A PATH - GOAL THEORY OF LEADERSHIP: AN EMPIRICAL INVESTIGATION

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ABSTRACT

A PATH-GOAL THEORY OF LEADERSHIP:
AN EMPIRICAL INVESTIGATION

By

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The Path-Goal model of leadership is a recent situational approach to the study of leadership. Its theoretical framework includes specification of the interaction of leader behavior with task structure and the resulting levels of satisfaction and performance.

Because of the lack of support for the Path-Goal model in the leadership research and the inadequacy of the testing of the model, the Path-Goal model was tested here with instruments specifically designed to measure task dimensions and leadership behavior. These instruments were factor analyzed, resulting in two task dimensions and two leadership behaviors.

Task Repetitiveness refers to the frequency with which work cycles are completed. Task independence describes the degree of discretion which the subordinate has in determining how and when to meet his task requirements and the subordinates' capability to perform their tasks without depending upon their supervisors.

Leadership behavior was separated into Leader Consideration (LC) and Leader Initiating Structure (LIS). Leader consideration describes behavior of a supervisor which is supportive and providing positive feedback to the subordinate on his task accomplishments. Leader initiating structure provides guidance through direction and negative feedback about poor performance and directs the acts of the subordinates to goal achievement.

Satisfaction with work and performance were the two dependent variables used. Satisfaction was measured by the Job Description Inventory. Performance was measured by the rankings of Corporate Evaluators.

The Path-Goal model has been tested without taking explicit account of the level of subordinate motivation (House, 1971; Dessler, 1973). Because motivation is an important variable to consider as an independent variable, it was explicitly incorporated into this research. The level of subordinate motivation indicated the subordinate's willingness to engage in his task activities. The level of each subordinate's motivation was determined by combining effort-performance and performance-outcome expectancies with intrinsic and extrinsic outcomes in a formula suggested by House (1971).

Analysis of variance was used to determine if performance and satisfaction with work were related to the interaction of motivation, LC, LIS and task repetitiveness

or task independence. It was hypothesized that: (1) High motivation-high LC-high LIS-low task repetitiveness would be associated with more satisfaction than low motivation-low LC-low LIS-high task repetitiveness; (2) High motivation-high LC-high LIS-high task repetitiveness would be associated with higher performance than low motivation-low LC-low LIS-low task repetitiveness; (3) High motivation-high LC-high LIS-high task independence would be associated with more satisfaction than low motivation-low LC-low LIS-low task independence; (4) High motivation-high LC-high LIS-low task independence would be associated with higher performance than low motivation-low LC-low LIS-high task independence.

The results of Hypothesis (1) indicated that only LC-task repetitiveness and motivation-LC interacted significantly and they did so in the pattern predicted by the Path-Goal model. High motivation, high LC and low task repetitiveness were significantly more satisfying than low motivation, low LC and high task independence. High subordinate competence and/or simple tasks were suggested as being reasons for LIS not interacting with motivation-LC-task repetitiveness or task independence as hypothesized.

From Hypothesis (2) it was indicated that motivation-LIS and motivation-LIS-task repetitiveness interacted significantly. There was also a distinction between less motivated and highly motivated subordinates. The latter performed better with direction, guidance, and control, while

the former performed better without direction, guidance and control. Contrary to the Path-Goal model, low LC was significantly associated with high performance. However, as predicted by the model, high LIS was associated with high performance.

The results from Hypothesis (3) indicated significant interactions for only motivation-LC and LC-task independence and these were in the predicted pattern. Again, high motivation, high LC and high task independence were associated with high satisfaction with work as predicted.

Hypothesis (4) had the only significant four-way interaction. However, there were two modifications. Low LC was associated with high performance and subordinates with low motivation performed well but under different conditions from subordinates with high motivation. As in Hypothesis (2), low motivation subordinates performed well without direction, guidance and control and high motivation subordinates performed well with direction, guidance and control.

In general, the variables of motivation, LC, LIS and task repetitiveness or task independence had different patterns of interactions depending upon the dependent variable. The variables, furthermore, did not interact in the hypothesized patterns as suggested by the Path-Goal model.

A PATH-GOAL THEORY OF LEADERSHIP: AN EMPIRICAL INVESTIGATION

By

Randall Steve Schuler

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CHAPTER I

INTRODUCTION

There has always been an interest among organization behavioralists concerning the psychological phenomenon called leadership. Leadership is a process in which a person exerts social influence or power over other persons. Therefore, a leader is one who exercises this power and influences other people's behavior. Contributing to the interest in the study of leadership is that it is often considered an important determinant of satisfaction and performance (Likert, 1961; Fiedler, 1969; House, 1971).

There is, however, some dispute concerning the implied causality between leadership and satisfaction and performance (Lowin and Craig, 1968; Farris and Lim, 1969). Lowin and Craig, using the leadership behaviors of closeness, consideration and initiation, found support for the hypothesis that subordinate performance shapes leadership behavior. Farris and Lim (1969) using Bowers and Seashore's (1964) leadership categories--leadership supportiveness, interaction facilitation, goal emphasis and work facilitation--concluded that these leader behaviors increased after the subordinate had high performance. The amount of member influence in the decision-making process, the degree of group

cohesion and satisfaction also were higher if past performance of the subordinate was high. Therefore, they concluded, it is necessary to study leadership behavior as a dependent as well as an independent variable. Thus, the relationship between leadership behavior and satisfaction and performance is unresolved. However, in this research leadership will be considered an important variable influencing subordinate performance and satisfaction.

Approaches to Leadership

There are a number of theories about leadership. These theories include the trait theories, the behavioral theories and the situational theories. The trait theories focus on attempts to identify individual traits or characteristics on the assumption that certain identifiable traits exist for successful leaders. Furthermore, these traits can be used to differentiate potentially successful leaders from unsuccessful leaders.

Behavioral theories attempt to understand the leadership phenomenon in terms of activities and style. Situational theories consider what the good leader does and how he does it, but consider additionally the environmental conditions in which their activities occur. In situational theories, there is usually an attempt to define the environment circumstances that are important in affecting leader effectiveness.

Trait Theories

Much of the early leadership literature was based on the assumption that there were identifiable traits or attributes which leaders possessed. This literature of the 1940's and 1950's focused on individual traits which were associated with leadership, e.g. intelligence, emotion, physical size, personality (Jenkins, 1947; Stogdill, 1948; Gibb, 1954).

Stogdill (1948) concluded from his review of the literature that successful leadership is associated with verbal facility, judgment and scholarship of the leader. Ghiselli (1963) concluded from his research that there is an optimal level of intelligence. Above or below that level, individuals will be less successful leaders. Ghiselli also found personality characteristics to be related to successful leadership: initiative, self-assurance and individuality. Leaders, according to Ghiselli, have to be individuals who are able to command or gain attention and cooperation of others in order to perform activities to accomplish organizational goals.

Trait theories have been criticized from several perspectives. Though several traits have been identified and associated with good leaders and lacking in poor leaders, it is difficult to develop a theoretical framework of leadership using these traits. Korman (1971) argues that there is no conceptual framework which accounts for

circumstances in which a variable or trait interacts with other traits, the conditions under which the variable will take on greater importance, and the situation or the task structure of the subordinate.

Behavioral Theories

The behavioral approaches of leadership focus on descriptions of the activities or behavior in which a leader engages. There are two main groups of studies from which most current leadership behavioral theories have been derived. These are the University of Michigan and the Ohio State University studies.

The University of Michigan Research

The initial thrust of the University of Michigan research, begun in 1947, was to investigate the determinants of satisfaction and performance. "The analysis plan was to determine what supervisory practices were associated with high and low levels of satisfaction and with high and low levels of performance" (Kahn, 1964).

The initial research was conducted in an insurance company, a railroad and a tractor manufacturing firm. In the insurance company, Katz, Maccoby and Morse (1950) found that high producing supervisors spent more time in actual supervising activities, supervised less closely and were more employee centered in their attitudes. Satisfaction, in this experiment, was related to the task not the

supervisory behavior. No relationship between satisfaction and production was found. The people doing the highly repetitive work were less satisfied than people doing high level technical work. It was in this study that the leader behavior concepts of employee centered and production centered originated, which were to be a central theme in the Michigan studies.

The employee centered leader is described as one who takes a personal interest in subordinates, who gets along well with them, who lets them know how well they are doing and who is easy to talk with. The production centered leader, on the other hand, stresses the determination of the supervisor to press for high production, to be critical when mistakes are made, to be reluctant to delegate any responsibility and to prevent any participation in the decision-making process. These leader behaviors were regarded as two end points on a single continuum.

The results of the tractor company study were not consistent with the early research. Whereas in the first studies, employee centered behavior was related to higher performance, in the tractor firm, the most successful supervisors were those who combined qualities of both employee centered and production centered behaviors. That is, the most successful supervisors were high on both leadership factors.

Morse and Reimer (1956) report additional research in an insurance company to determine the effects of leader behavior on group productivity. They implemented a participative and a hierarchically controlled leadership program in two different units. Participative programs were similar to employee centered behavior. Hierarchically controlled programs were characterized by production centered behavior. Production was found to be slightly higher in the hierarchically controlled section of the company. However, in that same section, employee loyalty and attendance were reduced.

Likert (1960), synthesizing the research of the Michigan group, stated that the high producing managers are different in leadership methods from low producing managers. His description of the characteristics of leaders in high producing organizations describes supervisory behavior which is supportive, friendly and helpful behavior. This also assists the subordinates in the completion of their tasks. This is employee centered behavior.

Bowers and Seashore (1964) used four dimensions of leadership in a later study. They were: (a) support, (b) goal emphasis, (c) work facilitation, (d) interaction facilitation. The type of leadership behavior most effective is a function of both managers and subordinates. They concluded that in order to predict the effectiveness of subordinate behavior, it is necessary to know not only the leader variables, but also the subordinate's level of

education, the level of his aspirations, his needs for affiliation, his expertise and his level of influence acceptance. "Leadership, as conceived and operationalized here is not adequate alone to predict effectiveness" (Bowers and Seashore, p. 453).

Likert (1960) and Kahn (1960) suggested the importance of the task dimension but did not specifically include it in any of their research. Sales (1966) also suggested the importance of the effect of task operations or the degree of task repetitiveness and the interaction with leadership behavior. He hypothesized that in order for a democratic leadership style to be more effective than an autocratic supervisor, the task must be low in repetitiveness.

In summary, the University of Michigan research directed attention to leadership determinants of employee satisfaction and productivity. From these studies developed the notion of employee centered and production centered leader behaviors. These were important concepts in much research, especially during the 1950's.

The Ohio State University Studies

The Ohio State University (OSU) research on leadership began in the late 1940's with an empirically based, factor analytical approach. This was the era when the emphasis was shifting to the importance of situational uniqueness.

> Subsequently, the pendulum swung toward the middle ground with assumptions that the group situation is highly important. The emphasis during that period was from thinking about leadership in terms of traits that someone has to the conceptualization of leadership as a form of activity that certain individuals engage in (Fleishman, 1971, p. 4).

Initially, in the OSU studies, scales were developed to measure leader behavior. The initial study was done by Halpin and Winer (1952) on Air Force crew members. Using 130 items from an original pool of 150, Halpin and Winer (1957) derived two major factors:

> Leader Initiation of Structure includes behavior in which the supervisor organizes and defines group activities and his relation to the group. Thus, he defines the role he expects each member to assume, assigns tasks, plans ahead, establishes ways of getting things done, and pushes for production. The dimension seems to emphasize overt attempts to achieve organizational goals.
>
> Leadership Consideration includes behavior indicating mutual trust, respect, and a certain warmth and rapport between the supervisor and his group. This does not mean that this dimension reflects a superficial "pat-on-the-back", first-name-calling kind of human relations behavior. This dimension appears to emphasize a deeper concern for group members' needs and includes such behavior as allowing subordinates more participation in decision making and encouraging more two-way communication (Fleishman and Harris, 1962, pp. 42-43).

They found that consideration was negatively related to performance and positively related to satisfaction. Initiating structure had a positive relationship to performance and a low, but positive, relationship with satisfaction.

Fleishman and Harris (1962) using the Leadership Behavior Description Questionnaire (LBDQ) obtained results slightly different from Halpin and Winer (1957). They found initiating structure and consideration related to turnover

and grievances. Initiating structure was generally positively related to grievances and turnover at an increasing rate. However, below a certain level of initiating structure there was a zero relationship between it and turnover and grievances. Consideration was negatively related to turnover and grievances. The most turnovers and grievances occurred under low consideration regardless of initiating structure. Furthermore, regardless of initiating structure, high consideration had the lowest grievance and turnover rates. Halpin and Winer suggested that leader consideration was the more critical leadership variable in their research.

A great many studies have been done using the initiating structure and consideration dimensions of leadership as independent variables with satisfaction and performance as the dependent variables. The following studies are cited to show the varying relationships between initiating structure and performance and satisfaction, and between consideration and satisfaction and performance.

Generally, consideration was positively related to satisfaction as found in the research of Halpin and Winer (1957), Nealey and Blood (1968), Lowin (1969) and Fleishman and Harris (1962). But the research on the relationship between consideration and performance has been much different. Besco and Lawshe (1959) reported a positive relationship, but Fleishman, Harris and Burtt (1955) and Halpin and

Winer (1957) reported a negative relationship between consideration and performance. Nealey and Blood (1968) found no relationship between consideration and performance.

Similarly, initiating structure has had no consistent relationship with satisfaction. For instance, Halpin (1957) and Yukl (1969a) reported a positive relationship between satisfaction and initiating structure, but Nealey and Blood (1968) found a negative relationship for second level supervisors and a positive relationship for first line supervisors. Fleishman and Harris (1962) and Skinner (1969) found a curvilinear relationship between initiating structure and satisfaction. No relationships were found by Baumgartel (1956), Halpin and Winer (1957) and Lowin (1969).

The relationship between initiating structure and performance has also been inconsistent in the reported research. Fleishman et al. (1955), Nealey and Blood (1968), Halpin and Winer (1957) and Besco and Lawshe (1959) reported a positive relationship, while Lowin and Kavanagh (1969) found no relationship between initiating structure and performance.

Some possible explanations of the inconsistent findings using initiating structure and consideration with satisfaction and performance are:

1. The lack of factor (initiating structure and consideration) independence (Korman, 1966; Weissenberg and Kavanagh, 1972; Kavanagh, 1972). For example, Lowin et al.

