correlations occurred for individual EXPECTCY and GPLOYAL while it remained constant for INDJSAT. For GPAROUS the correlation increased from .19 with no statistical significance to .21 with $p < .10$. However, even though results in the predicted direction were found, the Fisher-$z$ value was not statistically significant. Thus, the hypothesis is not supported.

According to Hypothesis 5, an even higher coefficient is expected when the sums of each of the functional processes are correlated with individual and group criteria. A review of Table 17 reveals a dramatic increase in both statistical significance and in the magnitude of the correlation coefficient for all cases. This is true despite the earlier finding that a curved line should fit the data even better. The Fisher $z$-transformation test was significant with $p < .10$ for EXPECTCY and GPLOYAL and with $p < .05$ for GPAROUS. Thus, this hypothesis has weak statistical support.

Although it was not hypothesized that a sum of the processes would correlate more highly with criteria than supervisor behavior, a Fisher $z$-transformation test to this effect was run. As might be
TABLE 17

COMPARISON BETWEEN CORRELATIONS OF SUPERVISOR BEHAVIOR, TOTAL LEADER BEHAVIOR, AND SUM OF FUNCTIONAL PROCESSES WITH DEPENDENT VARIABLES

<table>
<thead>
<tr>
<th>Level of Analysis</th>
<th>Function Variables</th>
<th>Dependent Variables</th>
<th>Independent Variables</th>
<th>Correlation(^{a,b})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Task</td>
<td>EXPECTCY</td>
<td>ILB(^c)(Supervisor)</td>
<td>TOTILB, SUMTSKPR</td>
<td>.18****, .20****, .31****</td>
</tr>
<tr>
<td></td>
<td>INDJSAT</td>
<td>Support (supervisor)</td>
<td>TOTSUPLB, SUMMNTPR</td>
<td>.59****, .59****, .67****</td>
</tr>
<tr>
<td>Group Task</td>
<td>GPAROUS</td>
<td>ILB(^c)(Supervisor)</td>
<td>TOTILB, SUMTSKPR</td>
<td>.19, .21*, .39**</td>
</tr>
<tr>
<td></td>
<td>GPLOYAL</td>
<td>Support (Supervisor)</td>
<td>TOTSUPLB, SUMMNTPR</td>
<td>.27**, .38***, .63****</td>
</tr>
</tbody>
</table>

\(^{a}\) \(r_{TOTLB - r_{Supervisor}}\) is not statistically > 0 for any of the four correlations.

\(^{b}\) \(r_{SUMPR - r_{TOTLB}}\) > 0 with \(p < .10\) for EXPECTCY and GPLOYAL and with \(p < .05\) for GPAROUS.

\(^{c}\) ILB = instrumental leader behavior.

* \(p < .10\)
** \(p < .05\)
*** \(p < .01\)
**** \(p < .001\)
expected this notion is supported. The significance of the differences between the correlation coefficients for EXPECTCY and INDJSAT is at the p < .05 level, while for GAPAROUS and GPLOYAL, p < .001.

**Summary of Results**

In general, the tests of the five hypotheses were in the predicted direction or at worst were inconclusive. The polynomial regression analyses at the group level for the maintenance function were inconclusive; but on the other hand, there was no evidence that a straight line was superior to the predicted curve. There was statistical support for a portion of all hypotheses but one. Hypothesis 4--the prediction that total leader behavior correlates more highly with criteria than supervisor leader behavior--was not supported. However, again, the reverse was not found to be the case either.

The basic curvilinearity hypothesis, Hypothesis 1, had support for the task function at both individual and group levels of analyses with both affective and observational dependent variables and with both regression and non-parametric tests. Curvilinearity for the maintenance function was supported by all of the same combinations as for the task function except for regression tests at the group level; however, the maximum point of the maintenance curve occurs much closer to the right-hand limit than is true for the task function. The cross-function hypothesis (impact of maintenance processes on the task polynomial regression equation and vice versa), Hypothesis 2, was supported for the impact on the task equation and weakly for the impact on the maintenance equation at the individual level of analysis. Hypothesis 3 tested the impact of the non-hierarchical-leadership processes on our
understanding of leader behavior effectiveness. For the individual level of analysis, both of the hypotheses were supported at the low end, and the predicted lack of significance occurred at the high end with a trend in the predicted negative direction for the maintenance function. Although the trend was as predicted, no empirical support was found for Hypothesis 4 that tested the advantage of using total leader behavior rather than supervisor behavior alone. Nor was there any support for using the supervisor behavior alone as opposed to using total leader behavior. However, there was weak support for Hypothesis 5 showing the increased predictive capability of the sum of all the functional processes over just the total leader behaviors. Although no hypothesis was formulated to test the advantage of the sum of the processes over the supervisor behavior alone, there is strong support for this comparison as indicated in note b of Table 17. Chapter 7 contains a discussion of the meaning and practical application of these results as well as some recommendations for future research in this area.
CHAPTER 7

RAMIFICATIONS OF THIS FUNCTIONAL ANALYSIS OF LEADERSHIP IN AN ORGANIZATION

The objective of this research, as specified at the end of Chapter 1 were to (1) identify the leadership functions, (2) identify the functional processes and form them into a basic conceptual framework for the study of leadership, (3) develop and empirically test a leadership model derived from the framework, (4) Explain the practical application of the model in leadership training, and (5) discuss the use of functional analysis as a means of investigating leadership effectiveness in an organization. Chapter 3 proposed and presented justification for the choice of the task and maintenance functions as the primary leadership functions. In a later section of Chapter 3, five leadership activities for each of the functions were drawn from an expanded Path-Goal model, and these processes--leader behavior, self-management qualities, group influences, task characteristics, and external influences--were formed into a functional leadership conceptual model. Leader possession and use of power and situational stability were added as moderating variables. Two models of the interaction of these processes were developed in Chapter 4. One was the additive model that was developed from evidence in the literature review and stated in terms of empirically testable propositions. The other was a complex interactive model to be used primarily in organizational
leadership analyses. Thus, the first two objectives were accomplished in Chapters 3 and 4, and the test results for the third objective were reported in Chapter 6. The purpose of this chapter, then, is to complete the original objectives by (1) proposing a few methods of using the complex interactive model in organizational leadership analyses, (2) commenting on the empirical test results, and (3) proposing practical applications of the additive model. These issues will be the subjects of the final three sections of this chapter.

In addition to the statistical conclusions obtained from the empirical portion of this research, both positive and negative procedural lessons were learned. Furthermore, in view of the non-conclusive nature of results regarding portions of a few of the hypotheses, further research is indicated. Accordingly, the first section of this chapter considers suggestions for improving functional leadership research methods based on lessons learned in this study along with recommendations of areas for further research.

Further Research Considerations

This paper, of course, is just one step in the development of a functional approach to the study of leadership. Most aspects of the research were successful, and a few aspects did not turn out as well as hoped. Furthermore, there are parts of the conceptual framework involving the complex interactive model that have not yet been tested. This leads us to a discussion of (2) methods to improve future research as well as (2) directions for further research. These two issues will be covered next.
Means of Improving Future Research

Two general facets of data collection, surveys and observational data from archives were used in this study. Taking the survey first, there are a few things that were done well and a few that could be improved. Although the length of the survey did not cause excessive problems in this research, it could be a problem to the organization if for no other reason than the people-hours lost. Furthermore, if there were fewer items, it could be possible to give more elaborate instructions in a few of the sections; and that may improve the results. It may be possible to reduce the length of the instruments for E-I, E-II (intrinsic), E-II (extrinsic), and the facets of Instrumental Leader Behavior. Kerr and Jermier (1978) and Jermier and Berkes (1979) used 5 items for each of Schriesheim's instrumental leader behavior facets for a total of 15 compared to the total of 38 originally developed by Schriesheim and used in this study. Since each item is used three times, such a reduction would shorten the questionnaire by 69 questions. If, in addition, the 48 Expectancy questions could be cut in half, the total number of items could be reduced from 321 to 228, nearly a 30% reduction. The format of the instrument as shown in Appendix B with a maximum of 25% reduction (in its booklet form) was well received. It is recommended that this type of format be retained. And, perhaps the most important of the "things done right" are the provision of strong support by the head of the organization and the provision of an organization liaison official who became involved throughout the planning and the administration of the survey.
Based on the lessons learned in this research, the greatest additional effort needs to go into the collection of observational data. Taking data directly from archives without obtaining a deeper knowledge of its meaning may be the cause of many of the poor results that have been obtained with the use of objective criteria. For example, a week of interviewing and observation may well have provided a means for modifying the DIMES percentages for quality considerations; and additional interviewing may have produced better insights into the reasons for the quits so that the group-losses information could be improved. These few examples merely endorse the importance of combining qualitative observational data with quantitative as suggested by Cook and Campbell (1979) and many others.

Recommendations for Future Research

Future research on the functional analysis of leadership should focus on two major areas: (1) more work can be done to test the curvilinearity hypotheses, and (2) the portion of the model that is yet untested should be investigated. Two possibilities exist for further work on the curvilinearity hypothesis. One method is to conduct studies similar to the one reported here but with other organizations. It would be particularly useful to look at an organization somewhat less stable than the Center and with a greater range of grievances and other personnel-cost measures. A second method would be to conduct a laboratory experiment using enough confederates to provide degrees of group and external influence and various levels of leader behaviors. The task structure and intrinsically satisfying nature of the task can be manipulated relatively easily, and normal variation among subjects should
provide a range of locus of control. Two types of experiments would be of interest. One would consist of a series of manipulations of task and maintenance process sums for different subjects, and the second would be a longer longitudinal experiment involving increases and/or decreases in the functional process sums over time with the same subjects. Either one of these would be of interest in confirming the support for the curvilinearity hypothesis reported in this paper.

And, finally, further work with the conceptual framework should be undertaken using the complex interactive model to test the two hypotheses that predict the presence of the two moderating variables, possession and use of power and situational stability.

Organizational Leadership Analysis

Thus far, little use has been made of the complex interactive model. However, it has potential use in increasing understanding of the leadership phenomenon in an organization in at least two ways. First, the relative impact of leadership processes may be studied for the total organization or for sub-units of the organization. And second, individual work groups could be compared by their mean scores for all of the functional processes and these compared with mean scores for perceived dependent variables and/or observed dependent variables.

Demonstration of the Use of the Complex Interactive Model

As a demonstration, the complex interactive model was run for the entire Center and for five of the sub-unit activities sampled. The results are shown in Table 18. Of interest is the range of adjusted $R^2$ results and the completely different equations for each of the
TABLE 18

ADJUSTED R² AND STANDARDIZED BETA COEFFICIENTS FOR COMPLEX INTERACTIVE MODEL USED WITH THE CENTER AND SAMPLE COMPONENT ORGANIZATIONS

<table>
<thead>
<tr>
<th></th>
<th>Centerb</th>
<th>Unit A</th>
<th>Unit B</th>
<th>Unit C</th>
<th>Unit D</th>
<th>Unit E</th>
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</thead>
<tbody>
<tr>
<td><strong>Task Function</strong></td>
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<td></td>
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<tr>
<td>Adj. R²</td>
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<tr>
<td>Beta Coefficients:</td>
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<tr>
<td>TOTILB</td>
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<tr>
<td>INDOLOC</td>
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</tr>
<tr>
<td>GPIINF</td>
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<tr>
<td>TSKCLAR</td>
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</tr>
<tr>
<td>EXTIINF</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>TOTILBxGPIINF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVNMNT</td>
<td>1.44***</td>
<td>1.05</td>
<td></td>
<td></td>
<td></td>
<td>4.38***</td>
</tr>
<tr>
<td>DVNMNTxTOTILB</td>
<td>-1.09**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-4.31***</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
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<tr>
<td>Adj. R²</td>
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<td>Beta Coefficients:</td>
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<tr>
<td>TOTSUPLB</td>
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<tr>
<td>INDOCCOM</td>
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<tr>
<td>GPSUPP</td>
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<tr>
<td>TSKINSAT</td>
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<tr>
<td>EXTSUPP</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTSUPLBxGPSUPP</td>
<td>-.48*</td>
<td>-1.46**</td>
<td>-2.16**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVTSK</td>
<td></td>
<td></td>
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<tr>
<td>DVTSKxTOTSUPLB</td>
<td></td>
<td></td>
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</tbody>
</table>

These regressions were performed at the individual level of analysis with EXPECTCY as the task dependent variable and INDJSAT as the maintenance dependent variable.

b. The Center is the designation in this paper for the sample organization.