(1969) reported a correlation between consideration and initiating structure of -.20; Halpin and Winer (1952) reported correlations of .23 and .42; and Fleishman and Harris (1962) reported a relationship of -.33.

Kavanagh (1972) suggested the lack of factor independence can be accounted for in part because of the relationship of subordinate competence and the task complexity and perceived legitimacy of initiating structure and consideration. He hypothesized that when subordinate competence is high and the task is simple, initiating structure would be seen as unnecessary and negatively correlated with consideration. The same relationship would hold between initiating structure and consideration if the subordinate competence were low and the task complex. The combination of high subordinate competence and task complexity or low subordinate competence and low task complexity would cause initiating structure to be seen as necessary and legitimate. Therefore, the relationship between initiating structure and consideration should be independent. In his results, Kavanagh reported correlations between initiating structure and consideration ranging from -.26 to -.69.

2. Korman (1966) also indicated the difficulty in obtaining consistent results when there are high curvilinear correlations between consideration and initiating structure. He suggested that it should be specified when and how consideration or initiating structure will be related to the

dependent variable. However, he indicated that the situation must also be considered when specifying the effects of consideration or initiating structure.

(3) Lowin et al. (1969) suggested that the situational variables and task structure be considered. Perhaps initiating structure will only be positively related to performance if the leader possesses competence to assist the subordinate in completing his task. This competency will be needed, however, only if the task is too complex for the subordinate. Therefore, in addition to the task structure (complexity in this case), the research should determine the skill levels of the supervisor and the subordinate.

In conclusion, initiating structure and consideration were the most important leadership behavior dimensions found in the OSU research. These are similar to the Michigan dimensions of employee centered behavior and production centered behavior differing in that they have been considered as two dimensions, rather than the unidimensional concepts from the Michigan research.

Situational Approaches

The most recent developments in leadership theory have included attempts to systematically include the task dimension as well as the behavioral characteristics of the leader and subordinates. These theories attempt to describe situational conditions in which different leader

styles are likely to produce high levels of performance and satisfaction. Fiedler's contingency model (1964) and House's Path-Goal model of leadership (1971) represent efforts in this direction.

Fiedler's Contingency Theory

Fiedler's theory of leadership states that group performance is a function of leadership style, measured by the leader's esteem for his least preferred coworker (LPC), and the favorableness of the situation. The favorableness of the situation is a function of three variables: (1) leader-position power, (2) task structure, (3) leader-member relations. Leader-position power is the amount of power which the leader has solely as a function of his formal position, not any personal attributes. The task structure attempts to take into account the degree of ambiguity and the degree of repetitiveness which exists in the task. Leader-member relations are an indication of the group harmony or friendship which exists. From dichotomizing these three variables, Fiedler arrives at eight octants of situational favorability from extremely favorable to extremely unfavorable. (See Figure 1.) These octants represent different combinations of leader-member relations, task structure and leader position power. For example, Octants I through IV have good leader-member relations. In addition, Octants I and II have high task structure and Octant I has strong leader-position power. Each octant represents a

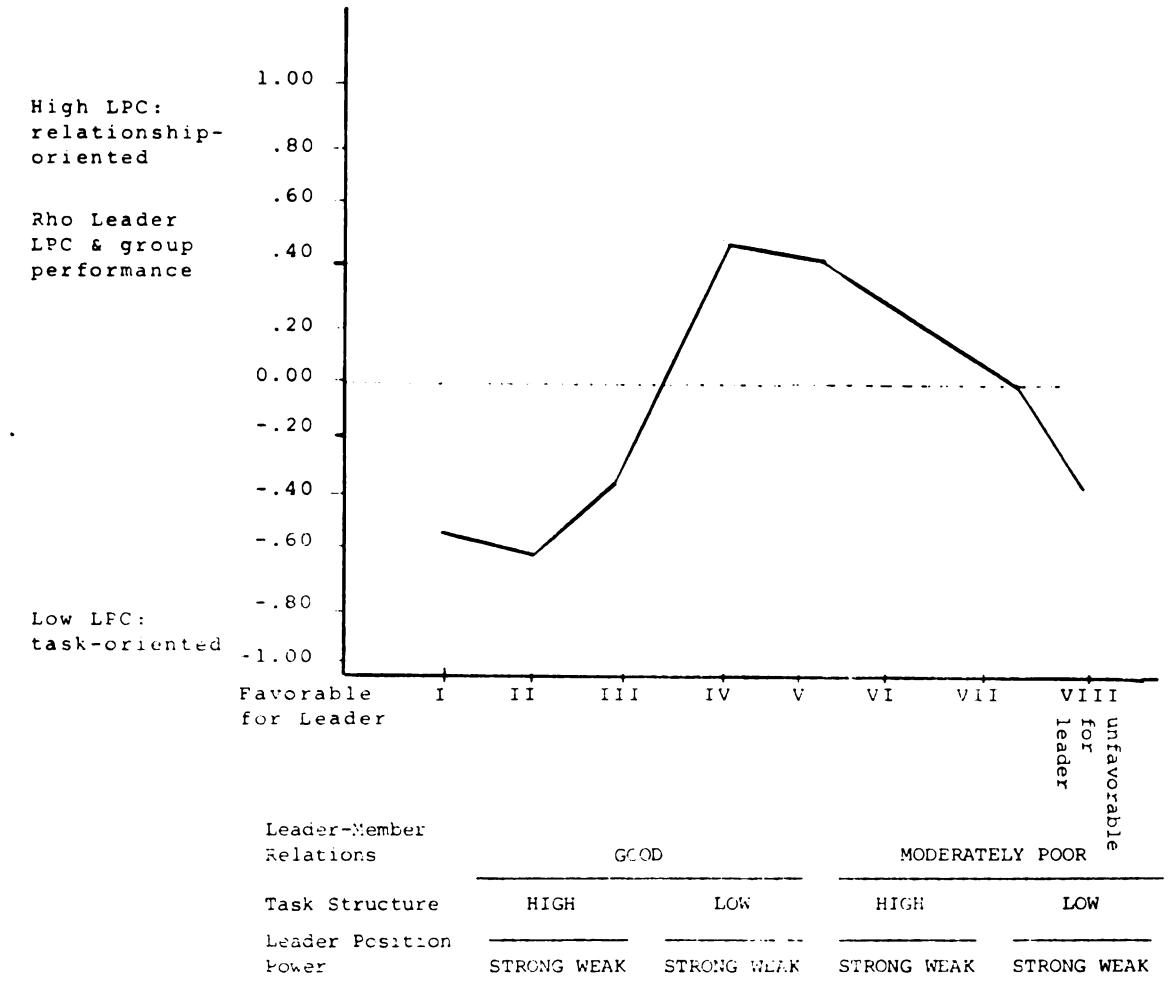

Figure 1.--The eight octants of leadership effectiveness.

unique combination of three variables. Therefore, Octant I is described as having good leader-member relations, high task structure and strong leader-position power.

The leadership measure, called the LPC, is scored measuring several bi-polar adjectives describing characteristics of a person with whom the leader has been least able to work well. A high LPC is a high relations oriented, low task oriented person. He is described as having strong needs or desires for being permissive and passive. A low LPC score measures a low relations, high task oriented person. A low LPC score is considered by Fiedler as indicating high needs for control of others' activities.

The LPC is supposedly assessing underlying needs, not behavior. These concepts are somewhat similar to behavioral concepts of consideration and initiating structure from the Ohio State Studies and employee centered and production centered leadership from the Michigan Studies. These concepts, unlike LPC, refer to leader behavior, not needs, and are on two separate continua, not opposite ends of one continuum; therefore, the leader can be high on both dimensions of behavior.

From examination of Figure 1, the most effective combination of these leadership styles and the situations described are low LPC and either highly favorable (strong leader-position power, high task structure, good leader-member relations) or highly unfavorable environments (weak

leader-position power, low task structure, poor leader-member relations). The most effective combination for a situation of moderate favorability is a leader with a high LPC.

Fiedler's theory has been criticized from several perspectives, ranging from lack of practical application to rejection of the concept that LPC scores indicate two ends of the same continuum. Some of these criticisms are noted below.

1. Some of the eight octants may not be as relevant to many large organizations. For example, how likely is it that a completely unfavorable situation will exist in a large organization? (See Figure 1, Octant VIII.) There are, of course, organizations which do characterize several of the octants specified.

2. Fiedler lacks the theoretical basis to suggest why the low LPC leader works well in a highly unfavorable situation and also in a highly favorable situation (Korman, 1971). There is no theoretical framework in the leadership literature to suggest why a low LPC leader can do as well when leader-member relationships are good, task structure is high and leader position power is strong as when they are poor, low and weak (Korman).

3. Fiedler's present interpretation of LPC is that a fairly stable personality characteristic is being measured. Yet, Mitchell, Biglan, Oncken and Fiedler (1970)

found the LPC test-retest reliability to range from .31 to .70 and Graen, Orris and Alvares (1971) administering a LPC list of adjectives to group leader and correlated their scores of task orientation and interpersonal orientation with the responses from their group members describing their leaders on a similar LPC form, found correlations between leader's LPC scores and the mean members' perception of the leader's behavior ranged from -.01 to .20.

4. LPC measures leader orientation on a single continuum and the leader can only be at one point on the continuum at one time. It is difficult to conceive that one factor, on which an individual may be high or low, is so critical in determining the effectiveness of leadership style since there is much evidence that leadership is multidimensional.

However, Fiedler has offered an approach which has directed attention to key variables in researching leadership. Because of the inconsistent results, the single continuum and the fact the theory has not held up in some research, Graen, et al. (1971a; 1971b) suggest that before this theory is more widely applied, it must be refined.

The Path-Goal Model of Leadership Effectiveness

The Path-Goal model of leadership is an approach to resolving some of the inconsistent research findings in which initiating structure and consideration have been examined.

Evans (1970), drawing heavily from instrumentality ideas applied to motivation (Peak, 1955; Georgopoulous, Mahoney and Jones, 1957), provided the initial formulation of the Path-Goal model of leadership. Motivation for an individual to engage in a specific behavior is a function of the instrumentality of his behavior and the importance of the outcomes. Outcomes are the rewards derived from the job itself, or the job environment, such as pay and promotions. Instrumentality is the probability that a given action will be followed by a given outcome.

The behavior of the leader can influence both the instrumentality and the outcomes. He can provide outcomes by being a source of supportiveness, or by providing or reinforcing positively or negatively certain outcomes, such as pay and promotions.

The leader, by reinforcing in a manner contingent upon the subordinate's behavior, can increase the subordinate's instrumentality by clearly linking specific behavior and performance with beneficial outcomes. For instance, when the subordinate does his task well, the leader can praise his achievement.

House (1971) drawing upon the work of Evans (1970), added to the development and explanation of the Path-Goal model, adding the task dimension, thus making it a situational model. In light of the fact that this research is an attempt to examine some of the hypothesized

relationships of this specific leadership model, it is examined here in more detail. His approach is based on consideration of motivation, leader behavior and task structure.

Motivation.--Motivation indicates the level of energy and willingness of the subordinate to engage in the performance of task activities. The higher the level of motivation, the greater the energy and willingness of the subordinate to engage in performing his task activities. The essential variables in determining a subordinate's level of motivation are his expectancies of his energy or effort resulting in performance and his expectancies of his performance being rewarded with valued outcomes.

Outcomes are of two types, intrinsic and extrinsic. Extrinsic outcomes refer to outcomes such as pay and promotion which are administered or given by another individual (Lawler, 1970). Intrinsic outcomes, on the other hand, are self-administered such as the feeling of accomplishment from a job well done (Lawler, 1970). There are two types of intrinsic outcomes: those from the process of doing a task such as the feeling of excitement from a challenging task and outcomes from the accomplishment of the task as a feeling of accomplishment from a job well done (House, 1971).

Expectancy 1 (E1) is the perceived probability estimate that effort will result in a particular level of performance. Expectancy 2 (E2) refers to an individual's

perceived probability of his performance being rewarded with valued outcomes.

The level of subordinate motivation is determined in an additive and multiplicative combination of these expectancies and outcomes. This will be examined further in Chapter II.

Leadership Behavior.--House discusses two types of leadership behavior: leader initiating structure and leader consideration. These are the leader behavior dimensions derived from the OSU studies.

Leader initiating structure describes the behavior of a leader as directing, controlling and guiding the behavior of the subordinates. The leader does this through planning and scheduling the work of the subordinate; by giving him negative feedback about his specific poor task performance and encouraging his subordinate to follow rules and procedures.

Leader consideration refers to a leader's behavior which is supportive, considerate and concerned with his subordinate. The leader does this by asking about the subordinate's welfare, encouraging participation in decision making by the group members, and generally making the path to performance easier to travel (House, 1971).

Task Structure.--The other important dimension of the Path-Goal model of leadership is the task structure.

Task structure is divided into two separate dimensions which describe different characteristics of a task, job certainty and task autonomy. Job certainty refers to the degree of repetitiveness and clarity of policies and procedures characteristic of a task. Task autonomy refers to the degree to which the employee is independent of the organization and the supervisor for financial and non-financial resources (House, 1971).

Summary.--The interaction of the task, leadership and motivation dimensions is predicted to be important because of the way the behavior of the leader and the task interact to determine effectiveness and satisfaction through their effect on expectancies and outcomes. On highly certain tasks, initiating structure is seen as redundant because the task is already planned and organized. High levels of initiating structure on certain tasks may result in dissatisfaction with work but high performance. House argues that because tasks with high certainty are dissatisfying, workers will tend to slack off and reduce their output. High initiating structure under those conditions imposes control and direction over the workers to prevent performance from decreasing.

The Path-Goal model suggests that when the task is low in certainty, initiating structure clarifies the task requirements and increases satisfaction with work by relating effort and performance to valued rewards. Initiating

structure operates in a similar manner when the task and subordinate are dependent upon the organization.

On the other hand, consideration is satisfying on certain tasks. It influences performance levels by increasing the expectancies that effort will lead to goal accomplishment. The leader can increase these expectancies by giving social approval and recognition when the subordinate attains his task goals. It also increases the expectancy that goal attainment will be rewarded with desired outcomes when the outcomes are linked to goal attainment.