*p < .10
**p < .05
***p < .01
****p < .001
TABLE 19
MEAN SCORES FOR THE VARIOUS WORK GROUPS IN ONE OF THE SAMPLE ACTIVITIES

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Process Variable</th>
<th>Work Group 1</th>
<th>Work Group 2</th>
<th>Work Group 3</th>
<th>Work Group 4</th>
<th>Work Group 5</th>
<th>Work Group 6</th>
<th>Work Group 7</th>
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<tbody>
<tr>
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<td>9</td>
<td>7</td>
<td>9</td>
<td>6</td>
<td>5</td>
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<tr>
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<td>11</td>
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<td>11</td>
<td>11</td>
</tr>
<tr>
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</tr>
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<td>10</td>
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<tr>
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<td>12</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>EXTIINF</td>
<td></td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>GPORGCOM</td>
<td></td>
<td>108</td>
<td>143</td>
<td>150</td>
<td>73</td>
<td>145</td>
<td>32</td>
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<td>GPPRSNT</td>
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<td>20</td>
<td>15</td>
<td>22</td>
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<td>12</td>
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<td>12</td>
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<tr>
<td>INDOCOC</td>
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<td>15</td>
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<td>12</td>
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<td>14</td>
<td>12</td>
<td>14</td>
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<tr>
<td>EXTSUPE</td>
<td></td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>OTHERLDRb</td>
<td></td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>EXTACVITYc</td>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

aGPPERF for these groups is the same as GPJGPERF (performance as rated by the Director on a scale of 1 to 10) since DIMES was not available for this activity.

bThe most frequent other leader that was rated. Code: 1-peer, 3-Director, 7-none.

cThe most frequent external activity rated. Code: 1-professional association, 5-none.
organizational units that were sampled. Based on this knowledge, then, it would be useful to run correlations between the dependent variables and all of the complex interactive model explanatory variables for each activity to ascertain the various relative impacts of the various processes.

One of the predictions for the functional approach was that a functional model may be able to explain a generally higher percentage of the variance of performance and organizational commitment. Hunt and Osborn (in press) reported task adjusted R$^2$ values from .07 to .39 and maintenance values from .22 to .85 by using structural and environmental variables with leader behaviors. Table 18 shows the range of adjusted R$^2$ results for the demonstration run from .01 to .43 for the task function and from .48 to .81 for the maintenance function. Thus, the percentage of explained variances are at least comparable to some of the higher results achieved and reported in the literature.

As a demonstration of the other method of analysis, a comparison was made in Table 19 of the mean scores for the work groups of one of the sample activities. The lowest performing group (group 6) is similar to the others in task processes, but there is a high external influence and the external activity most frequently marked by that group was a professional association. The Director might, therefore, wish to consider what direction is coming from that association and why they have more influence than the supervisor. The same group also ranked lowest in commitment. Here the supportive leader behavior and work group support are low, but some outside activity support is high. Both the leader, the external activity, and the relative positions of the two
should be investigated. Taking one of the high performing groups as another example, Group 2 has both the highest total leader behavior, group instrumental influence, and task clarity scores; furthermore, the most frequently designated other leader is a peer. However, in looking into the content of TOTILB, it appears that the supervisor is given the highest instrumental leader behavior scores. One might conjecture that the group is so successful because they have a supervisor who is an effective leader and who supports a strong peer who keeps the informal group task-oriented.

Use of the Complex Interactive Model for Organizational Leadership Improvement

The above demonstration is an indication of a few of the insights that may be derived from the type of data presentation available from use of the complex interactive model; and these insights are much broader than is available from the standard supervisor leader-behavior research. This type of information can be fed back to the top management who can take necessary action to insure that leadership functions are sufficiently shared throughout the organization that optimum performance and commitment are obtained. Higher level managers have more options to rearrange the relative influences of the various processes. For example, if it is desired to increase the leader impact relative to a group or external influence, the upper-level manager can give the leader an opportunity to have more impact, he/she can increase reward and coercive power available to the leader, and/or he/she can use this information to provide appropriate leadership training or changes in personnel at various levels of
management. Upper levels of management can also have an impact on the group and external influences by assisting in the formal organization's ability to compete with other activities to fulfill the needs of the individuals in various work groups. Thus, the information derived from a functional analysis of leadership in an organization can be used to provide a "...broad sharing of leadership functions [that] contributes to organizational effectiveness under almost all circumstances" (Katz & Kahn, 1978, p. 576).

**Functional Model Development and Testing**

This section will cover the three primary additive model tests: the basic curvilinearity hypothesis, the cross-functional impacts, and the implications of this model to an understanding of the role of traditional leader behavior. These three sections coincide with the statements and tests of Hypotheses 1, 2, and 3, respectively. The purpose here is to discuss further the meaning of the results that were obtained.

**Basic Curvilinearity**

The empirical tests supported the hypothesis that, with the impact of high values of the opposite process sums removed, a curvilinear relationship exists between dependent variables and the sum of the functional processes. The polynomial regression for the task function both at the individual and group levels of analyses showed support for curvilinearity, and the polynomial regression for the maintenance function at the individual level demonstrated support. However, for the maintenance functions, most of the evidence indicated that the peak of the curve was nearer the upper limits of the data than was the case for the task function.
Additional confirmation of curvilinearity was provided at the group level of analysis from non-parametric tests comparing the dependent variable scores at the center of the task-process sums with the scores at the two ends of the task-process sums. The fact that some support at the group level included observational dependent variables both in the regression tests for the task function and in the non-parametric segment tests for both functions was important as additional evidence in support of the curvilinearity hypothesis. The results obtained with these criteria place this study among the relatively few that have reported successful use of observational measures of effectiveness.

Thus, the basic curvilinearity hypotheses were supported; however, there was stronger evidence for a pronounced down-side of the curve within the operating range of the data for the task function than for the maintenance function.

**Cross-Functional Impacts**

In the test of the possible impact of maintenance processes on the relationship between task outcomes and task processes, good support was found at the individual level, but because of low degrees of freedom, the test was infeasible for the group level of analysis. The finding for the maintenance cross-impact on the task function is consistent with the position taken in Chapter 4 that various maintenance processes might have a straightening effect on the negative side of a task function curve.
The hypothesis regarding the impact of task processes on the maintenance curve received weak support at the individual level of analysis. The predicted straightening effect was shown. However, it was not as pronounced as the maintenance impact on the task function because the basic maintenance curve peaked at the far end of the abscissa (88 on a scale from 0 to 100) while the maximum for the basic task curve was near the middle of the abscissa (54). Nevertheless, empirical support was obtained for the cross-function-impact hypotheses at the individual level.

Relationships Between the Sum-Process Curves and Leader Behavior

Hypothesis 3 was based on a conjecture that leader behavior would be at the far end of the sum-process curves. If so, the leader behavior would have a strong positive impact on criteria if the non-hierarchical-leader processes were low, and leader behavior would have a negligible or negative impact if the non-hierarchical-leader processes were high. This position is consistent with many of the findings in Path-Goal research, some of which were contrary to the expectations at the time of the research. The strong support for this hypothesis on the low end is consistent with predictions derived from Path-Goal Theory, and the predicted lack of significance of correlation between leader behavior and criteria at the high end is consistent with many of the equivocal results or tests of Path-Goal Theory (Downey et al., 1976; Downey et al., 1975). The test at the high end does not have statistical conclusion validity because the prediction is that there may well be insignificant results constituting retention of the null hypothesis. The results were
as predicted, but no valid test exists since this essentially requires proving the null hypothesis.

Summary of Functional Additive Model Verification

As pointed out above, the empirical tests of the first three hypotheses provided general support at the individual level of analysis and weak support for the basic curvilinearity notion at the group level of analysis. The only hypothesis that is not statistically supported is at the high end of the curve for Hypothesis 3; however, results in the predicted direction were obtained. There is, then, reasonable evidence from which to conclude:

1. The relationship between task criteria and the sum of the task processes is probably curvilinear, in the shape of an inverted U.

2. The relationship between maintenance criteria and the sum of the maintenance processes is probably curvilinear, and some discernible portion of the down side of the curve appears within the operational limits of the data.

3. High levels of maintenance processes probably tend to decrease the slope of the negative portion of the task-function curve.

4. High levels of task processes probably have a straightening effect on the far end of the maintenance curve.

5. If the sum of the non-leader-behavior processes is low, there is a positive relationship between task and maintenance criteria and task-related and maintenance-related leader behaviors, respectively.
6. If the sum of the non-leader-behavior processes is high, the relationships between task and maintenance criteria and leader behaviors are often not positive and, in fact, may be negative.

**Implications of the Functional Model for Leadership Training**

If the above six conclusions are valid, this should lead to several suggestions that might be given to students in management training programs. First, if we add the above principles to the probability (from tests of Hypothesis 4) that total leader behavior has at least as high a correlation with task and maintenance outcomes as supervisor behavior does, there are several insights that can be provided to the high-high (high directive and/or high supportive leader behaviors) question. Second, if the correlational superiority of the total functional processes over the supervisor leader behavior (tested in Hypothesis 5) is added to the conclusions, there is potential for addressing what a leader might do to influence the heretofore-labeled non-hierarchical leadership processes. And, finally, the use of the possible cross-functional processes have additional promise for a leader's actions in improving his/her effectiveness. This section will address these three issues from the context of alternatives available to a leader in various situations.

**One Answer to the High-High Controversy**

Since the early days of the Ohio State and University of Michigan leadership studies, the issue of whether to use initiating structure, consideration, or both has permeated the literature. Furthermore, the
group literature (Bales, Borgotta, & Couch, 1954) presents the question of how many leaders have the capability to exhibit both behaviors. Of the management consultants, Blake and Mouton (1964) stressed the effectiveness of using both high production-centered and high personnel-centered behaviors; and Hersey and Blanchard (1977) have taught that it depends on the maturity of the group. However, based on the answers emanating from a functional approach to leadership, the issue is not whether any particular leader should provide both directive and supportive leadership but how both the task and the maintenance functions can be filled optimally.

Thus, if the maintenance function is being satisfied by the group or by the intrinsically satisfying nature of the task itself, the task is unstructured, the subordinates tend toward and external locus of control, and little direction is available from the group or a peer, then the leader may be most effective in devoting most of the time to instrumental leadership and only a monitoring effort to the supportive influence already in existence. Similarly, if the task direction is very clear to all employees but their inherent occupational commitment is not high and their group is not helping them socially and emotionally, then it may be that the leader should devote most of his/her effort to supportive and personally reinforcing activities and only just a bit of fine-tuning to insuring that the task direction and motivation is covered.