According to House, on tasks of low certainty, leader consideration influences neither satisfaction nor performance. This is so because these tasks are intrinsically satisfying (House, 1971). It may not influence performance since direction and guidance are needed by the subordinate to increase performance and leader consideration does not provide direction and guidance.

When the subordinate is less dependent upon the leader and organization and has more discretion over his task, the effects of consideration and initiating structure are hypothesized to operate differently. House (1971) indicated that consideration and initiating structure may not perform the similar functions under task autonomy as under task certainty. The social influence process may be less effective if the subordinate has more discretion. The results of initiating structure and consideration, however,

are postulated to be similar under both conditions of task independence and task certainty.

Empirical Bases of the Path-Goal Model of Leadership.--House tested the Path-Goal model of leadership using data collected from two previous studies and new data from one study. He examined eight hypotheses derived from the Path-Goal model propositions. The analysis was somewhat weak in that the theoretical constructs of intrinsic task satisfaction and task structure were inferred from the occupational characteristics of the populations studied. It was assumed that higher level jobs or higher occupational levels have higher amounts of job autonomy and smaller amounts of job certainty. He also assumed that higher level jobs or higher occupational levels also have more intrinsic satisfaction.

The hypotheses he initially tested were for tasks of a quasi-professional nature with medium amounts of job certainty and medium amounts of job autonomy.

> (1) Leader initiating structure will be positively related to subordinate satisfaction. The correlations of initiating structure and satisfaction ranged from .21 to .03.
>
> (2) Leader initiating structure will be negatively related to subordinate role ambiguity. The correlation between role ambiguity and initiating structure was -.41.
>
> (3) The variance in role ambiguity will account for the relationship between leader initiating structure and subordinate satisfaction. The results of the correlation between initiating structure and satisfaction, with role ambiguity held constant, varied from .09 to -.06 (House, 1971, p. 327).

House explained these results, saying the tasks were routine and the Path-Goal relationships were probably already clear. Then initiating structure was not as useful in the reduction of role ambiguity. The predicted effect of initiating structure on the subordinate satisfaction, therefore, was not strong. Specific task characteristics and leader consideration were not examined in this first study. In the second study the following hypotheses were tested:

> (1) Job autonomy will have a positive moderating effect on the relationship between leader initiating structure and subordinate job satisfaction; that is the relationship will be stronger under high job autonomy than under low job autonomy (House, 1971, p. 328).

For the low autonomy jobs, the correlations between leader initiating structure and extrinsic satisfaction were significantly different from the moderate autonomy jobs and high autonomy jobs. The correlations between leader initiating structure and extrinsic satisfaction for the moderate autonomy jobswere also significantly different from the high autonomy jobs.

> (2) Job autonomy will have a negative moderating effect on the relationship between leader initiating structure and subordinate performance; that is, for non-autonomous jobs the relationship will be stronger than for autonomous jobs (House, 1971, p. 328).

The correlations between leader initiating structure and performance for the highly non-autonomous jobs were significantly different from the same correlations for highly and moderately autonomous jobs. However, the same correlation between the highly and moderately autonomous jobs were

not significant, but were in the predicted direction only.

> (3) Job autonomy will have a negative moderating effect on the relationship between leader consideration and subordinate satisfaction; that is, the relationship will be weaker for autonomous jobs than for non-autonomous jobs (House, 1971, p. 328).

None of the correlations between leader consideration and subordinate satisfaction in the low autonomy jobs was significantly higher than those jobs with moderate and high autonomy; however, the average correlations decrease monotonically in the predicted direction. In the third study, there were significant differences in the correlations between leader consideration and subordinate satisfaction between the low autonomy and high autonomy jobs but only for intrinsic satisfaction, not extrinsic satisfaction.

> (4) Job autonomy will have a negative moderating effect on the relationship between leader consideration and subordinate performance (House, 1971, p. 329).

Four of the correlations between leader consideration and subordinate performance were significantly higher for the low autonomy jobs than for the moderate or high autonomy jobs. In the third study the correlations between leader consideration and subordinate performance were not significantly different.

> (5) Job [certainty][1] will have a negative moderating effect on the relationship between leader consideration

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[1]Job scope was used, but House now uses job certainty to describe the same task dimension.

> and subordinate satisfaction and performance; that is, the wider the variety of tasks performed by subordinates, the weaker the correlations between leader consideration and subordinate satisfaction and performance (House, 1971, p. 329).

The differences among the groups of job certainty were neither significantly different nor in the predicted direction. In the third study, the average correlations between leader consideration and satisfaction decreased from .38 to .24 to .18 for the jobs of low, moderate and high certainty. Two of the correlations for low job certainty are significantly higher than their respective correlations for the groups with moderate or high job certainty.

The correlations between leader consideration and performance decreased from .52 for the low job certainty to .09 for high job certainty. Five of the six correlations between leader consideration and performance for low job certainty are significantly higher than the corresponding correlations for the moderate or high job certainty.

In the third study, the average correlations between leader consideration and performance decreased as predicted from -.33 for the low certainty jobs to -.04 for high certainty jobs. Two of the correlations between leader consideration and performance were significantly different between low job certainty and high job certainty.

House concluded that he found some support for his hypotheses; however, he did not test the relationship between initiating structure and satisfaction and performance

by measuring certainty; his measures of certainty and autonomy were inferred from occupational characteristics in the first study.

Dessler (1973) also examined some hypotheses suggested by House. He used the LBDQ Form XII (Stogdill, 1965), a questionnaire for measuring the expectancies and the Wigdor (1969) scale designed to measure task certainty.

The Dessler hypotheses examined satisfaction and expectancies and role ambiguity. The hypotheses were:

> (1) The correlations between leader initiating structure and subordinate role ambiguity, satisfaction and Path-Goal expectancies will be moderated by the degree of respondent task certainty. The higher the certainty the smaller will be: (a) the negative correlation with role ambiguity; (b) the positive correlation with satisfaction and expectancies (Dessler and House, 1973, p. 17).

The results supported this hypothesis with respect to the smaller positive relations between leader initiating structure and intrinsic job outcomes as task certainty increased. He found that the correlations between leader initiating structure and satisfaction and Expectancy 2 were lower in the medium certainty group than either the high or low certainty groups. A re-grouping of his sample into two groups based on occupational level and educational level did not produce any change in the results.

> (2) The correlations between leader consideration and subordinate satisfaction and expectancies will be positively moderated by task certainty. The leader consideration-role ambiguity correlation will be negatively moderated (Dessler and House, 1973, p. 17).

The results supported the positive relationship between leader consideration and Expectancy 1 and satisfaction with work. Expectancy 1 and satisfaction with work were more highly related to leader consideration as task certainty increased. The re-grouping of the sample by occupational and educational level increased the size of the correlations between leader consideration and Expectancy 1 and satisfaction with work.

> (3) Leader consideration will have a positive covarying influence on the relationship between leader initiating structure and subordinate satisfaction and expectancies and a negative covarying influence with respect to role ambiguity (Dessler and House, 1973, p. 17).

Again support for some of the relationships was found. Specifically, leader initiating structure did have a stronger positive relationship to satisfaction under high task uncertainty when the effects of leader consideration were held constant. However, the correlations between leader initiating structure and ambiguity and satisfaction were higher for the medium certainty group than the high certainty group. This was contrary to the hypothesis. The re-grouping, however, reduced the correlations between leader initiating structure and ambiguity and satisfaction for the medium certainty group so they were lower than the same correlations for the high certainty group.

Dessler found moderate support for the hypothesis he tested, but only by re-grouping the sample did stronger support for two hypotheses become evident. This suggested

that demographic data, not perceptual data, may be a better measure of task certainty.

Refinements in Testing the Path-Goal Model.--The Path-Goal model of leadership proposed by House does not include any specific consideration of motivation; instead, he uses motivational theory to explain the theoretical relationship. This seems an important variable to consider. Evans (1970) was explicit in stating that the degree of goal attainment is a function of the subordinate's level of motivation and the actual expectancies of effort resulting in rewards. He emphasized that motivation affects satisfaction as well as performance. House (1971) considered the level of subordinate motivation implicitly, but only as an intervening variable between leader behavior and satisfaction and performance.

If the motivation can affect the satisfaction and performance, it should be measured and assessed directly in a test of the Path-Goal model of leadership. This is the main purpose of this research project.

There are some other refinements of the model that will be examined here. These deal with the task structure dimensions. In House's work, he used job autonomy synonymously with task independence. He defined autonomy as the extent to which the subordinate is able to act and perform his task without depending upon his supervisor or others for financial and non-financial resources.

Job certainty was defined by House to be the extent to which the subordinate performs various tasks, sees projects through to completion and determines job objectives and methods. Job certainty appears to have two components. The first is task repetitiveness, or the number of different tasks performed by the subordinate and the number of tasks he finishes. The second component refers to the determination of the job objectives and methods of performing the job or the discretion which the subordinate has to exercise over his task procedures.

In this study, two job dimensions called Task Repetitiveness and Task Independence are used. However, unlike House, who used inferences of the work setting as a basis for drawing conclusions about the characteristics of the task, the task characteristics are measured here by an instrument developed for that purpose.

Task Repetitiveness describes a task by the frequency with which the work cycles are done. High task repetitiveness describes tasks in which the work cycles are completed very frequently. In high task repetitiveness, the methods and procedures for completing the task are well known and understood. Task repetitiveness is an important dimension to discuss because of its psychological impact and its interaction with leadership behavior. High task repetitiveness is hypothesized to be associated with job dissatisfaction (House, 1971). House hypothesizes that high

initiating structure will cause dissatisfaction because of the redundancy of clarity but it also is likely to be associated with high performance because it will prevent work slowdowns and avoidance. High leader consideration under high task repetitiveness will not necessarily affect performance, but will increase satisfaction with work. This is based on the assumption that a wide variety of tasks is more likely to be satisfying and, therefore, subordinates with varied tasks have less need for social support, that is, consideration from their leaders; whereas for highly routine jobs, leader consideration is a source of support to the employee, thus making the path easier to travel (House, 1971, p. 329).

Task Independence is the amount of discretion the subordinate has over his work. Task independence means the extent to which the subordinate can make decisions about how to use resource, the extent to which he can initiate contact with the supervisor as well as determine how and when to perform his task. High task independence is characterized by high employee discretion. This may be an important task dimension to examine. High initiating structure may be needed in order to reduce task ambiguities or provide assistance to his subordinate. This can lead to high performance and satisfaction since the supervisor aids the subordinate in achieving goals. When the employee, at his discretion, can go to his supervisor for more detailed instructions and

directions (i.e. obtain structure from his boss) he retains some control over his work.

With low task independence, the employee has low discretion and is highly dependent upon the supervisor and the organizations. Guidance and assistance are imposed by the supervisor through high initiating structure. Performance may be maintained at high levels through this method, but satisfaction will probably be low. High consideration, unlike its effect under task repetitiveness, is seen as a source of satisfaction by the highly dependent employee, but irrelevant to performance.

Research Objectives

The Path-Goal approach to leadership suggests a way of formulating the problems such that promising results may be obtained in the leadership research. There are some problems with the previous research on the Path-Goal model. House tested this model on an *a posteriori* basis with data from other research.

This research will examine specific constructs of the model and expand it by including a measure of motivation. The hypotheses are derived from the general Path-Goal propositions.

The essence of these hypotheses is:

a. the relationship between initiating structure and satisfaction is more positive for more autonomous tasks;

b. the relationship between initiating structure and performance is more positive for non-autonomous tasks;

c. the relationship between consideration and performance is more positive for non-autonomous tasks;

d. the relationship between consideration and satisfaction will be more positive for non-autonomous tasks;

e. the relationship between consideration and satisfaction and performance will be more positive the higher the job certainty.

Additionally, this research will examine the hypotheses that the relationship between initiating structure and satisfaction will be more positive for jobs with low certainty and the relationship between initiating structure and performance will be more positive for jobs with high certainty.

Further explanation and rationale for all these relationships will be provided in Chapter II after each specific hypothesis is presented.

CHAPTER II

HYPOTHESES AND MEASURES

The Hypotheses

The research studies of House and Dessler provide a promising base for additional empirical development of the Path-Goal model approach to leadership. However, their work was limited. House drew inferences of task certainty and satisfaction with work from job characteristics such as occupational level, e.g. higher level administrators had tasks with low certainty, an inference of satisfaction with work saying that higher level jobs were more satisfying than lower level jobs. Some of the hypothesized relationships between the satisfaction and leadership variables were not supported. Dessler did not find broad support for his hypotheses, nor did he investigate the relationship of leadership behavior and performance.

The testing of the hypotheses on an a priori basis with measures specifically focusing upon the variables in the model, and the inclusion of motivation, should aid in the refinement of the Path-Goal model and increase the understanding of leadership.

Hypothesis 1

Hypothesis 1: There will be a significant interaction effect among task repetitiveness, LIS, LC and

> motivation such that: Satisfaction with work will be higher under conditions of low task repetitiveness, high LIS, high LC and high motivation than under conditions of high task repetitiveness, low LIS, low LC and low motivation.[1]

This hypothesis is supported by some empirical literature. LC has been found to be positively related to satisfaction (Halpin and Winer, 1957; Nealey and Blood, 1968; Fleishman and Harris, 1962; Lowin, 1969). LIS and satisfaction have also been found to have a positive relationship (Halpin, 1957; Yukl, 1969a; Nealey and Blood, 1968; House, Filley and Kerr, 1971). Nealey and Blood (1968) found that LIS was positively related to satisfaction for first line supervisors. For second line supervisors, they found a negative relationship between LIS and satisfaction. House (1971) explained the positive relationship as a result of the first line supervisor's need for guidance and direction. He surmised that they were relatively inexperienced on the job, therefore, lacked the necessary knowledge to perform their tasks. High LIS assisted the first line supervisors in their tasks and therefore increased satisfaction with work. On the contrary, the second line supervisors were experienced and knew their jobs. The guidance and direction from high LIS was not necessary and, therefore, did not increase satisfaction.

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[1]Leader consideration will now be referred to as LC and leader initiating structure will be called LIS.

Fleishman and Harris (1962), using workers from body assembly, body paint and assembly operation work groups, also found a negative correlation between satisfaction and high LIS. House, et al. (1970) in a study replicating Fleishman and Harris (1962), found a positive relationship between LIS and satisfaction. House (1971) argued that these inconsistent findings were the result of the task. In the Fleishman and Harris (1962) study, the tasks were routine, i.e. high in repetitiveness. In the House, et al. (1970) study, the subjects were researchers and scientists who had non-routine tasks, i.e. low in repetitiveness. House suggested that on the low repetitiveness tasks, it was inferred that high LIS was positively related to satisfaction because it provided the guidance and direction for the scientists to complete their tasks. Whereas on the routine tasks, LIS was unnecessary and seen as excessive control and direction. The result was low satisfaction with high LIS.

It is also predicted that high motivation will be associated with more satisfaction with work than low motivation, especially when the task has some variety.

Hypothesis 2

Hypothesis 2: There will be a significant interaction effect among task repetitiveness, LIS, LC and motivation such that: Performance will be higher under conditions of high task repetitiveness, high LIS, high LC and high motivation, than under conditions of low task repetitiveness, low LIS, low LC and low motivation.

There have been several studies supporting the positive relationship between LIS and performance (Nealey and Blood, 1968; Fleishman and Harris, 1962; Halpin and Winer, 1957; Fleishman, Harris and Burtt, 1955).

In the Nealey and Blood (1968) study, performance increased under high LIS for both the first and second level supervisors, even though the second level supervisors had tasks which were less repetitive.

Fleishman and Harris (1962) found a positive relationship between LIS and performance for working with repetitive jobs. House (1971) stated that high LIS had a positive effect upon the performance of these tasks by providing direction and control for the workers.

Besco and Lawshe (1959) reported a positive relationship between LC and performance in an organization where the jobs were highly automated and routinized. In terms of the Path-Goal model, it could be suggested that performance was high because high LC is a source of support to the employee, making his path to high performance easier to travel.

Hypothesis 3

Hypothesis 3: There will be a significant interaction effect among task independence, LIS, LC and motivation, such that: Satisfaction with work will be higher under conditions of high task independence, high LIS, high LC and high motivation, than under conditions of low task independence, low LIS, low LC and low motivation.

The assumption is made by House (1971) that low levels of task independence are dissatisfying, and high levels of task independence are satisfying. High task independence provides more opportunity for the exercise of responsibility, initiative and job challenge. These are intrinsic outcomes which are positively related to satisfaction (Lawler, 1970; House and Wahba, 1972).

High LC can produce high levels of satisfaction with work by providing social recognition and approval to the subordinate. Therefore, low LC and low task independence should result in low satisfaction with work.

House (1971) suggested that high LIS will provide the necessary guidance and direction for tasks with high independence. The subordinate's knowledge and capacity to perform the task will increase. Satisfaction with work may also increase. Low LIS under high task independence may cause frustration, tension, and dissatisfaction.

High motivation has been found to relate to high levels of satisfaction with work (Lawler, 1970). When it is combined with high LIS and high LC and high task independence, high motivation should result in high satisfaction with work.

Hypothesis 4

Hypothesis 4: There will be a significant interaction effect among task independence, LIS, LC and motivation such that: Performance will be higher under conditions of low task independence, high LIS, high LC and high motivation than

under conditions of high task independence, low LIS, low LC and low motivation.

According to the logic of the Path-Goal model, under low task independence the knowledge and capacity to meet the task requirements should be much greater than with high task independence. The supervisor is around more frequently under low task independence to provide the assistance needed to clarify tasks demands and insure direction and control. Performance will, according to the Path-Goal logic, be higher under low task independence, and high LIS (House, 1971). High LC, similarly, increases performance under task independence when making social approval, recognition, praise contingent upon the performance of the subordinate. If, as House assumes, low task independence is more dissatisfying than high task independence, then the outcomes provided by high LC should be more satisfying to the subordinate in a task of low independence because there are fewer alternative sources of job satisfaction. High motivation is expected to result in high performance (Vroom, 1964).

The Measures

This section reports the development of scales to assess leadership behavior, task structure, intrinsic outcomes, extrinsic outcomes, expectancies, satisfaction with work and performance. In general, items were drawn from existing instruments. However, some scales (i.e. task structure and the extrinsic outcomes) were designed for

this study. Each item pool was subjected to factor analysis to determine how items were related. The expectancies and the extrinsic outcomes were not factor analyzed, but used according to the method suggested by House (personal conversation, 1973).

Leadership Behavior

A revised LBDQ (House, 1971) composed of 38 items instead of the 100 appearing in the LBDQ Form XII (Stogdill, 1965) was used. The items were scored on a Likert-type scale from one to five. The items asked the individual to rate from "very little" to "a great deal" a description of his supervisor. The instructions were:

> Following is a list of items that may be used to describe the behavior of your superior or supervisor. Each item describes a specific kind of behavior but does not ask you to judge whether the behavior is desirable or undesirable. Although some items may appear similar, they express differences that 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 or your supervisor.
>
> Note that the term "group" as used in the questions refers to a department, division, or other unit of organization that is supervised by the person being described. The term "members" refers to all the people in the unit of organization that are supervised by him.
>
> Please indicate the extent to which you think best describes his behavior by circling the appropriate number:

These following criteria were used to determine which items were included in each factor, in the leadership measure, as well as the other scales.

1. The degree to which each item correlated with the factor to which it was assigned. By examining the factor/item correlation matrix, items with factor loadings of .35 or less were dropped. This was done in order to maximize factor independence.

2. It was desirable to obtain factors with high levels of statistical independence. Efforts to minimize factor intercorrelation were made, dropping items which loaded heavily on one or more factors.

3. The number of factors was a function of the variance which could be explained by the different number of factors. The use of an additional factor was made only if it increased the total explainable variance of all the factors by at least .05 and if the item had psychological meaning. Similarly, factors were dropped when they contributed less than 10 per cent of the total variance.

4. Items with negative values were reflected, which thus enables the factor to be more easily interpreted with the rest of the items in the factor (Nunnally, 1967).

Ten items from the 38 original items were deleted in the final analysis. The remaining items were factor analyzed and two factors extracted accounted for 57 per cent of the variance. The intercorrelation between these two factors in the final analysis was .24 (See Appendix A for the factor analysis and items deleted). The following items included are in Table 1 below:

Table 1.--Leadership behavior factors.

Item	Factor Loading	Item Description
	Factor 1: Leader Consideration	
1	.73	He shows he has confidence in his subordinate's ability to meet the objectives.
2	.77	He asks subordinates for their ideas and suggestions.
3	.80	He gives clear recognition for outstanding work.
4	.77	He shows concern for the needs of the group members.
5	.69	The objectives are clarified at the outset.
8	.61	He tries to get all members of the group involved in the discussion of the problems.
9	.78	He praises subordinates whose performance was especially good.
10	.81	He makes an effort to be helpful.
11	.77	He lets subordinates know how they are doing throughout the task.
13	.75	He tries to suspend evaluation of alternatives until everyone has a chance to speak.
14	.80	He shows approval of subordinates who put forth their best effort.
15	-.61	He behaves as though others were not as smart or as competent as he is.

Table 1.--Continued.

Item	Factor Loading	Item Description
16	.69	He is pleasant when telling others what to do.
18	.70	He encourages continual improvement.
19	.83	He gives serious consideration to the ideas and suggestions of others.
20	.77	He gives recognition to subordinates for improvement in their performance.
21	.80	He tries to make the task enjoyable.
22	.62	Members of the group know what is expected of them.
Factor 2: Leader Initiation		
6	.75	He tells subordinates about specific poor task performance.
7	.77	He lets his subordinates know about specific poor task performance.
12	.75	He gets on subordinates if their work is not as good as he thinks it should be.
17	.72	He reprimands subordinates whose performance is below his expectations.
23	.77	He is quick to let subordinates know when he thinks they are not performing well.

Table 1.--Continued.

Item	Factor Loading	Item Description
24	.52	He decides what shall be done and how it shall be done.
25	.35	He assigns group members to particular tasks.
26	.36	He schedules the work to be done.
27	.54	He asks that the group members follow standard rules and regulations.
28	.45	He encourages the use of uniform procedures.

Clearly, the items which composed the first factor represented the concept of leader consideration (LC) as defined by Halpin and Winer (1957). The leader high in LC is one who provides support, concern and interest in the subordinates' welfare. He is also interested in rewarding good work, but avoids any negative feedback. The internal reliability[2] of this scale is .90. Typical of these items was:

[2]For each factor an internal reliability was determined by the use of coefficient alpha:

$$R_{kk} = \frac{K}{K - 1} \left[1 - \frac{\Sigma S_i^2}{S_{Y^2}} \right]$$

(Nunnally, 1967, p. 196).

a. He encourages continual improvement;

b. He is pleasant when telling others what to do;

c. He shows concern for the needs of the group members.

The second factor, Leader Initiating Structure (LIS), represents direction, role definition, role correction from deviations in the performance standards, negative feedback for poor performance, guidance and scheduling. The internal reliability of this scale was .88. Some examples of this factor are:

a. He assigns group members to particular tasks;

b. He lets his subordinates know about specific poor task performance;

c. He schedules the work to be done.

Motivation

It was desired to measure the level of motivation for each subject. This was done using an expectancy approach which takes into account the expectancies, the intrinsic and the extrinsic outcomes in the following manner:

$$M = IVb + E1\ (IVa + \Sigma(E2EVn))$$

(House, 1971, p. 323).

The meaning of the individual terms in this formula is:

M = The individual motivation to work

IVb = The intrinsic outcomes associated with task behavior

IVa = The intrinsic outcomes associated with goal accomplishment

E1 = The expectancy or the subjective probability estimate of each individual that his effort will result in successful performance.

E2 = The expectancy or the subjective probability estimate of each individual that his performance as a result of E1 will result in attainment of extrinsic outcomes.

House (1971) uses an expectancy model which is a modification of Vroom's motivation model (1964) and Porter and Lawler's (1968) approach in explaining why leader behavior is effective under different circumstances.

In order to determine each individual motivation level, according to the above formula, it was necessary to derive measures of the intrinsic outcomes, the extrinsic outcomes and the expectancies.

Intrinsic Outcomes

Intrinsic outcomes refer to the subordinate's feeling of being skillful and a sense of pride from a job well done. A list of outcomes suggested by House (1971) were included in the questionnaire. This was done in order to determine the level of intrinsic outcomes perceived by each individual in his task. There were 57 items. Thirty assessed the intrinsic value of work behavior and 27 assessed the amount of intrinsic value associated with goal accomplishment.

The intrinsic value of goal accomplishment is the level of satisfaction attached to the feeling of goal accomplishment or the completion of a task, i.e. whether there is a great deal of pride and internal pleasure. The intrinsic value of task behavior measures the amount of pleasure and feeling of enjoyment while performing the task.

Subjects responded on a scale from 1 to 3, indicating the presence, absence or undecidedness of each outcome. The specific instructions were two types. For the IVa the instructions were:

> Think of how you usually feel immediately after accomplishing job goals. How well does each of the following words describe your feelings? In the blanks beside each word, put:
>
> 1 if it describes the feelings you experience after completing a job goal
> 2 if it does not describe them
> 3 if you cannot decide

For the IVb the instructions were:

> Think of what you are usually involved in and how you usually feel while carrying out your work. How well does each of the following words describe you at work? In the blank beside each word below, put:
>
> 1 if it describes you at work
> 2 if it does not describe you at work
> 3 if you cannot decide

The first factor analysis resulted in two factors accounting for 21 per cent of the variance. There was extremely high intercorrelation of the factors (r=.69). An analysis of the factor item loadings revealed 24 items which either had small loadings or complex loadings and thus were dropped (See Appendix B).

A second factor analysis of the remaining 23 items resulted in two factors accounting for 31 per cent of the variance. The intercorrelation of the two factors was .48.

The first factor, Intrinsic Value of Goal Accomplishment (IVa), describes the feeling of pride and accomplishment from completing a task well. The reliability of this scale was .80. Examples of items in this scale are:

a. being skillful;

b. meeting high standards;

c. a sense of pride.

The second factor, Intrinsic Value of Task Behavior (IVb), is characteristic of behavior which is associated with the work process. The processes and people that are associated with performing the task contribute to outcomes. The scale had a reliability of .84. Typical of the items are:

a. trying to sell an idea;

b. coordinating the efforts of others;

c. supervising others.

The items for IVa and IVb are listed with their factor loadings in Table 2.

Expectancy

The expectancy scale was derived from Dessler (1973). It was divided into two components: Expectancy 1 and Expectancy 2.

Table 2.--Intrinsic outcomes.

Item	Factor Loading	Item Description
Factor 1:	Intrinsic Value of Goal Accomplishment (IVa)	
1	.49	Of being skillful.
2	.54	Of satisfaction.
3	.52	That I have met high standards.
5	.41	Of increased importance.
6	.42	Of pleasantness.
7	.39	Of having completed a total task rather than only part of one.
9	.62	Of a sense of pride.
11	.58	That I have accomplished something significant.
13	.51	Achieving something significant.
14	.55	Meeting high standards.
15	.33	Able to measure my own performance.
16	.42	Happy.
Factor 2:	Intrinsic Value of Task Behavior (IVb)	
4	.42	That I have helped other people.
8	.47	That I have successfully spent my time convincing others what to do.
10	.55	That I can supervise a number of people.

Table 2.--Continued.

Item	Factor Loading	Item Description
12	.64	That I have successfully managed other people.
17	.62	Persuading others.
18	.67	Supervising others.
19	.49	Telling others what to do and how to do it.
20	.58	Coordinating efforts of others.
21	.64	Trying to get others to cooperate.
22	.66	Trying to convince others.
23	.55	Trying to sell an idea.

Expectancy 1 is defined as the probability relationship between effort and performance which the subordinate perceives. Expectancy 1 scale contained the following items:

Putting forth as much energy as possible results in completing my work on time.

Doing things as well as I am capable results in completing my assignment on time.

Trying as hard as I can leads to completing my work on time.

Giving the job all I can leads to completing my work on time.

Putting forth as much energy as possible leads to my producing a high quantity of work.

Doing things as well as I am capable leads to a high quantity of work.

Trying as hard as I can leads to a high quantity of work.

Giving the job all I can leads to a high quantity of work.

Putting forth as much energy as possible leads to my producing highly professional work.