Fiedler, as well as other early researchers of group leadership, discussed the degree to which a person can shift easily from one style to another and feel comfortable in either type of leader behavior.
Analysis based on the functional approach makes this issue less crucial; for example, if supportive behavior is clearly needed by a strongly task-capable leader, that leader can work to insure that the support comes from somebody else, such as one of the subordinates' peers, an assistant, or even a senior. This is not to say that the leader in question should not try to develop unfamiliar skills, but there are other options available. The use of these two leader behaviors is further discussed in the section of this chapter that deals with the use of the cross-functional processes.

**Leader Influence on Non-Hierarchical Leadership Processes**

Up to this point, the non-hierarchical leadership processes have been treated as though they existed independent of the acts of leaders. We have measured functional processes that are perceived to be leader behaviors, task characteristics, group influences, etc. In reality, however, the leader may be directly responsible for a task that is designed in such a way that it is seen as being very clear and straightforward or for the opportunity of the group to provide a very supportive role. This notion opens up still another series of alternatives open to the leader which will seldom be assessed on a leader behavior questionnaire but which may be far more significant than the leader behavior that is perceived by the subordinates. For example, in order to increase productivity or organizational commitment, a leader may wish to increase or decrease the sum of one or both of the functional processes, depending on which portion of the inverted U he/she believes that his/her group is operating. This section explores what a leader might do to influence (1) self-management characteristics of individuals, (2) group and
external influences, and (3) the task itself.

**Leader Impact on Individual Characteristics.** Self-management characteristics are probably the most difficult of all the processes to influence. It is not the purpose of this study to delve into the psychology of changing relatively invariant personal characteristics. However, the possibility should not be discarded. For example, some of the job enrichment elements from Hackman and Oldham (1976) may be employed at least for some people. More responsibility for those who will take it may increase their willingness to try more unstructured tasks which would have an effect similar to increasing their internality of locus of control. Similarly, detailed explanation of the significance of the job or the promise of the development of a new skill may well increase the occupational commitment. Other possibilities of this nature should be explored.

**Leader Impact on Group or External Influences.** Depending where his/her unit is on the hypothesized inverted-U curve, a leader may wish to increase or decrease group or external influence. If the sum of the functional processes is low, a combination of increased group influence towards the proper goal coupled with leader provision of direction and support would move the unit to higher performance and/or commitment. On the other hand, if the sum of the processes has reached saturation and the leader is not satisfied with the outcomes, he/she may wish to reduce group influence to move to the lower end of the curve where his own influence will have a greater impact. Again, it is not the purpose of this paper to cover group dynamics in organizations. However, the leader should be aware that he/she has a degree of
influence over an informal group. According to Bobbitt et al. (1978, p. 115), group cohesiveness is determined by "...the person's needs, his perception of the group's ability to satisfy those needs, and what this group has to offer in preference to others."

Thus, it may be possible to reduce informal group influence by causing the formal structure to be more successful than the group in satisfying the needs of the organization personnel. One of the ways that non-unionized companies remain non-unionized is by satisfying the needs of individuals as well or better than a union could. Certainly, with the sample organization used in this study, the complete lack of grievances and the very few times that the union was marked as an external source of influence suggest that the Center leadership is successfully filling the members' needs through the formal organization. On the other hand, if it is desired to increase group influence, that can be achieved by encouraging and supporting group decision making.

**Leader Impact on the Task Itself.** The leader also may have some leeway in changing both the degree of structure of the task and its intrinsically satisfying nature. Automatic feedback systems may increase the intrinsic satisfaction for certain employees and the design or statement of the task can be made in such a way that the task structure can be manipulated.

**Summary of Leader Impacts on Non-Leader-Behavior Processes.** Thus, if the leader wishes to move in either direction on either curve, a set of alternatives should include the possible manipulation—generally in an unobtrusive manner—of the "non-leader-behavior" processes. A few examples were presented here.
CHAPTER 8

SUMMARY

The penultimate paragraph of Chapter 1 listed six improvements that a functional analysis should provide over existing theories of leadership. In this chapter, each of these are discussed in light of the research conducted and reported herein.

It was first proposed that a functional analysis could tie what we have learned from Path-Goal Theory together with other leadership theories such as the substitutes for leadership, social influence, and attribution theory. The functional approach to the study of leadership was developed in this investigation through the following steps.

1. Leadership functions necessary for the continuing contribution of any organizational group to the larger organization were identified; they are a task-accomplishment function and a group maintenance function.

2. To fulfill each of these functions, five processes were identified: characteristics of the individual subordinates, group influences, characteristics of the task itself, external influences, and traditional hierarchical leader behavior as perceived by subordinates.

3. These processes and the operationalization of them were selected from instruments used in testing Path-Goal Theory, as well as some substitutes-for-leadership and social influence items. For the task function the processes include: locus of control of the individual, group instrumental influence, task clarity, instrumental influence from activities.
external to the organization, and instrumental leader behavior of the supervisor, the supervisor's superordinate, or a third person in the hierarchy from a peer to the head of the organization. All of the leader behaviors would be totalled to provide one measure for leader behavior. Another method of aggregating the several leader behavior scores by choosing for each case the leader designated by the respondent as having task and as having maintenance leadership qualities was attempted. This would be consistent with attribution theory; but in a correlational test with criteria, the totalling method proved superior. For the maintenance function, the processes are: occupational commitment of the individual, group supportive influence, the intrinsically satisfying nature of the task, external supportive influence, and total supportive leader behavior. The items drawn from the substitutes literature are used as leadership processes, most of which are, in fact, the result of acts by hierarchical leaders.

The second statement maintains that even with ten process variables—five for each function—a model may be developed that is simpler than what Path-Goal Theory is becoming. Two models were developed to show the interrelationships between the functional processes previously listed; one was an additive model and the other was a complex interactive model. The additive model in simplest form consists of the statement that for both the task and the maintenance functions, the relationship between functional outcomes and the sums of the functional processes will be curvilinear in the shape of an inverted U. The complex interactive model uses two equations, each with the functional outcome dependent on the five appropriate functional processes together with leader
possession and use of power, situational stability, and the sum of the opposite functional processes as moderating variables. Only the additive model was empirically tested in this research project; the following results were achieved: (1) empirical support was obtained for the hypothesis that the relationship between task outcomes and the sum of the task processes is curvilinear, (2) support was obtained for curvilinearity of the maintenance functional relationship, (3) weak support was provided for a hypothesis that high task processes may moderate the curvilinearity of the far end of the maintenance curve, and (4) support was provided for moderating the negative slope of the task curve by a high sum of the maintenance processes. Thus, the additive model is relatively simple in concept because of the use of the sum of the process variables. Furthermore, each process is operationalized with only one construct although the leader behavior processes are aggregates of the leader behaviors of three persons who may have influence over the member. A third hypothesis that the effectiveness of leader behaviors depends on low or high values of the non-leader-behavior processes was strongly supported at the low end, while at the high level of the sums of the non-leader processes, the leader behavior effectiveness was insignificant or negative as predicted. This finding is consistent at the low end with Path-Goal Theory and at the high end explains inconsistent results of some of the Path-Goal research.

Third, functional analysis also emphasized the idea that it is the interrelationships among processes that determine if a particular leader behavior is appropriate and effective. In accordance with the functional approach, the leader needs to insure that both the task and the
maintenance functions are being fulfilled at the optimum point on the two curves and to insure that whatever action is necessary to move to this point is taken. This may call for instrumental or supportive leader behavior by the supervisor, by another leader in the hierarchy, or by some leadership action that will increase or decrease one of the other functional processes.

Fourth, the concept should be easily adapted to a set of principles that would be valuable in leadership training courses. A device for explaining the additive functional model is described in Chapter 4 and is based on the following principles that are partially or fully supported by this research:

(1) Dependent variables for both functions may vary with the sum of their respective processes in a curvilinear, inverted-U relationship.

(2) A leader may move his/her group toward optimum performance on the ascending side of the curve by increasing the sum of the task processes or move toward the optimum organizational commitment by increasing the sum of the maintenance processes.

(3) A leader may be able to move his/her group toward optimum performance from a position on the descending portion of the curve by either decreasing the sum of the task processes or increasing the sum of the maintenance processes. A leader may move his group toward optimum commitment from the descending side of the maintenance curves by decreasing maintenance processes or possibly by increasing task processes.
(4) The leader has the following alternatives for increasing or decreasing task or maintenance processes:

(a) changes in his/her own instrumental and/or supportive behavior,

(b) changes in the instrumental and/or supportive leader behavior of another person in the hierarchy who has influence on the group, or

(c) possible manipulation of group or task processes or possibly even individual characteristics.

Based on these principles, several alternatives can be presented to a potential leader for various situations.

Fifth, the concept should be a means for studying the leadership phenomenon that is operating throughout an organization and is not limited to the behavior of the immediate supervisor as is much of the previous research. The complex interactive model developed here, but not tested for the two moderating variables, addresses this capability. As a demonstration, this model was used with the sample organization to show its possible usefulness and to call attention to how the regression equations change from one unit of an organization to another, thus giving suggestions of different impacts from different processes.

And, finally, it was suggested that a generally higher percentages of the criterion variances should be explainable by these leadership processes. It was shown in this study that a significantly higher correlation exists between criteria and the sum of the leadership processes than between criteria and supervisory leader behavior for both functions. The study does not, however, specifically test whether higher percentages of variance can be explained by using these functional processes as independent variables than present theories of leadership
that use leader behaviors as the independent variables and numerous contingencies as moderators or that include several organizational dimensions as explanatory variables. However, the range of percent of variance explained by the complex interactive model in the demonstration runs for sub-units of the sample organization are consistent with some of the higher results reported in the leadership literature.