If I work hard at my job, it is more likely that I will meet high standards of excellence.

Doing things as well as I am capable leads to highly professional work.

Trying as hard as I can leads to meeting standards of excellence here.

Subordinates responded on a 1 to 5 scale for each item, and scores were obtained by summing the response of each individual. The internal scale reliability was .86.

Expectancy 2 is defined as the probability relationship between performance and reward which the subordinate perceives. In the model used, different components of Expectancy 2 must be weighted by different extrinsic valences. This subscale contained the following components:

Recognition is the acknowledgment given to the worker for work well done. It was measured by the following items:

The more my work approaches standards of excellence the more recognition I receive.

Management gives me recognition when I produce a high quantity of work.

Completing my work in a timely manner leads to recognition.

The internal reliability for this subscale was .54.

Security is the degree to which the subordinate is able to retain his job within the company. It was measured by the following items:

When I accomplish my work goals on time, my job is more secure.

Producing a high quantity of work here leads to job security.

The internal reliability for this subscale was .45.

Promotion is the opportunity for advancement within the company when the subordinate does good work. It was measured by the following items:

Highly professional work increases my chance for promotion.

Handling a high quantity of work increases my chances for promotion.

Getting the job done on time increases my chance for promotion.

The internal reliability of this subscale was .47.

Pay is the amount of monetary reward which the subordinate receives for doing a good job. It was measured by the following items:

Producing highly professional work is rewarded with higher pay here.

Producing a high quantity of work is rewarded with higher pay here.

Getting work done on time is rewarded with higher pay.

The internal reliability of this subscale was .52.

Influence in Decisions is the amount of influence which the subordinate has because of his high level of performance on the job. It was measured by the following items:

Completing my tasks on time leads to more influence with the supervisors.

Supervisors in this organization listen to those who do the most effective work.

The internal reliability of this subscale was .43.

Pleasant Employees describes the attitude of one's fellow employees when he does his work well. It was measured by the following items:

Working with the other people on my job is more enjoyable when I get my job done on time.

Fellow employees accept each other more if his or her work is very good.

Getting my work on time leads to better relationships with my fellow workers.

The people I work with are more enjoyable when I produce a high quantity of work.

The internal reliability of this subscale was .61.

Job Challenge is the feeling of accomplishment from doing a task well. It was measured by the following items:

Getting my job done on time leads to the experience of accomplishment.

Producing a high quantity of work makes me more satisfied that I am achieving something.

Producing highly professional work here gives me a sense of accomplishing something significant.

The internal reliability of this subscale was .36.

Valence of Extrinsic Outcomes (EVn)

Extrinsic outcomes such as pay, security, promotion are administered to the subordinate by people other than himself. The outcomes which were important to the individuals in the research sample were listed and presented in the

questionnaire.[3] The participants were asked to rank the outcomes in terms of the importance of the outcome to them. The specific instructions were:

> In this part of the questionnaire we are trying to identify what you think are the most important characteristics of a job to you personally.
>
> Please indicate how you would rank the importance of the following job characteristics to you personally. Rank the items numerically, using 7 as the highest ranking and 1 as the lowest. Use each number 1 through 7 only once.
>
> Please rank all items, even though you may find it difficult to do so.

The valence of each extrinsic outcome was determined from the rank assigned to each outcome.

The seven extrinsic outcomes were:

- opportunity to earn more money
- chances for subsequent promotion
- recognition of your work by others
- assurance that the job will not be eliminated
- challenging work
- opportunity to work with pleasant employees
- opportunity to influence important decisions

Note that each of these outcomes corresponds to each of one of the a priori Expectancy 2 subscales.

Determination of Motivation Scores

Using an adapted version of a motivation formulation proposed by House, motivation scores were computed. The formulation is stated:

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[3]This researcher discussed possible extrinsic outcomes with several individuals from the organization. Then a list of the most relevant extrinsic outcomes was constructed.

$$M = IVb + E1(IVa + \Sigma(E2EVn))$$

Where

M = The individual motivation to work

IVb = The intrinsic outcomes associated with task behavior. This score was derived by summing the 11 items derived in the factor analysis and described as the intrinsic outcomes associated with task behavior (IVb).

IVa = The intrinsic outcomes associated with goal accomplishment. This score was derived by summing the 12 items derived in the factor analysis and described as the intrinsic outcomes associated with task accomplishment (IVa).

E1 = Expectancy 1 or the subjective probability estimate of each individual that his effort will result in successful performance. The score was derived by summing the 12 items in the scale developed by Dessler (1973).

E2 = Expectancy 2 or the subjective probability estimate of each individual that his performance will result in one of several possible rewards or outcomes. The several outcomes each have their own corresponding expectancy 2. Scores for each a priori E2 scale were multiplied by the ranking assigned to the valence for that outcome. These totals were then summed.

An example is given below:

Intrinsic outcome of task behavior score (IVb)	25
Intrinsic outcome of task accomplishment score (IVa)	30
Expectancy 1 Score	35

Expectancy 2 Subscale	Score	X EVn Rank	Score
Recognition	12	7	84
Promotion	15	6	90
Pay	12	5	60
Security	10	4	40
Influence in Decisions	15	3	45
Pleasant Employees	20	2	40
Job Challenge	10	1	10
Total Expectancy 2 Score			269

The motivation score is 10,465.[4]

Task Structure

Task structure is composed of two dimensions, Task Independence and Task Repetitiveness. Task Independence describes the degree of dependence of the employee on his supervisor and the organization for financial and non-financial resources. It also includes the amount of discretion the subordinate has in initiating the interaction with his supervisor and determining the methods and procedures to perform his task. Task Repetitiveness describes the perceived work cycle. The more repetitiveness in the task, the shorter the work cycles.

The task structure questionnaire was composed of 15 items. Nine of the items measured task independence and six measured task repetitiveness. The task independence and task repetitiveness items were developed by Wigdor (1969). (See Appendix C for the items which were deleted from the final analysis and the development of the factors.) The individual

[4]The range of motivation scores was 5,173 to 49,135.

was asked to respond on a five-point Likert-type scale from very seldom to a great extent. The specific instructions were:

> The purpose of the following items is to seek a job description of the job on which you work. Included are descriptions of how independent you are on your job and how much variety you have.
>
> Please indicate the choice which best describes the characteristic of your job.

These items were factor analyzed and two factors emerged. These two factors accounted for 47 per cent of the variance. These factors, however, correlated highly with each other (r=-.45). Because of the high factor correlation, five complex items were dropped. Another factor analysis produced more conceptually distinct factors, reduced the factor intercorrelation, but also reduced scale reliabilities. The correlation was -.31 and the variance accounted for was 49 per cent. The factor item content is shown in Table 3.

The first factor, Task Repetitiveness, describes the repetitiveness of the task demands and the extent of variety on the job. A high score on this factor indicates a high amount of repetitiveness. The internal reliability of this scale was .69. For example, some of the items were:

a. How much variety is there in the work tasks which you perform?

b. What is the average time it takes you to complete an assigned task?

Table 3.--Task structure factors.

Item	Factor Loading	Item Description
Factor 1: Task Repetition		
10	.86	How repetitious are your duties on your present job?
11	.66	How much variety is there in the work tasks which you perform?
12	.84	Every job is confronted by certain routine and repetitive demands, what percent of the activities or work demands connected with your job would you consider to be of a routine nature?
13	.52	What is the average time it takes you to complete an assigned task?
Factor 2: Task Independence		
1	.74	To what extent are you able to act independently of your supervisor in performing your task functions?
6	.70	To what extent are you able to schedule and plan your task requirements independent of others in the organization?
14	.59	How often does the supervisor keep check on you and closely observe your work?
15	.71	To what extent do you control your job and pace of your work?

The second factor, Task Independence, describes the job situation in which the subordinate is independent from his supervisor over the control of his task and is allowed discretion concerning the interaction with his supervisor. A high score indicates a high amount of independence and discretion. The internal reliability was .61. Typical of the items were:

a. To what extent do you control your job and the pace of your work?

b. How often does the supervisor keep check on you and closely observe your work?

Satisfaction With Work

The Job Description Inventory developed by Smith, Kendall and Hulin (1969) contains 18 items measuring job satisfaction (See Appendix E). Each item is a positive or negative statement about satisfaction with work. For example, some of the items are:

a. Fascinating

b. Routine

c. Frustrating

The specific instructions were given as follows:

> The purpose of this section of the questionnaire is to determine how you feel about your job and what you think are the most important aspects of work for you.
>
> You will be asked to describe your feelings about what job characteristics are important to you. All information that you provide will be kept strictly confidential. Many of the questions will be repeated, using slightly different phrasing. This repetition is not intended as

a check on your honesty or consistency. Rather, we have found that questionnaires yield more reliable information if the ideas are communicated in several different ways.

Please answer one question at a time without thinking about your prior answers.

The following sections deal with how you feel while working toward accomplishment of job goals or while carrying out necessary tasks. Please indicate these feelings by checking the column with the number that most reflects your feelings while you are engaged in work activities.

.....

Think of your present job.
What is it like most of the
time? In the blank beside
each word given below, write:

1 for "Yes" if it describes your work
2 for "No" if it does not describe it
3 if you cannot decide

Smith, et al. (1969) reported the scale reliability for job satisfaction items to be .84.

Performance Criterion

In order to assure that the performance levels of the employees in the sample could be compared across different size groups, the Corporate Evaluators were used. The title Corporate Evaluator was given to reflect the description of individuals who were evaluating employees in a large section of the organization. The Corporate Evaluator came from a department within the organization which had extensive knowledge of the employees on the jobs and what their performance levels were.

There were five corporate evaluators who were selected by the organization on the basis of their knowledge

of the employees in the sample. The entire sample was divided into approximately five equal groups. The exact division of the sample was determined by the Corporate Evaluators' knowledge of the employees.

For the list of employees which each Corporate Evaluator had, he was asked to rank each of them from one to four. (See Appendix D for the instructions given to the evaluators.) This, in effect, located each subordinate's performance in relation to all of the other subordinates in the sample. Each subordinate in the total sample was, therefore, assigned a rank from 1 to 4, with intervals of .5 allowed. That is, an employee could be given a 1.5 as well as a 3.0. The rank of 1 indicated the highest performance and 4 was the lowest performance.

Methodology

Analysis of variance will be used to test the hypotheses. A four-way experimental design will be used with two levels of each variable.

The main effects are task repetitiveness, task independence, LC, LIS and motivation. Each of these was divided at the median into high and low categories. The dependent variables are satisfaction with work and performance.

Because there are two dimensions of task structure which are hypothesized to interact differently with LIS, LC and motivation, each will be used in a separate analysis

of variance. The analysis will be made for each of the dependent variables. Therefore, there are four analyses.

The four separate analyses of variance will be:

1. LC, LIS, subordinate motivation and task repetition with subordinate satisfaction with work.
2. LC, LIS, subordinate motivation and task repetition with corporate evaluators' ranking of subordinate performance.
3. LC, LIS, subordinate motivation and task independence with subordinate satisfaction with work.
4. LC, LIS, subordinate motivation and task independence with corporate evaluators' ranking of subordinate performance.

When significant main effects or interaction effects are found, a post-hoc analysis of means will be performed. This determines which pairs or combinations of means was contributing to the significant F value. Of the several tests available, the Scheffé test will be used because it is able to handle both pair and complex comparisons at the same alpha level. It can be used with or without equal cell sizes. Additionally, since the Scheffé test is the most conservative, if significant differences are found, any other such test of mean differences will also find differences (Kirk, 1972).

The Sample

The Managerial Needs and Effectiveness Study Questionnaire was administered to 391 employees consisting of managers in a large manufacturing organization at all levels, clerical workers, professional workers, technicians and blue collar workers (See Appendix E). They were selected by use of the organization's directory of employees, which consisted of 1500 employees. Every third individual was selected from the directory. From the list of 500, 50 were eliminated immediately because they had either moved to another unit in the company or had departed from the firm. Four hundred and fifty employees were sent a letter describing the Questionnaire administration and asking them to volunteer themselves if they so desired.

The questionnaire was administered during regular working hours. There were nine administrations over a period of three days. The individuals were sent letters, arranged times in which to come and complete the questionnaire. Fifty-nine individuals did not participate, reducing the sample to 391. Because of incomplete information in the responses, the final sample size was 354.

From the job descriptions of the individuals in the sample, a majority of the jobs were apparently highly repetitive and low on task independence. There were 159 individuals with job descriptions of clerical, tradesman or technicians. Another 109 were top level clerical workers, foremen or

entry level professionals. The remaining 86 individuals in the sample had jobs which were either top managers or professionals (See chart below).

Sample Characteristics

Job Description	Sample Size
1. Clerical, tradesman, technician	159
2. Top clerical, foreman, entry level professional	109
3. Top level managers, and professionals	86
Total sample	354

CHAPTER III

RESULTS

Findings

In this chapter the results of the statistical analysis are presented. Scheffé tests for differences in means follow the analysis of variance (when the F ratio is significant). Four hypotheses are tested and discussed below.

Hypothesis 1

Hypothesis 1: There will be an interaction among task repetitiveness, LIS, LC, motivation such that: Satisfaction with work would be higher under conditions of low task repetitiveness, high LIS, high LC and high motivation, than under conditions of high task repetitiveness, low LIS, low LC and low motivation.

Table 4 presents summary results testing Hypothesis 1.

The hypothesized relationship among high motivation, high LC, high LIS and low task repetitiveness was not supported. Instead, significant main effects were found for motivation ($p<.0001$), LC ($p<.0001$), and task repetitiveness ($p<.0001$). The category means in Table 5 indicate that subordinates who were highly motivated were more satisfied with work than those subordinates who were less motivated. Subordinates who had supervisors who were high in LC were more satisfied with work than those subordinates who had supervisors who were low in LC. Finally, the more

Table 4.--Satisfaction with work/task repetitiveness.