Thus, the objectives of this paper have been met. The functions of leadership were identified. The various leadership processes available to carry out each of the functions have been identified and joined into a conceptual framework. Two models of the interaction of the various leadership processes were developed and one of the models was tested empirically while the other one was used in a demonstration. The practical applications of both models were discussed and demonstrated with a few examples both as a means of teaching leadership and as a method of analyzing the leadership effectiveness throughout an organization.
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APPENDIX A

PROPOSED SURVEY QUESTIONNAIRE
<table>
<thead>
<tr>
<th>Measure</th>
<th>Questionnaire Section and Question Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic items</td>
<td>A 1-12</td>
</tr>
<tr>
<td>Locus of control</td>
<td>A 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23</td>
</tr>
<tr>
<td>Occupational commitment</td>
<td>A 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38</td>
</tr>
<tr>
<td>Expectancy I</td>
<td>B 2, 5, 7, 11, 15, 23, 28, 32, 36, 40, 42, 46</td>
</tr>
<tr>
<td>Expectancy II</td>
<td></td>
</tr>
<tr>
<td>Intrinsic</td>
<td>B 1, 3, 4, 6, 8, 10, 12, 16, 20, 24, 26, 29, 34, 38, 39, 44, 45, 48</td>
</tr>
<tr>
<td>Extrinsic</td>
<td>B 9, 13, 14, 17, 18, 19, 21, 22, 25, 27, 30, 31, 33, 35, 37, 41, 43, 47</td>
</tr>
<tr>
<td>Intrinsically satisfying nature of the task</td>
<td>B 49, 50, 51, 52, 53</td>
</tr>
<tr>
<td>Task clarity</td>
<td>B 54, 55, 56, 57, 58, 59</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>B 60-79</td>
</tr>
<tr>
<td>Instrumental leader behavior</td>
<td></td>
</tr>
<tr>
<td>Role clarification</td>
<td>B 80, 81, 82, 83, 84, 85, 86, 87, 88</td>
</tr>
<tr>
<td>Work assignment</td>
<td>B 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130</td>
</tr>
<tr>
<td>Supportive leader behavior</td>
<td>B 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101</td>
</tr>
<tr>
<td>Group cohesiveness</td>
<td>B 131, 134, 137, 140, 143</td>
</tr>
<tr>
<td>Group loyalty to organization</td>
<td>B 132, 135, 138, 141, 144</td>
</tr>
<tr>
<td>Group arousal</td>
<td>B 133, 136, 139, 142, 145</td>
</tr>
<tr>
<td>Measure</td>
<td>Questionnaire Section and Question Numbers&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Group instrumental influence</td>
<td>B 146, 147, 148, 149, 150, 151, 152, 153, 154</td>
</tr>
<tr>
<td>Role clarification</td>
<td></td>
</tr>
<tr>
<td>Group supportive influence</td>
<td>B 155, 156, 157, 158, 159, 160, 161, 162, 163</td>
</tr>
<tr>
<td>External instrumental influence</td>
<td>B 173, 174, 175, 176, 177, 178, 179</td>
</tr>
<tr>
<td>Role clarification</td>
<td></td>
</tr>
<tr>
<td>Specification of procedures</td>
<td>B 187, 188, 189, 190, 191, 192, 193</td>
</tr>
<tr>
<td>External supportive influence</td>
<td>B 180, 181, 182, 183, 184, 185, 186</td>
</tr>
</tbody>
</table>

<sup>a</sup>Underlined items are reverse scored.
THE OHIO STATE UNIVERSITY ORGANIZATIONAL SURVEY

GENERAL INSTRUCTIONS

Background

All the questions in this questionnaire may also be answered by people in organizations other than yours and for research purposes we intend to compare these organizations. For this reason, please be sure to answer each question as best as you can and do not omit any. If some of these questions seem similar or if they do not seem to apply, please answer them anyway by picking the answer which comes closest to your personal feelings or opinion. If you do not know the answer to a question, please pick the answer which you feel is best, but do not skip any questions. As we noted earlier, this is not a test of ability or consistency in making answers. Its only purpose is to collect information as accurately as possible about employee feelings and opinions concerning their jobs and employing organizations.

Questionnaire

The questionnaire consists of two parts, labeled A and B. Part A calls for some background information needed for the study. You should answer the questions for both parts directly on the questionnaire. By far, the largest number of questions require only circling a number at the end of a statement or a pair of statements. However, in a few cases you will have to write a few words to designate the position held by a person about whom you will be answering some questions, including yourself. However, you will not be asked to write down the name of any person.

Note on Your "Immediate Supervisor"

In several places in this questionnaire, questions are asked about your "immediate supervisor." If you have more than one immediate supervisor, please answer these questions with respect to the supervisor who has the most direct responsibility for the job that you do.
INSTRUCTIONS For this entire questionnaire, please write your answers directly on the questionnaire itself.
PART A

BACKGROUND INFORMATION

Below are some questions concerning personal background and characteristics which will provide useful information for the study. Please answer all of them.

1. Sex (Check one):  ____1. Male  ____2. Female

2. Race (Check one):  ____1. Black  ____2. American Indian or Alaskan Native
 ____3. Asian or Pacific Islander  ____4. Hispanic
 ____5. White (not of Hispanic origin)


4. Number of children (Circle one): 0 1 2 3 4 5 6 7 8 or more

5. What is the title of your work group? Supply all information necessary to uniquely identify your group, such as department, division, workgroup, shift, etc.

6. What kind of work was your father (or head of the house) doing when you were about 14 years old?

7. How old were you on your last birthday? ______________years old.

8. How many years have you been doing the same type of work you are currently doing, both in this organization and in others? _______________years.

9. How long have you been on your present job? _______________years.

10. How long have you worked in your present organization? _______________years.

11. Please indicate the highest grade in school you have completed by checking the appropriate category below:
 ____1. Some high school or high school diploma.
 ____2. Less than 2 years of college or technical school.
 ____3. 2-year college or technical school degree.
 ____4. More than 2 years of college or technical school, but no degree.
 ____5. Bachelor's degree.
 ____6. Graduate work, no degree.
 ____7. Master's degree.
 ____8. Postgraduate work above Master's.
 ____9. Doctorate.
12. How long have you been working for your current immediate supervisor? 

________ years.

The next eleven questions pertain to the way certain important events in our society affect you as an individual in general. This is a measure of your own personal beliefs and attitudes that you have developed over time. Each item consists of a pair of alternative statements lettered a or b. Please select the one statement of each pair which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. (Obviously, there are no right or wrong answers.) Next, decide how close the statement that you have chosen is to your own opinion. If statement a is much closer to your opinion than statement b, circle 1 below the two statements. If statement a is slightly closer to your opinion, circle 2. If statement b is slightly closer, circle 3. And if statement b is much closer to your opinion, circle 4.

Please answer these question carefully, but do not spend too much time on any one item. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one that you more strongly believe to be the case as far as you are concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

13. a. Many of the unhappy things in people's lives are partly due to bad luck. 
   b. People's misfortunes result from the mistakes they make.

14. a. In the long run, people get the respect they deserve in this world.
   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

15. a. The idea that teachers are unfair to students is nonsense.
   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
1 - Statement a is much closer to my opinion.  
2 - Statement a is slightly closer to my opinion.  
3 - Statement b is slightly closer to my opinion.  
4 - Statement b is much closer to my opinion.

16. a. I have often found that what is going to happen will happen.
  b. Trusting in fate has never turned out as well for me as making a decision to take a definite course of action.

17. a. The average citizen can have an influence in government decisions.
  b. This world is run by the few people in power, and there is not much the little guy can do about it.

18. a. When I make plans, I am almost certain that I can make them work.
  b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

19. a. In my case, getting what I want has little or nothing to do with luck.
  b. Many times we might just as well decide what to do by flipping a coin.

20. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
  b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

21. a. Most people can’t realize the extent to which their lives are controlled by accidental happenings.
  b. There really is no such thing as "luck."

22. a. In the long run, the bad things that happen to us are balanced by the good ones.
  b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

23. a. Many times I feel that I have little influence over the things that happen to me.
  b. It is impossible for me to believe that chance or luck plays an important role in my life.
Listed below are a series of statements that represent possible feelings that individuals might have about their occupation or present type of work regardless of the particular organization for which they may be working. With respect to your own feelings about your occupation, please indicate the degree of your agreement or disagreement with each statement by circling a number corresponding to one of the seven alternatives below.

1 - Strongly disagree.
2 - Moderately disagree.
3 - Slightly disagree.
4 - Neither disagree nor agree.
5 - Slightly agree.
6 - Moderately agree.
7 - Strongly agree.

24. I am willing to put in a great deal of effort beyond that normally expected in order to be successful in my occupation.

25. I talk up my occupation to my friends as a great type of work in which to be engaged.

26. I feel very little loyalty to my present occupation.

27. I would be willing to work in almost any organization in order to keep working in my occupation.

28. I find that my personal values and the values required in my occupation are very similar.

29. I am proud to tell others that I work in this occupation.

30. I could just as well be working at a different occupation so long as the working conditions were similar to these.

31. This occupation really inspires the very best in me in the way of job performance.

32. It would take very little change in my present circumstances to cause me to leave this occupation.

33. I am extremely glad that I chose this occupation over others that I have considered.

34. There's not too much to be gained by sticking with this occupation indefinitely.

35. It is not easy to be enthusiastic about the type of work my occupation offers.

36. I would describe myself as having a real dedication in working in my occupation.
37. For me, this is the best of all possible occupations in which to be.

38. Deciding to work at this occupation was a definite mistake on my part.
PART B

THE OHIO STATE UNIVERSITY
ORGANIZATIONAL SURVEY

INSTRUCTIONS  This part of the survey pertains to your job and the organization in which you are presently working. As in Part A, please write your answers on the questionnaire itself.

There are four sections to this portion of the questionnaire: job situation, leader behavior, work group descriptions, and external environmental considerations.
SECTION 1
JOB SITUATION

Below is a list of items which may be used to describe your general job situation. Each item deals with an aspect of your job, but does not ask you to judge whether the aspect is desirable or undesirable. Although some of these items may look similar, they are all different and they express differences which are important in describing your general job situation. Each item should be considered as a separate description of your job. This is not a test of ability or consistency in making answers. Its only purpose is to make it possible for you to describe, as accurately as you can, your job situation.

DIRECTIONS: First, READ each item carefully. Then, THINK about how true each item is. Next, DECIDE whether the item is (1) Very false, (2) false, (3) Neither true nor false, (4) True, or (5) Very true. Finally, circle the number at the end of each statement that corresponds to the way you think about how true each item is.

1 - Very false.
2 - False.
3 - Neither true nor false.
4 - True.
5 - Very true.

BE SURE to answer every item (do not skip any). Also, do NOT mark more than one answer for any item.

1. Producing high quality work does not lead to my feeling a sense of accomplishment.
2. When I try hard on my job I produce high quality work.
3. Producing low quality work leads to my feeling a lack of responsibility for my job.
4. Producing low quality work leads to my feeling bad about myself.
5. When I try hard on my job I turn out my work on time.
6. Producing high quality work leads to my feeling good about my abilities.
7. When I devote little effort to my job I produce a lot of work output.
8. Producing high quality work does not lead to my feeling that my job is meaningful.
9. Producing little work output leads to my having a decreased chance for a pay raise.
10. Getting my job done late leads to my feeling bad about myself.
11. When I give my job all I can, I produce little work output.
1. Very false
2. False
3. Neither true nor false
4. True
5. Very true

12. Producing a lot of work output leads to my feeling a sense of responsibility for my job. 1 2 3 4 5
13. Producing a lot of work output does not lead to my having friendly relations with my supervisor. 1 2 3 4 5
14. Producing high quality work does not lead to my having an increased chance for a promotion. 1 2 3 4 5
15. When I don't try hard on my job I turn out my work late. 1 2 3 4 5
16. Producing low quality work does not lead to my feeling that I am not developing my capabilities. 1 2 3 4 5
17. Getting my job done late does not lead to my having a decreased chance for a pay raise. 1 2 3 4 5
18. Producing a lot of work output leads to my having friendly relations with my co-workers. 1 2 3 4 5
19. Getting my job done late leads to my having unfriendly relations with my supervisor. 1 2 3 4 5
20. Producing little work output does not lead to my feeling a lack of accomplishment. 1 2 3 4 5
21. Producing high quality work does not lead to my being praised by the company or organization. 1 2 3 4 5
22. Producing a lot of work output leads to my having increased job security. 1 2 3 4 5
23. When I devote little effort to my job I turn out my work on time. 1 2 3 4 5
24. Getting my job done late does not lead to my feeling a lack of accomplishment. 1 2 3 4 5
25. Producing high quality work leads to my having an increased chance for a pay raise. 1 2 3 4 5
26. Getting my job done on time does not lead to my feeling good about my abilities. 1 2 3 4 5
27. Getting my job done late leads to my being criticized by the organization that I am in. 1 2 3 4 5
28. When I don't try hard on my job I produce little work output. 1 2 3 4 5
1 - Very false
2 - False
3 - Neither true nor false
4 - True
5 - Very true

29. Getting my job done late does not lead to my feeling that my job is unmeaningful.

30. Producing low quality work does not lead to my having decreased job security.

31. Producing a lot of work output leads to my having an increased chance for a promotion.

32. When I give my job all I can, I turn out my work late.

33. Getting my job done late does not lead to my having unfriendly relations with my co-workers.

34. Producing a lot of work output does not lead to my feeling good about myself.

35. Getting my job done on time leads to my having an increased chance for a promotion.

36. When I devote little energy to my job I turn out high quality work.

37. Producing little work output does not lead to my being criticized by my organization.

38. Producing a lot of work output does not lead to my feeling that I am developing my capabilities.

39. Getting my job done on time leads to my feeling a sense of responsibility for my job.

40. When I give my job all I can I produce low quality work.

41. Producing high quality work leads to my having friendly relations with my co-workers.

42. When I try hard on my job I produce a lot of work output.

43. Producing high quality work does not lead to my having friendly relations with my supervisor.

44. Getting my job done late leads to my feeling that I am not developing my capabilities.

45. Producing little work output leads to my feeling that my job is unmeaningful.
1 - Very false
2 - False
3 - Neither true nor false
4 - True
5 - Very true

46. When I don't try hard on my job I produce low quality work.
   1 2 3 4 5

47. Getting my job done late leads to my having decreased job security.
   1 2 3 4 5

48. Producing little work output leads to my feeling bad about my abilities.
   1 2 3 4 5

49. I just basically feel very good about the type of work that I do in my job.
   1 2 3 4 5

50. It is hard to imagine that anyone could enjoy performing the task that I perform on my job.
   1 2 3 4 5

51. My good feelings about going to work depend to a considerable extent on the nature of the actual tasks I perform on the job.
   1 2 3 4 5

52. I consider that the tasks that I generally perform at work are very important for my work career.
   1 2 3 4 5

53. The tasks that I generally do in my job have very little to do with the kind of work that really interests me.
   1 2 3 4 5

54. The nature of the task itself is such that I feel certain about how much authority I have.
   1 2 3 4 5

55. The nature of the task itself is such that the objectives and goals for what I am supposed to do are clear.
   1 2 3 4 5

56. The nature of the task itself is such that knowing how I should divide my time is very difficult.
   1 2 3 4 5

57. The nature of the task itself is such that I know from the task what my responsibilities are.
   1 2 3 4 5

58. The nature of the task itself is such that I know exactly what is expected of me.
   1 2 3 4 5

59. The nature of the task itself is such that it seems that it is never clear what has to be done.
   1 2 3 4 5
The purpose of the next 20 items is to give you a chance to tell how you feel about your present job, what things you are satisfied with and what things you are not satisfied with. On the basis of your answers and those of thousands of other people throughout the nation, we hope to get a better understanding of the things people like and dislike about their jobs.

Below you will find statements about your present job. READ each statement carefully. DECIDE how satisfied you feel about the aspect of your job described by the statement. Keeping the statement in mind, circle the appropriate number after the statement as follows:

1 - Very dissatisfied (much less than you expected)
2 - Dissatisfied (less than you expected)
3 - Neither satisfied nor dissatisfied (cannot make up your mind whether or not the job gives you what you expected)
4 - Satisfied (what you expected)
5 - Very satisfied (more than you expected)

REMEMBER keep the statement in mind when deciding how satisfied you feel about that aspect of your job. Do this for all statements. Please answer every item. Be frank and honest. Give a true picture of your feelings about your present job.

ON MY PRESENT JOB, THIS IS HOW I FEEL ABOUT:

60. Being able to keep busy all the time. 1 2 3 4 5
61. The chance to work alone on the job. 1 2 3 4 5
62. The chance to do different things from time to time. 1 2 3 4 5
63. The chance to be "somebody" in the community. 1 2 3 4 5
64. The way my boss handles his men and women. 1 2 3 4 5
65. The competence of my supervisor in making decisions. 1 2 3 4 5
66. Being able to do things that don't go against my conscience. 1 2 3 4 5
67. The way my job provides for steady employment. 1 2 3 4 5
68. The chance to do things for other people. 1 2 3 4 5
69. The chance to tell people what to do. 1 2 3 4 5
70. The chance to do something that makes use of my abilities. 1 2 3 4 5
71. The way organizational policies are put into practice. 1 2 3 4 5
72. My pay and the amount of work I do. 1 2 3 4 5
73. The chances for advancement on this job. 1 2 3 4 5
1 - Very dissatisfied
2 - Dissatisfied
3 - Neither satisfied nor dissatisfied
4 - Satisfied
5 - Very satisfied

ON MY PRESENT JOB, THIS HOW I FEEL ABOUT:

74. The freedom to use my own judgment. 1 2 3 4 5
75. The chance to try my own methods of doing the job. 1 2 3 4 5
76. The working conditions. 1 2 3 4 5
77. The way my co-workers get along with each other. 1 2 3 4 5
78. The praise I get for doing a good job. 1 2 3 4 5
79. The feeling of accomplishment I get from the job. 1 2 3 4 5

SECTION 2
LEADER BEHAVIOR

On the next several pages is a list of items which may be used to describe the behavior towards you as an individual by your immediate supervisor (the person you report to) and of others in your organization who display leadership qualities. Each item describes a specific kind of behavior, but does not ask you to judge whether the behavior is desirable or undesirable. Although some of these items may appear similar, they express differences which are important in the description of leadership. Each item should be considered as a separate description. This is not a test of ability or consistency in making answers. Its only purpose is to make it possible for you to describe, as accurately as you can, the behavior of your immediate supervisor and other leaders toward you as an individual.

In many organizations, the immediate supervisor is the person who provides guidance, expected levels of performance, clarification of tasks to be accomplished and support to the work group members. However, under certain circumstances, there are situations when another person provides some of the guidance on what is expected and seems to be responsible for a generally supportive climate in which to work. One person other than the supervisor who displays some leadership qualities that help you with guidance and direction could be the supervisor's immediate senior. However, it also could be the next person up in the line of authority, one of the persons at the top of the organization, a particularly influential person at the top of the organization, a particularly influential person in the personnel department, or even a peer of yours. If it is a peer, it may be an experienced person whom your supervisor employs as a special assistant or it may simply be a person of experience or knowledge for whom you have a great amount of respect or whom you might think of as a natural leader.
In this section on leader behavior, each item has space in three columns for you to give a leader behavior mark as follows:

Column A - Your immediate supervisor.
Column B - Your supervisor's immediate senior.
Column C - Other designated leader

Before proceeding, decide which "other designated leader" you wish to mark in Column C, if there is such a person, and place a check mark opposite the below description that best describes that person's position relative to yours.

Other Designated Leader: BE SURE TO CHECK ONE OF THESE BLANKS!

- Peer.
- 3rd level of seniority over you. (Your supervisor's supervisor's senior.)
- Top management. (Assistant to the head of the organization such as a vice-president, deputy director, etc.)
- Head of the organization.
- Manager in the Personnel Department.
- Other
- None (If there is none, do not mark Column C.)

In many of the statements below, the word "communicates" is used. It means that the leader has transmitted some information to you by direct face-to-face explanation, written memoranda, rules and regulations that the leader has promulgated for the purpose indicated, or by passing it along through others. By whatever method, it is clear to you that the "leader" in question at the time is or is not (or somewhere in between) providing the particular assistance indicated by the particular statement.

DIRECTIONS: First, READ each item carefully, Then, THINK about how true each item is. Next, DECIDE whether the item is

1 - Very false.
2 - False.
3 - Neither true nor false.
4 - True.
5 - Very true.

Finally, circle the number to the right of the statement that describes the item for each of the "leaders" indicated at the top of the columns: Column A, your supervisor; Column B, your supervisor's senior; Column C, other designated leader for whom you have checked above. The number you place in the three columns should be independent of one another. For example, they could all be 5's, all 1's, or any combination of numbers (5,4,1; 4,2,5; 3,3,1; etc.) depending on how you feel about each of the three leaders on each item.

EXAMPLE: You have named the "other designated leader" as top management, and you believe that the statement that "THE LEADER COMMUNICATES vague explanations of what is expected of me on my job," is true for your supervisor, true for your supervisor's senior, and very false for the top management leader whom you have in mind. Therefore, you would fill in item 80 as follows:

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
<th>Column C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  2  3  4  5</td>
<td>1  2  3  4  5</td>
<td>1  2  3  4  5</td>
</tr>
</tbody>
</table>
Be sure to answer every item (do not skip any). Remember, please describe the behavior of the indicated leader towards you. It is recommended that you complete items 80 through 130 for Column A, then return and complete Column B, then Column C. When you are through, check to insure that you have one number circled for each statement under each column.

<table>
<thead>
<tr>
<th>1 - Very false</th>
<th>2 - False</th>
<th>3 - Neither true nor false</th>
<th>4 - True</th>
<th>5 - Very true</th>
</tr>
</thead>
</table>

**Section 2a: Leader Behaviors Which Involve Clarifying What is Expected of You**

<table>
<thead>
<tr>
<th>THE LEADER COMMUNICATES:</th>
<th>Immediate Supervisor</th>
<th>Supervisor's Senior</th>
<th>Other Designated Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>80. vague explanations of what is expected of me on my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>81. unclear goals to reach on my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>82. the level of performance that is expected of me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>83. what is considered good job performance.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>84. contradictory ideas about what is expected of me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>85. the quality of work that is expected of me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>86. what is expected of me on my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>87. the performance goals for my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>88. vague quality standards to meet on my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Section 2b: Leader Behaviors Which Involve Consideration of Your Needs**

<table>
<thead>
<tr>
<th>THE LEADER COMMUNICATES:</th>
<th>Immediate Supervisor</th>
<th>Supervisor's Senior</th>
<th>Other Designated Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>89. the feeling that working on my job is pleasant.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>90. things that hurt my personal feelings.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>91. an interest in my personal feelings before acting.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>92. a friendly relationship with me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>93. a manner which is thoughtful of my personal needs.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
THE LEADER COMMUNICATES:

94. a concern for my personal welfare.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

95. the impression of doing personal favors for me.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

96. acts of rudeness towards me.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

97. things that make my job less pleasant.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

98. taking action without considering my feelings.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

99. respect for my personal feelings.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

Section 2c: Leader Behaviors Which Involve Giving You Ways to Do Your Job

THE LEADER COMMUNICATES:

102. how I am to go about doing my job.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

103. the methods I am to use in performing my job.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

104. permission for me to ignore rules and regulations which affect how I do my job.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

105. procedures to guide my work.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

106. how I am to do my job.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

107. that I will be left alone to decide how to perform my job.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

108. that I am to follow standard rules and regulations in doing my job.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

109. that I may develop my own methods for doing my job.
   1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

110. how my job should be done.
    1 2 3 4 5 1 2 3 4 5 1 2 3 4 5

111. instructions on how to do my job.
    1 2 3 4 5 1 2 3 4 5 1 2 3 4 5
<table>
<thead>
<tr>
<th></th>
<th>1 - Very false</th>
<th>2 - False</th>
<th>3 - Neither true nor false</th>
<th>4 - True</th>
<th>5 - Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>112.</td>
<td>that I will be left to develop my own ways of doing my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>113.</td>
<td>the feeling that I have complete freedom in how I perform my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>114.</td>
<td>rules and regulations to guide how I do my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>115.</td>
<td>permission for me to decide how to do my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>116.</td>
<td>his/her decision on how I am to do my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>117.</td>
<td>permission for me to develop my own procedures for performing my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>118.</td>
<td>encouragement to me to develop my own methods of doing my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