	Degrees of Freedom	Mean Square	F	Significance
MOTIVATION	1	5845.273	73.984	<.0001
CONSIDERATION	1	4505.053	57.021	<.0001
INITIATION	1	149.383	1.891	<.1701
TASK REPETI-TIVENESS	1	4885.228	61.833	<.0001
MOTIVATION X CONSIDERATION	1	422.745	5.351	<.021
MOTIVATION X INITIATION	1	122.269	1.547	<.214
MOTIVATION X TASK REPETITIVENESS	1	33.277	.421	<.517
CONSIDERATION X INITIATION	1	89.608	1.134	<.287
CONSIDERATION X TASK REPETITIVENESS	1	291.072	3.684	<.050
INITIATION X TASK REPETITIVENESS	1	35.783	.453	<.502
MOTIVATION X CONSIDERATION X INITIATION	1	10.326	.131	<.718
MOTIVATION X CONSIDERATION X TASK REPETITIVENESS	1	1.865	.024	<.878
MOTIVATION X INITIATION X TASK REPETITIVENESS	1	27.707	.351	<.554
CONSIDERATION X INITIATION X TASK REPETITIVENESS	1	102.887	1.302	<.255
MOTIVATION X CONSIDERATION X INITIATION X TASK REPETITIVENESS	1	246.619	3.122	<.078
ERROR	338	79.007		

Table 5.--Cell means/satisfaction with work.

MOTIVATION							
L				H			
34.21				41.73			
LC				LC			
L		H		L		H	
33.14		41.75		33.14		41.75	
LIS		LIS		LIS		LIS	
L	H	L	H	L	H	L	H
36.51	37.98	36.51	37.98	36.51	37.98	36.51	37.98
REP	REP	REP	REP	REP	REP	REP	REP
L H	L H	L H	L H	L H	L H	L H	L H
42.17 32.65	42.17 32.65	42.17 32.65	42.17 32.65	42.17 32.65	42.17 32.65	42.17 32.65	42.17 32.65
39.95 24.82	34.41 25.45	38.42 39.00	43.85 33.70	44.05 35.27	42.80 32.63	43.88 39.89	44.59 39.04

repetitiveness in the task, the less satisfying it was to the subordinate when compared to less repetitiveness in the task. Two interaction effects were found: between LC and task repetitiveness ($p<.05$) and between motivation and LC ($p<.021$).

Scheffé tests are reported in Table 6, examining the interaction between different levels of LC and repetitiveness.

Table 6.--Scheffé[a] tests for the interaction of LC and task repetitiveness for satisfaction with work.[b]

Low LC-Low Repetitiveness versus High LC-High Repetitiveness[b]	40.42 v. 38.12	n.s.
Low LC-Low Repetitiveness versus Low LC-High Repetitiveness	40.42 v. 28.80	Sig.
Low LC-Low Repetitiveness versus High LC-Low Repetitiveness	40.42 v. 43.61	n.s.
High LC-High Repetitiveness versus Low LC-High Repetitiveness	38.12 v. 28.80	Sig.
High LC-High Repetitiveness versus High LC-Low Repetitiveness	38.12 v. 43.61	Sig.
Low LC-High Repetitiveness versus High LC-Low Repetitiveness	28.80 v. 43.61	Sig.

[a]These Scheffé tests used the alpha level of .05.

[b]These Scheffé tests compared the mean of the dependent variable which is the weighted average of all the means in the cells where LC and task repetitiveness are low against the other mean of the dependent variable, which is the weighted average of all the means in the cells where LC and task repetitiveness are high. The figures shown in the Scheffé tables represent the weighted means of the dependent variable. This applies for all the Scheffé tests.

Table 6 shows six pairs of comparisons to determine significant interactions. Two comparisons are not significantly different, and four comparisons are significantly different.

For a more understandable discussion of the Scheffé tests, Table 7 represents a summary of the combinations of consideration and repetitiveness. The presentation of the combination of consideration and repetitiveness is made by using group-levels. Within each group-level, the means of the combinations are not significantly different. However, among group-levels, the means are significantly different. The superscripts indicate group-levels which are the same and which are different. Combinations which have at least one common superscript are the same, while absence of a common superscript indicates a significant difference.

Table 7.--Summary Scheffé tests for the interaction of LC and task repetitiveness for satisfaction with work.

Group Level 1	
High LC-Low Repetitiveness	43.61^{a}
Low LC-Low Repetitiveness	$40.42^{a,b}$
Group Level 2	
High LC-High Repetitiveness	$38.12^{b,c}$
Group Level 3	
Low LC-High Repetitiveness	28.80^{c}

The summary Table 7 indicates that subordinates who work under conditions of a highly considerate supervisor and low task repetitiveness are as satisfied with work as are subordinates who work under conditions of a low considerate supervisor and low task repetitiveness. However, the combination of high LC-low task repetitiveness is more satisfying than high LC-high repetitiveness and low LC-high repetitiveness. Subordinates are least satisfied with their work when they have a supervisor low in consideration and a task high in repetitiveness when compared to all other groups.

This suggests that there is no optimal relationship between LC and task repetitiveness for job satisfaction. Both high LC-low repetitiveness and low LC-low repetitiveness are equally as satisfying. However, high LC-high repetitiveness is less satisfying than high LC-low repetitiveness, but equal to low LC-low repetitiveness. Clearly, the least satisfying combination is low LC-high repetitiveness.

The Scheffé tests are reported in Table 8, examining the interactions between motivation and LC. Table 8 indicates that there is only one pair of means which was not significantly different. For a more easily interpretable presentation of these Scheffé tests, Table 9 is a summary of the combinations of motivation and LC. Within a group-level there are no significant differences in the means. However, between levels the means are significantly different, as also indicated by the use of superscripts.

Table 8.--Scheffé tests for the interaction of LC and motivation for satisfaction with work.

Low Motivation-Low LC versus High Motivation-High LC	29.88 v. 43.11	Sig.
Low Motivation-Low LC versus Low Motivation-High LC	29.88 v. 39.04	Sig.
Low Motivation-Low LC versus High Motivation-Low LC	29.88 v. 38.18	Sig.
High Motivation-High LC versus Low Motivation-High LC	43.11 v. 39.04	Sig.
High Motivation-High LC versus High Motivation-Low LC	43.11 v. 38.18	Sig.
Low Motivation-High LC versus High Motivation-Low LC	39.04 v. 38.18	n.s.

Table 9.--Summary Scheffé tests for the interaction of LC and motivation for satisfaction with work.

Group Level 1	
High Motivation-High LC	43.11[a]
Group Level 2	
Low Motivation-High LC	39.04[b]
High Motivation-Low LC	38.18[b]
Group Level 3	
Low Motivation-Low LC	29.88[c]

The results of Table 9 indicate that a highly motivated subordinate working for a highly considerate supervisor is more satisfied with work than the other combinations of motivation and LC. Persons not strongly motivated to work and who work for low considerate supervisors are least satisfied. When there is either high motivation or high consideration, there are moderate levels of satisfaction.

This suggests that both motivation and consideration need to be high in order to attain the highest level of satisfaction. And the least satisfying condition is when both motivation and consideration are low.

Hypothesis 2

Hypothesis 2: There will be a significant interaction effect among task repetitiveness, LIS, LC and motivation such that: Performance would be higher under conditions of high task repetitiveness, high LIS, high LC and high motivation, than under conditions of low task repetitiveness, low LIS, low LC and low motivation.

See Table 10 for the results of the analysis of variance test using performance as the dependent variable. The predicted four-way interaction of high LIS-high LC-high motivation-high task repetitiveness was not supported by the analysis of variance. Table 11 shows the performance scores under each of the conditions in the analysis of variance.

There were two significant main effects and one three-way interaction. Table 10 shows that LC had a significant ($p<.0004$) main effect on performance. Subordinates who perceived supervisors as being low in LC were rated

Table 10.--Performance/task repetitiveness.

	Degrees of Freedom	Mean Square	F	Significance
MOTIVATION	1	.175	.205	<.652
CONSIDERATION	1	11.118	12.976	<.0004
INITIATION	1	5.608	6.545	<.001
TASK REPETITIVENESS	1	.002	.003	<.958
MOTIVATION X CONSIDERATION	1	.414	.484	<.487
MOTIVATION X INITIATION	1	13.889	16.210	<.0001
MOTIVATION X TASK REPETITIVENESS	1	.025	.029	<.864
CONSIDERATION X INITIATION	1	.078	.092	<.763
CONSIDERATION X TASK REPETITIVENESS	1	.228	.266	<.606
INITIATION X TASK REPETITIVENESS	1	.057	.066	<.797
MOTIVATION X CONSIDERATION X INITIATION	1	2.773	3.237	<.073
MOTIVATION X CONSIDERATION X TASK REPETITIVENESS	1	1.548	1.807	<.179
MOTIVATION X INITIATION X TASK REPETITIVENESS	1	11.894	13.882	<.0003
CONSIDERATION X INITIATION X TASK REPETITIVENESS	1	.307	.358	<.550
MOTIVATION X CONSIDERATION X INITIATION X TASK REPETITIVENESS	1	.108	.126	<.724
ERROR	339	.857		

Table 11.--Cell means/performance.

MOTIVATION															
L								H							
2.02								2.06							
LC								LC							
L				H				L				H			
2.18				1.84				2.18				1.84			
LIS				LIS				LIS				LIS			
L		H		L		H		L		H		L		H	
2.00		2.16		2.00		2.16		2.00		2.16		2.00		2.16	
REP		REP		REP		REP		REP		REP		REP		REP	
L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H
2.001	2.09	2.001	2.09	2.001	2.09	2.001	2.09	2.001	2.09	2.001	2.09	2.001	2.09	2.001	2.09
2.33	1.75	1.91	2.28	1.90	2.19	1.00	1.79	1.79	2.19	2.71	2.38	1.22	1.83	2.30	2.07

higher performers than subordinates who perceived their supervisors as being high in LC. Similarly, supervisors who were rated as being high in LIS had subordinates who were significantly ($p<.001$) higher in the level of performance than subordinates who had supervisors low in LIS. This suggests that workers actually performed better under high LIS. There could be no leniency effect because the subordinates' ranking of performance was not determined by the supervisors for whom the subordinates worked.

The significant ($p<.0003$) three-way interaction was among motivation, LIS and task repetitiveness. Because of the complexity of a significant three-way interaction, a summary of the Scheffe tests is presented in Table 12 by grouping combinations of motivation, LIS and task repetitiveness into levels. Within each of the three group-levels of comparisons, the combinations of motivation, LIS and task repetitiveness were not significantly different from each other. However, combinations of motivation, LIS and task repetitiveness between group-levels 1 and 3 are significantly different. There were no significant differences between group-levels 1 and 2 or between 2 and 3, as noted by the superscripts.

This summary table indicates that there are seven combinations of motivation, LIS and task repetitiveness which show levels of performance that are not significantly different. Only group-level 3 (high motivation-low LIS-low

task repetitiveness) is significantly different from group-level 1 combinations. These results suggest that the combinations of high motivation-low LIS-low task repetitiveness lead to the lower performance ratings.

Table 12.--Summary Scheffé tests for the interaction of motivation, LIS, task repetitiveness for performance.*

Group-Level 1	
High motivation-High LIS-High Task Repetitiveness	2.19[a]
Low Motivation-Low LIS-Low Task Repetitiveness	2.15[a]
High Motivation-Low LIS-High Task Repetitiveness	2.09[a]
Low Motivation-High LIS-High Task Repetitiveness	2.05[a]
Group-Level 2	
High Motivation-High LIS-Low Task Repetitiveness	1.95[a,b]
Low Motivation-Low LIS-High Task Repetitiveness	1.89[a,b]
Low Motivation-High LIS-Low Task Repetitiveness	1.72[a,b]
Group-Level 3	
High Motivation-Low LIS-Low Task Repetitiveness	1.45[b,c]

*The Scheffé tests are reported in Appendix G.

Hypothesis 3

Hypothesis 3: There will be a significant interaction effect among task independence, LIS, LC and motivation such that: Satisfaction with work would be higher under conditions of high task independence, high LIS, high LC and high motivation, than under conditions of low task independence, low LIS and low LC and low motivation.

Table 13 presents a summary of the analysis of variance using satisfaction with work as the dependent variable. The hypothesized four-way interaction of high LC, high LIS, high motivation and high task independence did not occur. There were, however, two significant interaction effects: motivation-LC ($p<.019$) and LC-task independence ($p<.0001$). There were also three significant main effects. As indicated in Table 14, subordinates who had supervisors who were high in LC were significantly ($p<.0001$) more satisfied with their work than those subordinates with supervisors who were low in LC. Subordinates on tasks with high levels of independence were also significantly ($p<.0008$) more satisfied than subordinates on tasks with low independence. High subordinate motivation also resulted in subordinates who were significantly ($p<.0001$) more satisfied with their work than those subordinates who were low in motivation.

The Scheffé tests are shown in Table 15. This table examines the interaction between LC and task independence.

Table 13.--Satisfaction with work/task independence.

	Degrees of Freedom	Mean Square	F	Significance
MOTIVATION	1	5845.273	66.943	<.0001
CONSIDERATION	1	4505.053	51.594	<.0001
INITIATION	1	149.383	1.717	<.191
TASK INDEPENDENCE	1	1018.247	11.662	<.0008
MOTIVATION X CONSIDERATION	1	484.836	5.553	<.019
MOTIVATION X INITIATION	1	35.809	.410	<.522
MOTIVATION X TASK INDEPENDENCE	1	55.299	.633	<.427
CONSIDERATION X INITIATION	1	123.811	1.418	<.235
CONSIDERATION X TASK INDEPENDENCE	1	1339.101	16.023	<.0001
INITIATION X TASK INDEPENDENCE	1	41.825	.479	<.489
MOTIVATION X CONSIDERATION X INITIATION	1	22.489	.258	<.612
MOTIVATION X CONSIDERATION X TASK INDEPENDENCE	1	277.458	3.178	<.076
MOTIVATION X INITIATION X TASK INDEPENDENCE	1	1.311	.015	<.903
CONSIDERATION X INITIATION X TASK INDEPENDENCE	1	.404	.005	<.946
MOTIVATION X CONSIDERATION X INITIATION X TASK INDEPENDENCE	1	.0007	.000	<.998
ERROR	338	87.317		

Table 14.--Cell means/satisfaction with work.

MOTIVATION															
L								H							
34.21								41.73							
LC								LC							
L				H				L				H			
33.14				41.75				33.14				41.75			
LIS				LIS				LIS				LIS			
L		H		L		H		L		H		L		H	
36.51		37.98		36.51		37.98		36.51		37.98		36.51		37.98	
IND		IND		IND		IND		IND		IND		IND		IND	
L	H	L	H	L	H	L	H	L	H	L	H	L	H	L	H
34.65	39.95	34.65	39.95	34.65	39.95	34.65	39.95	34.65	39.95	34.65	39.95	34.65	39.95	34.65	39.95
25.28	34.08	24.26	34.21	37.50	41.50	38.12	41.21	35.91	40.81	33.61	40.27	43.83	43.65	41.93	43.19

Table 15.--Scheffé tests for the interaction of LC and task independence for satisfaction with work.

Low LC-Low Independence versus High LC-High Independence	28.23 v. 43.04	Sig.
Low LC-Low Independence versus Low LC-High Independence	28.23 v. 37.47	Sig.
Low LC-Low Independence versus High LC-Low Independence	28.23 v. 41.56	Sig.
High LC-High Independence versus Low LC-High Independence	43.04 v. 37.47	Sig.
High LC-High Independence versus High LC-Low Independence	43.04 v. 41.56	n.s.
Low LC-High Independence versus High LC-Low Independence	37.47 v. 41.56	Sig.

This table shows that all combinations of means were significantly different from each other except high LC-high independence versus high LC-low independence.

A summary of these Scheffé tests is presented in Table 16.

Table 16.--Summary of the Scheffé tests for the interaction of LC and task independence.

Group-Level 1	
High LC-High Independence	43.04[a]
High LC-Low Independence	41.56[a]
Group-Level 2	
Low LC-High Independence	37.47[b]
Group-Level 3	
Low LC-Low Independence	28.23[c]

This summary table indicates that subordinates who work for supervisors who are highly considerate have the highest level of satisfaction regardless of whether the degree of task independence is high or low as indicated by the superscripts. The least satisfying condition is when a subordinate works for a supervisor who has low consideration and his task is low in independence. Moderate satisfaction results when the supervisor is low in consideration, and the subordinate has high task independence.

An examination of the interaction between the means of the combinations of motivation and LC was also made by the Scheffé tests. The results of these tests are in Table 17 below.

Table 17.--Scheffé tests for the interaction of motivation and LC for satisfaction with work.

Low Motivation-Low LC versus High Motivation-High LC	29.31 v. 43.10	Sig.
Low Motivation-Low LC versus Low Motivation-High LC	29.31 v. 39.10	Sig.
Low Motivation-Low LC versus High Motivation-Low LC	29.31 v. 37.13	Sig.
High Motivation-High LC versus Low Motivation-High LC	43.10 v. 39.10	Sig.
High Motivation-High LC versus High Motivation-Low LC	43.10 v. 37.13	Sig.
Low Motivation-High LC versus High Motivation-Low LC	39.10 v. 37.13	n.s.

The comparison of the means of low motivation-high LC versus high motivation-low LC was the only non-significant test.

Summary Table 18 for these Scheffé tests is shown below.

Table 18.--Summary of Scheffé tests for the interaction of motivation and LC for satisfaction with work.

Group-Level 1	
High Motivation-High LC	43.10[a]
Group-Level 2	
Low Motivation-High LC	39.10[b]
High Motivation-Low LC	37.13[b]
Group-Level 3	
Low Motivation-Low LC	29.31[c]

This summary table shows one condition as the most satisfying. That condition is when highly motivated subordinates work for supervisors who are highly considerate. The least satisfying situation is when the subordinate is low on motivation and works for a supervisor who is low on consideration. Moderate levels of satisfaction result from conditions where either motivation or LC is high.

Of the conditions examined, it appears that the condition that tends to have the highest level of satisfaction is high motivation-high LC. If both of these conditions

are not met, the result will be a low level of satisfaction situation.

Hypothesis 4

Hypothesis 4: There will be a significant interaction among task independence, LIS, LC and motivation such that: Performance would be higher under conditions of low task independence, high LIS, high LC and high motivation than under conditions of high task independence, low LIS, low LC and low motivation.

The analysis of variance results for this hypothesis using performance as the dependent variable are shown below in Table 19. The results of the analysis of variance in Table 19 clearly show a significant four-way interaction. There were also two significant main effects: LC was significantly ($p<.0004$) related to performance. The cell means in Table 20 clearly show that high LC was associated with lower performance ranking of the subordinates than low LC. LIS is also significantly ($p<.01$) related to performance. That is, when the supervisor's behavior is high on direction and initiation the subordinates are ranked higher in their relative performance than when the supervisor's behavior is low in direction and initiation. The higher the LIS, the higher the performance rank.

The Scheffé tests are presented in summary form in Table 21 by grouping combinations of motivation, LC, LIS and task independence into levels. The significant four-way interaction was not the hypothesized relationship of high motivation-high LC-high LIS-low task independence.

Table 19.--Performance/task independence.

	Degrees of Freedom	Mean Square	F	Significance
MOTIVATION	1	.175	.205	<.651
CONSIDERATION	1	11.118	13.002	<.0004
INITIATION	1	5.608	6.558	<.001
TASK INDEPENDENCE	1	1.707	1.996	<.159
MOTIVATION X CONSIDERATION	1	.494	.578	<.448
MOTIVATION X INITIATION	1	13.902	16.258	<.0001
MOTIVATION X TASK INDEPENDENCE	1	.621	.726	<.395
CONSIDERATION X INITIATION	1	.096	.113	<.737
CONSIDERATION X TASK INDEPENDENCE	1	.015	.018	<.895
INITIATION X TASK INDEPENDENCE	1	.435	.509	<.476
MOTIVATION X CONSIDERATION X INITIATION	1	.2938	3.437	<.065
MOTIVATION X CONSIDERATION X TASK INDEPENDENCE	1	1.555	1.819	<.178
MOTIVATION X INITIATION X TASK INDEPENDENCE	1	1.807	2.114	<.147
CONSIDERATION X INITIATION X TASK INDEPENDENCE	1	2.957	3.458	<.064
MOTIVATION X CONSIDERATION X INITIATION X TASK INDEPENDENCE	1	5.384	6.296	<.013
ERROR	339	.855		

Table 20.--Cell means/performance.

MOTIVATION															
L								H							
2.02								2.06							
LC								LC							
L				H				L				H			
2.18				1.84				2.18				1.84			
LIS				LIS				LIS				LIS			
L		H		L		H		L		H		L		H	
2.00		2.16		2.00		2.16		2.00		2.16		2.00		2.16	
IND.		IND.		IND.		IND.		IND.		IND.		IND.		IND.	
L	H	L	H	LL	H	L	H	L	H	L	H	L	H	L	H
2.17	2.05	2.17	2.05	2.17	2.05	2.17	2.05	2.17	2.05	2.17	2.05	2.17	2.05	2.17	2.05
1.63	2.29	2.18	2.11	2.00	1.96	.83	2.0	2.25	2.02	2.36	3.00	1.5	1.38	2.21	2.21

Table 21.--Summary Scheffé tests for the interaction of motivation, LC, LIS, task independence for performance.*

Group-Level 1	
High Motivation-Low LC-High LIS-High Task Independence	3.00[a]
Group-Level 2	
High Motivation-Low LC-High LIS-Low Task Independence	2.36[b]
High Motivation-Low LC-Low LIS-Low Task Independence	2.25[b]
Low Motivation-Low LC-Low LIS-High Task Independence	2.29[b]
High Motivation-High LC-High LIS-High Task Independence	2.21[b]
High Motivation-High LC-High LIS-Low Task Independence	2.21[b]
Low Motivation-Low LC-High LIS-Low Task Independence	2.18[b]
Low Motivation-Low LC-High LIS-High Task Independence	2.19[b]
Low Motivation-High LC-High LIS-High Task Independence	2.11[b]
High Motivation-Low LC-Low LIS-High Task Independence	2.02[b]
Low Motivation-High LC-Low LIS-High Task Independence	2.00[b]
Group-Level 3	
High Motivation-High LC-Low LIS-High Task Independence	1.38[c]
High Motivation-High LC-Low LIS-Low Task Independence	1.50[c]
Low Motivation-Low LC-Low LIS-Low Task Independence	1.63[c]
Low Motivation-High LC-High LIS-Low Task Independence	1.41[c]
Group-Level 4	
Low Motivation-High LC-Low LIS-Low Task Independence	.83[d]

*The Scheffé tests are reported in Appendix G.

The results of summary Table 21 indicate that the combination of high motivation-low LC-high LIS-high task independence results in significantly higher performance than any other combination of these variables. On the other hand, low motivation-high LC-high LIS-low task independence results in significantly lower performance than any other combination of these variables. There are two moderate levels of performance rankings, superscripted b and c, which are also significantly different from all the other group levels.

Summary

There was a lack of support for the hypothesized interactions of motivation, LC, LIS and task structure, for satisfaction with work. This was true with task independence and task repetitiveness. There were significant interaction effects and main effects which were in agreement with the assumptions and predictions of the Path-Goal model. These will be discussed in detail in Chapter IV. LIS did not have, however, any effect upon subordinate satisfaction with work.

There was a lack of support for the hypothesized interaction of motivation, LC, LIS and task repetitiveness for performance. High motivation-high LIS-high task repetitiveness was associated with the highest performance ranking. It is interesting to notice, however, that the second highest performance level was low motivation-low LIS-low task repetitiveness. Close examination of the Scheffé tests

revealed that subordinate motivation was crucial in understanding the effects of LIS and task repetition.

In the hypothesis using motivation, LC, LIS and task independence with performance, there was a significant four-way interaction. It was contrary to the hypothesized interaction, however. The highest performance conditions were usually with low LC. Subordinate motivation, LIS and task independence interacted in the predicted manner (i.e. high motivation-high LIS-low task independence resulted in higher performance) but only when the subordinate motivation was high. However, opposite conditions of task independence, LIS and subordinate motivation were also associated with similar performance levels. The effect of the subordinate level of motivation was helpful in understanding the pattern of interaction of motivation, LC, LIS and task independence for performance.

Interpretation of these findings and their theoretical support for the Path-Goal model of leadership will be discussed in Chapter IV.

CHAPTER IV

SUMMARY AND CONCLUSIONS

In this chapter the results of the analyses are summarized and then discussed in relation to the predictions of the Path-Goal model. The presentation is made by grouping the task dimensions and the subordinate motivation variables and focusing upon the leadership behavior variables of LC (leader consideration) and LIS (leader initiation). Some practical implications of these findings are suggested. From the results of this research, some revised propositions are also offered. Finally, the limitations of the research and directions for future studies are suggested.

Satisfaction with Work

High Task Repetitiveness

There was a significant interaction effect between LC and task repetitiveness. Under high task repetitiveness, high LC resulted in a moderate level of satisfaction, less than the level of satisfaction from high leader consideration and low task repetitiveness, but not significantly different from the level of satisfaction from low leader consideration and low task repetitiveness. With high task

repetitiveness, low leader consideration was associated with the lowest level of satisfaction (see Table 7). Therefore, with high task repetitiveness, only high leader consideration is associated with a positive influence on subordinate satisfaction (see Table 22).

Table 22.--Summary table for level of satisfaction with work.

		Task Repetition		Subordinate Motivation		Task Independence	
		High	Low	High	Low	High	Low
LC	High	Mod.	High	High	Mod.	High	High
	Low	Low	Mod.	Mod.	Low	Mod.	Low

Low Task Repetitiveness

Under low task repetitiveness, the subordinates reported high levels of satisfaction when their supervisors were viewed as highly considerate (see Table 22). Similarly, when the subordinates worked on tasks with low repetitiveness, and their supervisors were seen as less considerate, the subordinates experienced moderate levels of satisfaction. Low task repetitiveness with leaders high on consideration was related to greater amounts of subordinate satisfaction than either high leader consideration with high task repetitiveness or low leader consideration with

high task repetitiveness. The lowest level of satisfaction was associated with low consideration from the supervisor while the subordinate worked on a highly repetitive task. Therefore, the most effective method by which to have the highest level of subordinate satisfaction is to have the subordinates work on tasks of low repetitiveness with highly considerate supervisors.

High Task Independence

A significant interaction effect occurred using task independence and leader consideration. Under high task independence and high leader consideration, high levels of satisfaction were indicated by the subordinates. Subordinates working on tasks with high independence, but with less considerate supervisors, experienced less satisfaction than if their supervisors were more considerate (see Table 16). This suggests that high leader consideration with high task independence is more satisfying than low leader consideration with high task independence.

Low Task Independence

A high level of satisfaction, however, also occurred under low task independence for the supervisors viewed as highly considerate (see Table 22). If the task had a low degree of independence, less considerate supervisors were seen by the subordinates as less satisfying than highly considerate supervisors. Therefore, when the

tasks have a low degree of independence, a high level of subordinate satisfaction occurs only with supervisors who are highly considerate. It thus appears that high subordinate satisfaction can be attained when there is a high or low degree of task independence as long as the leader is highly considerate. Therefore, high task independence is a necessary but not sufficient condition for the highest level of satisfaction.

The degree of task independence is not as strongly related to subordinate satisfaction as task repetitiveness because with task repetitiveness the only situation of high satisfaction was associated with high leader consideration and low task repetitiveness. High task repetitiveness and high leader consideration was associated with only a moderate level of subordinate satisfaction. This may occur because task repetitiveness can involve intrinsic outcomes, such as variety and task identity, while task independence refers to extrinsic outcomes of the task, such as the relationship between the subordinate and supervisor. Since intrinsic outcomes are more highly related to satisfaction than extrinsic outcomes, there may be more of an effect on satisfaction from task repetitiveness than task independence (House and Wahba, 1972).

High Subordinate Motivation

There was a significant interaction between motivation and leader consideration. The highly motivated

subordinates were the most satisfied when they worked for highly considerate supervisors (see Table 22). When their supervisors were less considerate, the highly motivated subordinates were less satisfied than when their supervisors were more considerate (see Table 9). This suggests that when dealing with highly motivated subordinates, the more considerate supervisors will have more satisfied subordinates than less considerate supervisors.

Low Subordinate Motivation

Low motivated subordinates, working with highly considerate supervisors, reported a moderate amount of satisfaction which was equivalent to the satisfaction reported by highly motivated subordinates working for less considerate supervisors. However, the least satisfied subordinates were those who were low in motivation and worked for less considerate supervisors. This indicates that less motivated subordinates are more likely to evidence low satisfaction than highly motivated subordinates. Even with highly considerate leaders, low motivated subordinates do not report as high a level of satisfaction as highly motivated subordinates with highly considerate supervisors. The highly motivated subordinates reported more satisfaction because they had higher job expectancies and greater amounts of intrinsic outcomes than less motivated subordinates.