Section 2d: Leader Behavior Which Involves Assigning Jobs to You

<table>
<thead>
<tr>
<th></th>
<th>1 - Very false</th>
<th>2 - False</th>
<th>3 - Neither true nor false</th>
<th>4 - True</th>
<th>5 - Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>119.</td>
<td>exactly what tasks I am to perform.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>120.</td>
<td>assignment to specific jobs.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>121.</td>
<td>general work assignments.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>122.</td>
<td>narrow job assignments.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>123.</td>
<td>what tasks my job involves.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>124.</td>
<td>broad job assignments.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>125.</td>
<td>careful definitions of what jobs I am to do.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>126.</td>
<td>vague work assignments.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>127.</td>
<td>that I have complete freedom to work on whatever tasks I choose.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>128.</td>
<td>the specifications of what tasks I am to perform.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>129.</td>
<td>specific work assignments for me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>130.</td>
<td>permission for me to decide what duties to do.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
We have a lot of evidence to indicate that sometimes a particular leader is more often associated with giving direction, clarifying confusing issues on the job, and assigning work in such a way that he/she is primarily interested in getting the work done efficiently. There are other leaders who seem to be more involved in supporting the group members in a more personal way to reduce tension and to help create a pleasant working atmosphere. And, finally, we know that quite often it is the same leader who both shows interest in providing task-accomplishment directions and also personally supporting activities.

Before going to the next section and without referring to the way you have marked the three leaders in your organization, indicate by checking one of the blocks below, which person you consider to have the most qualities that you identify with your view of an effective task-accomplishment-oriented leader.

_____ A, your supervisor
_____ B, your supervisor's senior
_____ C, the other leader you have designated

Which leader do you consider to have the most qualities that you identify with your view of an effective employee-oriented and supportive leader?

_____ A, your supervisor
_____ B, your supervisor's senior
_____ C, the other leader you have designated

PLEASE BE SURE THAT YOU HAVE CHECKED ONE AND ONLY ONE LEADER UNDER EACH OF THE TWO CATEGORIES ABOVE,

SECTION 3

WORK GROUP DESCRIPTIONS

Below are some statements which may be used to describe the group in which you work. Your work group consists of yourself and all the people working under your direct supervisor.

DIRECTIONS: Please READ each statement carefully. Then DECIDE how well the statement describes your group. Then circle one of the numbers following each statement according to what you believe is the most accurate description for your group.

1 - Very false
2 - False
3 - Neither true nor false
4 - True
5 - Very true

Section 3a: Group Characteristics

131. The members of the group regard each other as friends.

1 2 3 4 5

132. The group feels it is an important part of the organization.

1 2 3 4 5
1 - Very false
2 - False
3 - Neither true nor false
4 - True
5 - Very true

133. This group tackles a job with enthusiasm. 1 2 3 4 5
134. The members of the group are very cooperative with each other. 1 2 3 4 5
135. My group feels it is a part of the organization team. 1 2 3 4 5
136. The group is dispirited and discouraged. 1 2 3 4 5
137. The group members know that they can depend on each other. 1 2 3 4 5
138. The group feels a strong loyalty to the organization. 1 2 3 4 5
139. The group is highly motivated. 1 2 3 4 5
140. The group members stand up for each other. 1 2 3 4 5
141. The group is divided in its loyalty to the organization. 1 2 3 4 5
142. The group is quite energetic. 1 2 3 4 5
143. Members of the group work together as a team. 1 2 3 4 5
144. My group would support the organization in emergencies. 1 2 3 4 5
145. The group shows a lot of pep and enthusiasm. 1 2 3 4 5

Section 3b: Group Assistance

Sometimes the members of a work group, as a group, provide various kinds of assistance in how certain jobs should be performed, standards on goals that should be achieved, and support of a personal and/or emotional nature. The following statements, that you will notice are similar to some of the leader behavior statements, are provided to give you an opportunity to describe what types of support and direction that you feel that you receive from the members of your work group, more or less as a group.

MEMBERS OF MY WORK GROUP, AS A GROUP, COMMUNICATE TO ME:
146. vague explanations of what is expected of me on my job. 1 2 3 4 5
147. unclear goals to reach on my job. 1 2 3 4 5
148. the level of performance that is expected of me. 1 2 3 4 5
149. what is considered good job performance. 1 2 3 4 5
150. contradictory views about what is expected of me. 1 2 3 4 5
151. the quality of work that is expected of me. 1 2 3 4 5
<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>152</td>
<td>what is expected of me on my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>153</td>
<td>the performance goals for my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>154</td>
<td>vague quality standards to meet on my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>155</td>
<td>ideas that make working on my job more pleasant.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>156</td>
<td>things that hurt my personal feelings.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>157</td>
<td>a friendly working relationship.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>158</td>
<td>manners that are thoughtful of my personal needs.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>159</td>
<td>a concern for my personal welfare.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>160</td>
<td>rudeness in their actions.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>161</td>
<td>things that make my job less pleasant.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>162</td>
<td>a lack of consideration about my feelings.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>163</td>
<td>a feeling of respect for my personal feelings.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>164</td>
<td>how I am to go about doing my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>165</td>
<td>the methods I am to use in performing my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>166</td>
<td>procedures to guide my work.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>167</td>
<td>the idea that I am on my own to decide how to perform my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>168</td>
<td>how my job should be done.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>169</td>
<td>instructions on how to do my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>170</td>
<td>that I am on my own to develop my own ways of doing my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>171</td>
<td>that I am on my own to decide how to do my job.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>172</td>
<td>that I am on my own to develop my own procedures for performing my job.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
SECTION 4
EXTERNAL ENVIRONMENTAL CONSIDERATIONS

In some situations there is a person, group, or activity outside of the actual work organization that can provide to varying degrees suggestions and directions on how to go about our jobs as well as ideas that have an impact on our attitudes about working at our jobs. Examples are standards that are set by a professional association or by a trade union or encouragement or reinforcement that you might receive from a family member who was engaged in your occupation or worked in your organization at one time.

This section is to give you an opportunity to indicate what type, if any, support and direction you might receive from some source outside your immediate organization and if any to what degree. Again the statements are somewhat similar to some that you have used in previous sections. The statements that follow are to be answered for the external source that is the most prominent in providing you some ideas and enthusiasm for your job. Please indicate from the list below which of these sources you consider to be most important in this respect and then use that activity in the evaluations of the statements in this section.

BE SURE TO CHECK ONE & ONLY ONE OF THESE ITEMS.

Again, you are to indicate whether the below statements—for whichever external activity you chose above—are

1 - Very false
2 - False
3 - Neither true nor false
4 - True
5 - Very true

THE EXTERNAL ACTIVITY THAT I HAVE NAMED COMMUNICATES TO ME:

173. the level of performance that is expected of me. 1 2 3 4 5
174. what is considered good job performance. 1 2 3 4 5
175. contradictory statements about what is expected of me. 1 2 3 4 5
176. the quality of work that is expected of me. 1 2 3 4 5
177. what is expected of me on my job. 1 2 3 4 5
178. the performance goals for my job. 1 2 3 4 5
179. vague quality standards to meet on my job. 1 2 3 4 5
180. things that help working on my job more pleasant. 1 2 3 4 5
THE EXTERNAL ACTIVITY THAT I HAVE NAMED COMMUNICATES TO ME:

181. in a manner which is thoughtful of my personal needs on the job. 1 2 3 4 5
182. a concern for my personal welfare on the job. 1 2 3 4 5
183. things that make my job less pleasant. 1 2 3 4 5
184. respect for my personal feelings in the work environment. 1 2 3 4 5
185. an avoidance of doing personal favors for me in the work environment. 1 2 3 4 5
186. evidence of job-related actions that are taken without consideration for my personal feelings. 1 2 3 4 5
187. how I am to go about doing my job. 1 2 3 4 5
188. the methods I am to use in performing my job. 1 2 3 4 5
189. procedures to guide my work. 1 2 3 4 5
190. how to do my job. 1 2 3 4 5
191. that I am on my own to decide how to perform my job. 1 2 3 4 5
192. how my job should be done. 1 2 3 4 5
193. nothing that would help me learn ways of doing my job. 1 2 3 4 5
APPENDIX B

COPY OF ACTUAL SURVEY BOOKLET USED

(Reduced in size 20% for inclusion in this appendix)
Background All the questions in this questionnaire may also be answered by people in organizations other than yours and for research purposes we intend to compare these organizations. For this reason, please answer each question as best as you can and do not omit any. If some of these questions seem similar or if they do not seem to apply, please answer them anyway by picking the answer which comes closest to your personal feelings or opinion. If you do not know the answer to a question, please pick the answer which you feel is best, but do not skip any questions. This is not a test of ability or consistency in making answers. Its only purpose is to collect information as accurately as possible about employee feelings and opinions concerning their jobs and employing organizations.

Questionnaire The questionnaire consists of several parts. Part A calls for some background information needed for the study. You should answer the questions for all parts directly on the questionnaire. By far, the largest number of questions require only circling a number at the end of a statement or a pair of statements. However, in a few cases you will have to write a few words or a code to designate the position held by a person about whom you will be answering some questions, including yourself. However, you will not be asked to write down the name of any person. Thank you for your cooperation in this University sponsored research, and he assured that your questionnaires will be held strictly confidential. Furthermore, we do NOT want you to put your name on your questionnaire.

Your "Immediate Supervisor" In several places in this questionnaire, questions are asked about your "immediate supervisor." If you have more than one immediate supervisor, please answer these questions with respect to the supervisor who has the most direct responsibility for the job that you do.

PART A - BACKGROUND INFORMATION

Below are some questions concerning personal background and characteristics which will provide useful information for the study. Please answer all of them to the best of your knowledge.

1. Sex (Check one): 1. Male 2. Female
4. Number of children (Circle one): 0 1 2 3 4 5 6 7 8 or more
5. Where do you work? Please use the name or office symbol that includes Directorate or Office, Division, Branch, Section and/or Group.

6. What kind of work was your father (or head of the house) doing when you were about 14 years old?

7. How old were you on your last birthday? _______ years old.

8. How many years have you been doing the same type of work you are currently doing, either in this organization or in others? _______ years.

9. How long have you been on your present job? _______ years.

10. How long have you worked in your present organization? _______ years.

11. Please indicate the highest grade in school you have completed by checking the appropriate category below:

   1. Some high school or high school diploma
   2. Less than 2 years of college or of technical school
   3. 2-year college or technical school degree
   4. More than 2 years of college or technical school, but no degree
   5. Bachelor's degree
   6. Graduate work, no degree
   7. Master's degree
   8. Postgraduate work above Master's
   9. Doctorate

12. How long have you been working for your current immediate supervisor? _______ years.
PART B

The next eleven questions pertain to the way certain important events in our society affect you as an individual in general. This is a measure of your own personal beliefs and attitudes that you have developed over time. Each item consists of a pair of alternative statements lettered a or b. Please select the one statement of each pair which you sincerely believe to be the case as far as YOU are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. (Obviously, there are no right or wrong answers.) Next, decide how close the statement that you have chosen is to your own opinion. If statement a is much closer to your opinion than statement b, circle 1 below the two statements. If statement a is slightly closer, circle 2. If statement b is slightly closer, circle 3. And if statement b is much closer to your opinion, circle 4.

Please answer these questions carefully, but do not spend too much time on any one item. In some instances, you may discover that you believe both statements or neither one. In such cases, be sure to select the one that you more strongly believe to be the case as far as you are concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

<table>
<thead>
<tr>
<th>Statement a is much closer to my opinion</th>
<th>Statement a is slightly closer to my opinion</th>
<th>Statement b is slightly closer to my opinion</th>
<th>Statement b is much closer to my opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a. Many of the unhappy things in people's lives are partly due to bad luck.</td>
<td>b. People's misfortunes result from the mistakes they make.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. a. In the long run, people get the respect they deserve in this world.</td>
<td>b. Unfortunately, an individual's worth often goes unrecognized no matter how hard he tries.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. a. It is nonsense that teachers are unfair to students.</td>
<td>b. Most students don't realize the extent to which their grades are influenced by accidental happenings.</td>
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<td></td>
</tr>
<tr>
<td>4. a. I have often found that what is going to happen will happen.</td>
<td>b. Trusting in fate has never turned out as well for me as making a decision to take a definite course of action.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. a. The average citizen can have an influence in government decisions.</td>
<td>b. This world is run by the few people in power, and there is not much the little guy can do about it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. a. I can make it when I make plans. I am almost certain that I can make them work.</td>
<td>b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. a. In my case, getting what I want has little or nothing to do with luck.</td>
<td>b. Many times we might just as well decide what to do by flipping a coin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.</td>
<td>b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. a. Most people can't realize the extent to which their lives are controlled by accidental happenings.</td>
<td>b. There really is no such thing as &quot;luck.&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. a. In the long run, the bad things that happen to us are balanced by the good ones.</td>
<td>b. Most misfortunes are the results of lack of ability, ignorance, laziness, or all three.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. a. Many times I feel that I have little influence over the things that happen to me.</td>
<td>b. It is impossible for me to believe that chance or luck plays an important role in my life.</td>
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</tbody>
</table>
Listed below is a series of statements about your present occupation. Please indicate the extent to which you personally agree or disagree with these statements. Circle one answer for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Moderately disagree</th>
<th>Slightly disagree</th>
<th>Neither disagree nor agree</th>
<th>Slightly agree</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. I am willing to put in a great deal of effort beyond that normally expected in order to be successful in my occupation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>7</td>
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<tr>
<td>13. I talk up my occupation to my friends as a great type of work in which to be engaged.</td>
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<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>14. I feel very little loyalty to my present occupation.</td>
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<td>2</td>
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<td>6</td>
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<tr>
<td>15. I would be willing to work in almost any organization in order to keep working in my occupation.</td>
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<td>4</td>
<td>5</td>
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<tr>
<td>16. I find that my personal values and the values required in my occupation are very similar.</td>
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<tr>
<td>17. I am proud to tell others that I work in this occupation.</td>
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<tr>
<td>18. I could just as well be working at a different occupation so long as the working conditions were similar to these at this organization.</td>
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<tr>
<td>19. This occupation really inspires the very best in me in the way of job performance.</td>
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<tr>
<td>20. It would take very little change in my present circumstances to cause me to change occupations.</td>
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<td>21. I am extremely glad that I chose this occupation over others that I have considered.</td>
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<tr>
<td>22. There's not too much to be gained by sticking with this occupation indefinitely.</td>
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<td>7</td>
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<tr>
<td>23. It is not easy to be enthusiastic about the type of work my occupation offers.</td>
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<tr>
<td>24. I would describe myself as having a real dedication in working in my occupation.</td>
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<tr>
<td>25. For me, this is the best of all possible occupations in which to be.</td>
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<tr>
<td>26. Deciding to work at this occupation was a definite mistake on my part.</td>
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</tbody>
</table>

This completes Part B; please check to see if you have answered each question.
PART C

Listed below is a series of statements about you and your job. Please indicate the extent to which you think each statement is true or false. Please be sure to answer every item and circle one number for each statement.

1. Producing high quality work does not lead to my feeling a sense of accomplishment.
   - Very false  - False  - Neither true nor false  - True  - Very true

2. When I try hard on my job I produce high quality work.
   - Very false  - False  - Neither true nor false  - True  - Very true

3. Producing low quality work leads to my feeling a lack of responsibility for my job.
   - Very false  - False  - Neither true nor false  - True  - Very true

4. Producing low quality work leads to my feeling bad about myself.
   - Very false  - False  - Neither true nor false  - True  - Very true

5. When I try hard on my job I turn out my work on time.
   - Very false  - False  - Neither true nor false  - True  - Very true

6. Producing high quality work leads to my feeling good about my abilities.
   - Very false  - False  - Neither true nor false  - True  - Very true

7. When I devote little effort to my job I produce a lot of work output.
   - Very false  - False  - Neither true nor false  - True  - Very true

8. Producing high quality work does not lead to my feeling that my job is meaningful.
   - Very false  - False  - Neither true nor false  - True  - Very true

9. Producing little work output leads to my having a decreased chance for a pay raise.
   - Very false  - False  - Neither true nor false  - True  - Very true

10. Getting my job done late leads to my feeling bad about myself.
    - Very false  - False  - Neither true nor false  - True  - Very true

11. When I give my job all I can, I produce little work output.
    - Very false  - False  - Neither true nor false  - True  - Very true

12. Producing a lot of work output leads to my feeling a sense of responsibility for my job.
    - Very false  - False  - Neither true nor false  - True  - Very true

13. Producing a lot of work output does not lead to my having friendly relations with my supervisor.
    - Very false  - False  - Neither true nor false  - True  - Very true

14. Producing high quality work does not lead to my having an increased chance for a promotion.
    - Very false  - False  - Neither true nor false  - True  - Very true

15. When I don't try hard on my job I turn out my work late.
    - Very false  - False  - Neither true nor false  - True  - Very true

16. Producing low quality work does not lead to my feeling that I am not developing my capabilities.
    - Very false  - False  - Neither true nor false  - True  - Very true

17. Getting my job done late does not lead to my having a decreased chance for a pay raise.
    - Very false  - False  - Neither true nor false  - True  - Very true

18. Producing a lot of work output leads to my having friendly relations with my co-workers.
    - Very false  - False  - Neither true nor false  - True  - Very true

19. Getting my job done late leads to my having unfriendly relations with my supervisor.
    - Very false  - False  - Neither true nor false  - True  - Very true

20. Producing little work output does not lead to my feeling a lack of accomplishment.
    - Very false  - False  - Neither true nor false  - True  - Very true

21. Producing high quality work does not lead to my being praised by the company or organization.
    - Very false  - False  - Neither true nor false  - True  - Very true

22. Producing a lot of work output leads to my having increased job security.
    - Very false  - False  - Neither true nor false  - True  - Very true

23. When I devote little effort to my job I turn out my work on time.
    - Very false  - False  - Neither true nor false  - True  - Very true

24. Getting my job done late does not lead to my feeling a lack of accomplishment.
    - Very false  - False  - Neither true nor false  - True  - Very true

25. Producing high quality work leads to my having an increased chance for a pay raise.
    - Very false  - False  - Neither true nor false  - True  - Very true
<table>
<thead>
<tr>
<th></th>
<th>Very false</th>
<th>False</th>
<th>Neither true nor false</th>
<th>True</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Getting my job done on time does not lead to my feeling good about my abilities.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>27. Getting my job done late leads to my being criticized by the organization that I am in.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>28. When I don't try hard on my job I produce little work output.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29. Getting my job done late does not lead to my feeling that my job is unmeaningful.</td>
<td>1</td>
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</tr>
<tr>
<td>30. Producing low quality work does not lead to my having decreased job security.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>31. Producing a lot of work output leads to my having an increased chance for a promotion.</td>
<td>1</td>
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<td>5</td>
</tr>
<tr>
<td>32. When I give my job all I can, I turn out my work late.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>33. Getting my job done late does not lead to my having unfriendly relations with my co-workers.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>34. Producing a lot of work output does not lead to my feeling good about myself.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>35. Getting my job done on time leads to my having an increased chance for a promotion.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>36. When I devote little energy to my job I turn out high quality work.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>37. Producing little work output does not lead to my being criticized by my organization.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>38. Producing a lot of work output does not lead to my feeling that I am developing my capabilities.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>39. Getting my job done on time leads to my feeling a sense of responsibility for my job.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>40. When I give my job all I can I produce low quality work.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>41. Producing high quality work leads to my having friendly relations with my co-workers.</td>
<td>1</td>
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</tr>
<tr>
<td>42. When I try hard on my job I produce a lot of output.</td>
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</tr>
<tr>
<td>43. Producing high quality work does not lead to my having friendly relations with my supervisor.</td>
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<tr>
<td>44. Getting my job done late leads to my feeling that I am not developing my capabilities.</td>
<td>1</td>
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<tr>
<td>45. Producing little work output leads to my feeling that my job is unmeaningful.</td>
<td>1</td>
<td>2</td>
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</tr>
<tr>
<td>46. When I don't try hard on my job I produce low quality work.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>47. Getting my job done late leads to my having decreased job security.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>48. Producing little work output leads to my feeling bad about my abilities.</td>
<td>1</td>
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</tr>
<tr>
<td>49. I just basically feel very good about the type of work that I do in my job.</td>
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<tr>
<td>50. It is hard to imagine that anyone could enjoy performing the task that I perform on my job.</td>
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</tr>
<tr>
<td>51. My good feelings about going to work depend to a considerable extent on the nature of the actual tasks I perform on the job.</td>
<td>1</td>
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</tr>
</tbody>
</table>
52. I consider that the tasks that I generally perform at work are very important for my work career.

53. The tasks that I generally do in my job have very little to do with the kind of work that really interests me.

54. The nature of the task itself is such that I feel certain about how much authority I have.

55. The nature of the task itself is such that the objectives and goals for what I am supposed to do are clear.

56. The nature of the task itself is such that knowing how I should divide my time is very difficult.

57. The nature of the task itself is such that I know from the task what my responsibilities are.

58. The nature of the task itself is such that I know exactly what is expected of me.

59. The nature of the task itself is such that it seems that it is never clear what has to be done.

PART D

The next 20 items are to give you a chance to explain the extent to which you are satisfied or dissatisfied with your job. Please answer every item. Circle one number for each item.

<table>
<thead>
<tr>
<th>Item</th>
<th>Very dissatisfied</th>
<th>Dissatisfied</th>
<th>Neither satisfied nor dissatisfied</th>
<th>Satisfied</th>
<th>Very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td>12.</td>
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<td>13.</td>
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<td>15.</td>
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</table>
PART E - LEADER BEHAVIOR

On the next several pages is a list of items which may be used to describe the behavior towards you as an individual by your immediate supervisor (the person you report to) and of others in your organization who show leadership qualities. Each item describes a specific kind of behavior, but does not ask you to judge whether the behavior is desirable or undesirable. The purpose here is to make it possible for you to describe, as accurately as you can, the behaviors of your immediate supervisor and other leaders, toward you as an individual.

In many organizations, the immediate supervisor is the main person who provides guidance, expected levels of performance, clarification of tasks to be done, and support to the work group members. However, there are situations when another person provides some of the guidance on what is expected and seems to be responsible for a generally supportive atmosphere in which to work. Such a person could be the supervisor’s immediate senior (that is, the supervisor's supervisor). It could also be the next person up in the line of authority; it could be one of the persons at the top of the organization; it could be a particularly influential person in the personnel department; or it could even be a peer (fellow worker) of yours.

In this section of the questionnaire, each item has space in three columns for you to give a leader behavior mark as follows:

- **COLUMN A** - Your immediate supervisor;
- **COLUMN B** - Your supervisor’s supervisor;
- **COLUMN C** - Other designated leader

Before proceeding, decide which "other designated leader" you wish to mark in **COLUMN C**, if there is such a person, and place a check mark opposite the description that best indicates that person’s position relative to yours.

**Other designated Leader:**
- __Peer (fellow worker).__
- __3rd level of seniority over you (your supervisor’s supervisor’s senior).__
- __Top management (assistant to the head of the organization, deputy director, etc.).__
- __Head of the organization.__
- __Manager in the Personnel Department.__
- __Other.__
- __None. If there is none, do not mark COLUMN C.__

**Explanation of the term “Communicates.”** In many of the statements below, the word “communicates” is used. It means that some person or some activity has transmitted some information to you by direct face-to-face explanation, written memos, rules and regulations that the leader has promulgated for the purpose indicated, or by passing it along through others.

**Directions.** First read each item carefully. Then, think about how true each item is. Next, decide whether the item is 1 - Very false; 2 - False; 3 - Not true or false; 4 - True; 5 - Very true. Then, circle the number to the right of the statement that describes the item for each of the leaders indicated at the top of the columns: **COLUMN A**, your supervisor; **COLUMN B**, your supervisor’s supervisor, and **COLUMN C**, other designated leader that you have checked above. The numbers you place in the three columns should be independent of one another. It is recommended that you complete items 1 through 51 for **COLUMN A**, then return and complete **COLUMN B**, then **COLUMN C**. When you are through, check to insure that you have one number circled for each statement under each column.

**Example.** You have named the "other designated leader" as Top management, and you believe that the statement that "THE LEADER COMMUNICATES vague explanations of what is expected of me on my job," is true for your supervisor, true for your supervisor’s supervisor, and very false for the Top management leader whom you have in mind. Therefore, you would fill in item 1 as follows:

<table>
<thead>
<tr>
<th><strong>THE LEADER COMMUNICATES.</strong></th>
<th><strong>A</strong></th>
<th><strong>B</strong></th>
<th><strong>C</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vague explanations of what is expected of me on my job.</td>
<td>1 3 4 5</td>
<td>1 3 4 5</td>
<td>5</td>
</tr>
</tbody>
</table>

**Section E1: Leader Behaviors Which Involve Clarifying What Is Expected of You**

**THE LEADER COMMUNICATES.**

1. Vague explanations of what is expected of me on my job.

2. Unclear goals to reach on my job.

3. The level of performance that is expected of me.

4. What is considered good job performance.

5. Contradictory ideas about what is expected of me.
<table>
<thead>
<tr>
<th>THE LEADER COMMUNICATES</th>
<th>Immediate Supervisor</th>
<th>Supervisor's supervisor</th>
<th>Other designated leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. the quality of work that is expected of me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7. what is expected of me on the job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8. the performance goals for my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9. vague quality standards to meet on my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Section E2: Leader Behaviors Which Involve Consideration of Your Needs

<table>
<thead>
<tr>
<th>THE LEADER COMMUNICATES</th>
<th>Immediate Supervisor</th>
<th>Supervisor's supervisor</th>
<th>Other designated leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. the feeling that working on my job is pleasant.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>11. things that hurt my personal feelings.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>12. an interest in my personal feelings before acting.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>13. a friendly relationship with me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>14. a manner which is thoughtful of my personal needs.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15. a concern for my personal welfare.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>16. the impression of doing personal favors for me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>17. acts of rudeness toward me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>18. things that make my job less pleasant.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>19. taking action without considering my feelings.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>20. respect for my personal feelings.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>21. an avoidance of doing personal favors for me.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>22. the impression that acts are done without considering my feelings.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Section E3: Leader Behaviors Which Involve Giving You Ways to Do Your Job

<table>
<thead>
<tr>
<th>THE LEADER COMMUNICATES</th>
<th>Immediate Supervisor</th>
<th>Supervisor's supervisor</th>
<th>Other designated leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. how I am to go about doing my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>24. the methods I am to use in performing my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>25. permission for me to ignore rules and regulations which affect how I do my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>26. procedures to guide my work.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>27. how I am to do my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>28. that I will be left alone to decide how to perform my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>29. that I am to follow standard rules and regulations in doing my job.</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
THE LEADER COMMUNICATES . . .

30. that I may develop my own methods for doing my job.
31. how my job should be done.
32. instructions on how to do my job.
33. that I will be left to develop my own ways of doing my job.
34. the feeling that I have complete freedom in how I perform my job.
35. rules and regulations to guide how I do my job.
36. permission for me to decide how to do my job.
37. his/her decision on how I am to do my job.
38. permission for me to develop my own procedures for performing my job.
39. encouragement to me to develop my own methods of doing my job.

Section E6: Leader Behavior Which Involves Assigning Jobs to You

THE LEADER COMMUNICATES . . .

40. exactly what tasks I am to perform.
41. assignment to specific jobs.
42. general work assignments.
43. narrow job assignments.
44. what tasks my job involves.
45. broad job assignments.
46. careful definitions of what jobs I am to do.
47. vague work assignments.
48. that I have complete freedom to work on whatever tasks I choose.
49. the specification of what tasks I am to do.
50. specific work assignments for me.
51. permission for me to decide what duties to do.

We have evidence to indicate that sometimes a particular leader is more often associated with giving directions, clarifying confusing issues on the job, and assigning work in such a way that he/she is primarily interested in getting the work done efficiently. There are other leaders who seem to be more involved in supporting the group members in a more personal way to reduce tension and to help create a pleasant working atmosphere. And, finally, we know that quite often it is the same leader who both shows interest in providing task-accomplishment directions and also personally supporting activities.

Without referring to the way that you have marked the three leaders in the sections above, indicate by checking one
of the blocks below, which person you consider to have the most qualities that you identify with your view of a real effective task-accomplishment type of leader. Then check which leader you consider to have the most qualities that you believe a really effective employee-oriented and supportive leader ought to have.

Most qualities of a
good task-accomplishment leader. __A, your supervisor

Most qualities of a
good employee-oriented or supportive leader. __B, your supervisor's supervisor

C, the other leader you have designated

PLEASE BE SURE THAT YOU HAVE CHECKED ONE AND ONLY ONE LEADER UNDER EACH OF THE ABOVE CATEGORIES.

PART F - WORK GROUPS

Below are some statements which may be used to describe the group in which you work. Your work group consists of yourself and all the people working under your direct supervisor. Please read each statement carefully; decide how well the statement describes your group; and then circle one of the numbers following each statement according to what you believe is the most accurate description for your group.

Section F1: Group Characteristics

<table>
<thead>
<tr>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The members of the group regard each other as friends.</td>
</tr>
<tr>
<td>2. The group feels it is an important part of the organization.</td>
</tr>
<tr>
<td>3. The group feels it is part of the organization team.</td>
</tr>
<tr>
<td>4. This group feels it is an important part of the organization.</td>
</tr>
<tr>
<td>5. The group feels it is part of the organization team.</td>
</tr>
<tr>
<td>6. The group feels it is an important part of the organization.</td>
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<td>7. The group feels it is part of the organization team.</td>
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<td>8. The group feels it is an important part of the organization.</td>
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<td>9. The group feels it is part of the organization team.</td>
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<td>10. The group feels it is an important part of the organization.</td>
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<tr>
<td>11. The group feels it is part of the organization team.</td>
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<td>12. The group feels it is an important part of the organization.</td>
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<tr>
<td>13. The group feels it is part of the organization team.</td>
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<td>14. The group feels it is an important part of the organization.</td>
</tr>
<tr>
<td>15. The group feels it is part of the organization team.</td>
</tr>
</tbody>
</table>

Section F2: Group Assistance

<table>
<thead>
<tr>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members of my work group, as a group, communicate to me...</td>
</tr>
</tbody>
</table>

PLEASE BE SURE THAT YOU HAVE CHECKED ONE AND ONLY ONE LEADER UNDER EACH OF THE ABOVE CATEGORIES.
MEMBERS OF MY WORK GROUP, AS A GROUP, COMMUNICATE TO ME.

24. vague quality standards to meet on my job.
25. ideas that make working on my job more pleasant.
26. things that hurt my personal feelings.
27. a friendly working relationship.
28. manners that are thoughtful of my personal needs.
29. a concern for my personal welfare.
30. rudeness in their actions.
31. things that make my job less pleasant.
32. a lack of consideration about my feelings.
33. a feeling of respect for my personal feelings.
34. how I am to go about doing my job.
35. the methods I am to use in performing my job.
36. procedures to guide my work.
37. the idea that I am on my own to decide how to perform my job.
38. how my job should be done.
39. instructions on how to do my job.
40. that I am on my own to develop my own ways of doing my job.
41. that I am on my own to decide how to do my job.
42. that I am on my own to develop my own procedures for performing my job.

PART C - EXTERNAL CONSIDERATIONS

Sometimes there is a person, group, or activity outside of the actual work organization that can provide suggestions and directions on how to go about our jobs as well as ideas that have an impact on our attitudes about working at our jobs. Examples are standards that are set by professional associations or by a labor union or encouragement or direction that you might receive from a family member who was engaged in your occupation at one time.

This section is to give you an opportunity to indicate what type, if any, of support and direction you receive from some source outside your immediate organization and, if any, to what degree. The statements that follow are to be answered for the external source that is the most prominent in providing you some ideas and enthusiasm for your job. Please indicate from the below list which of these sources you consider to be most important in this respect and then use that activity in the evaluation of the statements in this section.

Professional association
Labor union
Family member
Cultural or religious group
None (If there is no external activity that provides you any job-related direction or support, leave the remaining questions blank.)

THE EXTERNAL ACTIVITY THAT I HAVE NAMED COMMUNICATES TO ME.

1. the level of performance that is expected of me.
2. what is considered good job performance.
3. contradictory statements about what is expected of me.
4. the quality of work that is expected of me.
5. what is expected of me on my job.

BE SURE TO CHECK ONE AND ONLY ONE OF THESE EXTERNAL SOURCES.
**THE EXTERNAL ACTIVITY THAT I HAVE NAMED COMMUNICATES TO ME. . .**

<table>
<thead>
<tr>
<th></th>
<th>Very false</th>
<th>False</th>
<th>Neither true nor false</th>
<th>True</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tr>
<tr>
<td>7.</td>
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<td>8.</td>
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<td>5</td>
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<tr>
<td>9.</td>
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<td>10.</td>
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<td>11.</td>
<td>1</td>
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<tr>
<td>12.</td>
<td>1</td>
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<tr>
<td>13.</td>
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<tr>
<td>14.</td>
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<td>15.</td>
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<tr>
<td>16.</td>
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<tr>
<td>17.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>18.</td>
<td>1</td>
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<tr>
<td>19.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
</tr>
<tr>
<td>20.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

*Thank you very much for taking your time to participate in this research that we hope will give us better understanding of the leadership processes in organizations.*

The Ohio State University  
Department of Management Sciences  
1775 College Road  
Columbus, Ohio 43210

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