Conclusions

LIS did not interact with LC, motivation, task independence or task repetitiveness to affect subordinate satisfaction as hypothesized. For the tasks with high independence, it might be that high LIS did not affect satisfaction because the subordinates' abilities were sufficient to solve the task requirements. The task requirements and the subordinates' abilities may have been more important than the supervisor's behavior. Thus, leader initiation could have limited impact on satisfaction because it was not related to the subordinates' path-goal instrumentalities (Evans, 1970). Under conditions of low task independence and high LIS, low levels of satisfaction were not reported, contrary to the Path-Goal model. It may be that subordinates react favorably to the structure in their work environments with attendant low role ambiguity. High amounts of structure were provided by both high LIS and low task independence. This suggests that individual preference and difference variables may also be important to consider in leadership research.

With low task repetitiveness, high LIS may not have provided any needed direction and guidance to the subordinates to attain their work goals and satisfaction as the Path-Goal model suggests. Perhaps policies and procedures existed in the organization which the subordinates could follow to complete their tasks, making leader initiation

irrelevant (Besco and Lawshe, 1959). This also indicates that even with high task repetitiveness, high LIS might not generate resentment and dissatisfaction from being seen as excessive direction and control as suggested by the Path-Goal model. Possibly the subordinates did not interpret the high leader initiation as redundant and frustrating to cause dissatisfaction, but merely as unnecessary.

Performance

There was a significant three-way interaction among motivation, LIS and task repetitiveness for subordinate performance. Leader consideration failed to interact with motivation, LIS and task repetitiveness for subordinate performance as hypothesized in the Path-Goal model, i.e. the highest performance condition was predicted to be associated with high motivation, high leader initiation, high leader consideration and high task repetitiveness.

High Subordinate Motivation and High Task Repetitiveness

When highly motivated subordinates worked on tasks which they perceived as highly repetitive and with supervisors high in initiating behavior, the subordinates were reported as having high performance (see Table 23).

The same was true for subordinates working on highly repetitive tasks who had supervisors low in initiating behavior (see Table 12). Apparently, the high structure of the job provided by high task repetitiveness was sufficient

to guide the subordinates' behavior without the assistance of the supervisors. Under conditions where there are highly motivated subordinates working on highly repetitive tasks, leader initiation behavior may not be an important variable affecting the subordinates' performance.

Table 23.--Summary table for level of performance/task repetitiveness.

LIS	Task Repetitiveness			
	High		Low	
	Motivation			
	High	Low	High	Low
High	High	High	Moderate	Moderate
Low	High	Moderate	Low	High

High Subordinate Motivation and Low Task Repetitiveness

The leader's initiating behavior is more important, however, for highly motivated subordinates working on tasks with a low degree of repetitiveness. The structure which was previously provided by the job from high task repetitiveness is reduced here. Some direction and guidance are needed by the subordinates as evidenced by the difference in subordinate performance under a highly initiating supervisor versus a less initiating supervisor. The lowest level

of performance for highly motivated subordinates was associated with low task repetitiveness and high leader initiation, i.e. some structure. Perhaps the highly motivated subordinates require guidance and direction for successful performance, and perform better when the guidance and direction come from the task dimension, not supervisory behavior. This point is treated more extensively later on in the section dealing with the consistency of these results in comparison to the Path-Goal predictions.

Low Subordinate Motivation and Low Task Repetitiveness

For the less motivated subordinates, working on tasks with low repetitiveness and for supervisors who provide little structure (i.e. low initiation) seems to provide a good opportunity for subordinates to perform well. However, when the supervisors are more initiating, the less motivated subordinates on tasks with low repetitiveness perform less well. The less motivated subordinates, on tasks with low repetitiveness, perform better with low LIS than with high LIS. Perhaps the less motivated subordinates prefer to work at their own pace. If this is the case, they may view their supervisors' attempts to initiate task behavior as undesirable and perform less effectively (Dessler and House, 1973).

Low Subordinate Motivation and High Task Repetitiveness

The less motivated subordinates perform well when the task is highly repetitive and when the supervisor is highly initiating. The subordinates, however, working on highly repetitive tasks, perform just as well when the supervisor is less initiating as when he is highly initiating. They attain the same level of performance as highly motivated subordinates on highly repetitive tasks, also regardless of the level of leader initiation. The leader's behavior in the situation of high task repetitiveness with less motivated subordinates is of less importance than where the subordinates have low motivation and their tasks are low in repetitiveness. Structure from the task may be seen as less personal and arbitrary and less harrassing than structure from the supervisor. And as long as structure comes from the task, additional structure from the supervisor does not hinder the performance of the less motivated subordinates. This issue of structure is further discussed in the section examining the consistency of the results with the Path-Goal model.

Conclusions

Leader consideration did not interact with motivation, leader initiation and task repetitiveness as predicted. Perhaps leader consideration was not viewed by the individuals in this research as smoothing the route to performance, or making the task more enjoyable for the

subordinates as the Path-Goal model suggests. Low leader consideration, on the other hand, did not hinder the subordinates' performance. This suggests that the subordinates may not have reacted to considerate behavior, whether it was given or withheld, by the supervisor. It is also reasonable to question the Path-Goal hypothesis that high leader consideration will smooth the routes which the subordinates encounter in order to perform their tasks. Considerate behavior may result in warm feelings, but since it is not goal directed, will probably not smooth the path to results.

High Subordinate Motivation and High Task Independence

Motivation, leader behavior and task independence did relate to subordinate performance, but not in the manner predicted by the Path-Goal model. There were, however, four significantly different levels of performance for different combinations of motivation, LC, LIS and task independence (see Table 21).

Under high task independence, the highly motivated subordinates perform best when their supervisors are highly initiating and low on consideration (see Table 24). However, under high task independence, the highly motivated subordinates perform less well when their supervisors are highly considerate and highly initiating or when their supervisors are less considerate and less initiating.

Table 24.--Summary table for level of performance/task independence.[a]

		LC							
		High				Low			
		Independence				Independence			
		High		Low		High		Low	
		Motivation		Motivation		Motivation		Motivation	
		High	Low	High	Low	High	Low	High	Low
LIS	High	Mod. 1	Mod. 1	Mod. 1	Low	High	Mod. 1	Mod. 1	Mod. 1
	Low	Mod. 2	Mod. 1	Mod. 2	Mod. 1	Mod. 2	Mod. 1	Mod. 2	Mod. 1

[a]There are four levels of performance: High, Moderate 1, Moderate 2, Low.

Under the conditions of high task independence with highly motivated subordinates, when leader consideration was high and leader initiation was low, the subordinates' performance was lower than the above conditions. So highly motivated individuals on highly independent tasks may react negatively to low structure and low consideration. Perhaps the highly motivated people are very task oriented and preferred leader behavior (i.e. some structure) which best aids them in their attainment of task objectives.

High Subordinate Motivation and Low Task Independence

Leader behavior which is highly structuring and less considerate positively influences performance for highly motivated subordinates on tasks with low degrees of independence. However, the performance of the highly motivated subordinate is also positively effected under low task independence when the supervisors' behavior is characterized as low in consideration and low in structure or high in consideration and high in structure. The performance of the highly motivated subordinates benefited least from highly considerate supervisors who provided little structure on tasks with low independence. Contrasting the low task independence with low task repetitiveness, highly motivated subordinates may work better when structure comes only from the supervisors, not the task. Low task independence may provide more structure and less discretion than the highly motivated subordinates desire. It may put the subordinates into more frequent personal contact with the supervisors than under high task repetitiveness. The highly motivated subordinates possibly perceive low supervisory consideration as more task oriented than high supervisory consideration and perform better with the former condition (Evans, 1970).

Low Subordinate Motivation and Low Task Independence

The influence on subordinates' performance was different when the subordinates were less motivated and the tasks had low levels of independence. The higher performance occurred when the less motivated subordinates on tasks with low independence had supervisors who were low on consideration and high on initiation. Under the same task condition (low independence), for less motivated subordinates, performance was less favorably influenced when the supervisors' behaviors were either low in consideration and low in initiation or high in consideration and high in initiation. The least favorable performance situation existed when the leaders were highly considerate and less initiating for the less motivated subordinates on tasks with low independence. This suggests that the leaders' initiation and consideration behaviors may be crucial for the less motivated subordinates' performance when they are working on tasks of low independence. In particular, high leader initiation behavior and low consideration is better for the subordinates' performance.

Low Subordinate Motivation and High Task Independence

When high independence characterizes the tasks, the influence of the supervisor's behavior on the performance of the less motivated subordinates is negligible. Regardless of the combinations of the leaders' behavior

characterized as consideration and initiation, the level of the less motivated subordinates' performance working on tasks with high independence is the same. In contrast to the situation of low motivation and high task independence, the supervisors' behavior may be less important because of the additional discretion given the less motivated subordinates under high task independence. When the less motivated subordinates had some discretion on their tasks, they were less likely to be resentful and reduce output.

Conclusions

Supervisory consideration again failed to interact in the predicted pattern with motivation, LIS and task independence for subordinate performance. Low leader consideration, not high consideration as predicted by the Path-Goal model, was associated with the highest level of performance in interaction with high subordinate motivation, high leader initiation and high task independence. High leader initiation has been shown to be related to performance because of its emphasis upon the achievement of task goals (Fleishman, et al., 1955). Low leader consideration may have been seen as negative reinforcement and performance was a method to avoid it. Performance was instrumental to avoiding low leader consideration (Evans, 1970). High leader consideration may have distracted the subordinates from their performance. The subordinates may also

have interpreted high consideration by the supervisors as a lack of concern for performance.

It should be noted that the highest levels of performance for highly motivated subordinates occurred under conditions of high task independence, not low task independence as hypothesized. This suggests that subordinates may prefer some discretion on their tasks and, when given the discretion perform better than under less discretion. The discretion may be a source of intrinsic satisfaction positively influencing subordinate performance (House and Wahba, 1972; Hackman and Lawler, 1971). The Path-Goal rationale was that performance would be higher under low task independence than high task independence because there would be more direction and guidance for the subordinate; however, low task independence would also be less satisfying than high task independence. As a result, the subordinate may withdraw from his situation and performance would be reduced. This withdrawal could be prevented, however, by an additional imposition of control and direction by a highly initiating supervisor. Evidently, high leader initiation with low task independence was too frustrating and dissatisfying and the subordinate withdrew despite the presence of the supervisor. This is discussed further in the section below.

Consistency of the Results With the Path-Goal Model Predictions

Satisfaction With Work

Task Repetitiveness

The Path-Goal model predicts that for tasks with low repetitiveness, high leader initiation would be related to high performance since it will provide direction and guidance to assist the subordinate in the completion of his tasks. This, in turn, will be associated with high satisfaction with work. The results (see Table 4) indicated that leader initiation had no such relationship to subordinate satisfaction. However, contrary to previous research (Nealey and Blood, 1968), leader initiation was not negatively related to subordinate satisfaction. The Path-Goal hypothesis that under high task repetitiveness, high leader initiation would be redundant and, therefore, dissatisfying was not supported.

Leader initiation did not have the affect predicted by the Path-Goal model. This may have resulted under the conditions where the subordinates knew their tasks well even though the tasks had low repetitiveness. If the subordinates have high ability, the leaders may become a less important determinant of subordinates' performance (House and Dessler, 1973). High leader initiation would not provide any needed direction and guidance.

If the task is highly repetitive, high leader initiation is hypothesized to be related to dissatisfaction

because of excessive control and direction. Excessive control and direction would also have existed under low task repetitiveness and high leader initiation if the subordinates were competent. The results, however, suggest that high leader initiation may not be seen as over-control and direction. Subordinates' preferences may be important to consider in further leadership research also.

High leader consideration was predicted by the Path-Goal theory to provide psychologically satisfying outcomes, e.g. recognition, praise, positive feedback. The data (see Table 6) indicate that there was higher satisfaction under high leader consideration and low task repetitiveness than under low leader consideration and high task repetitiveness. Thus, as found by other research (e.g. Vroom, 1960; Tosi, 1970), leader behavior in which leader behavior is seen as participative by subordinates is consistently related to satisfaction.

Task Independence

The Path-Goal model hypothesizes that when tasks have high independence, subordinate satisfaction will be higher when direction and guidance are present. High leader initiation should provide this direction and guidance in order that the subordinates may perform their tasks and achieve the satisfying outcomes from their performance. In this study, however, high leader initiation with high task independence did not have this effect. Nor was high

leader initiation associated with low satisfaction under either high or low task independence. Perhaps high leader initiation was not seen as excessive by the subordinates, but providing just the right amount of structure and direction by the subordinates.

Perhaps high leader initiation was not seen by subordinates on the highly independent tasks as needed to achieve successful performance. Therefore, high leader initiation would not have affected satisfaction in the manner predicted by the Path-Goal model. High leader initiation may not have been needed because the subordinates were competent and/or policies and procedures existed by which tasks could be completed without the assistance of the leader. Similarly, high leader initiation did not have a negative relationship to satisfaction under conditions of low task independence. The Path-Goal model predicts that dissatisfaction will be associated with high leader initiation and low task independence because low task independence is characterized by low subordinate discretion. Low subordinate discretion and high control and direction from high leader initiation are dissatisfying.

High leader consideration is predicted by the Path-Goal theory to be related to high satisfaction when it occurs under conditions of high task independence. The Path-Goal rationale is that high leader consideration provides satisfying outcomes. In addition, when combined with

tasks characterized by high independence, which should provide job outcomes such as challenge and responsibility, satisfaction should be substantially increased. Under conditions of high leader consideration and high task independence a high level of satisfaction occurred, consistent with the predictions of the Path-Goal model (see Table 16).

Performance

Task Repetitiveness

From the Path-Goal model, high performance is hypothesized to occur with high leader initiation and high task repetitiveness. This occurs because high leader initiation provides direction and control for the subordinate. There occurred a distinct pattern of interaction between leader initiation and task repetitiveness relating to performance (see Table 12). These patterns are distinguished by the level of subordinate motivation. A low level of performance occurred under conditions where the subordinates were highly motivated, working on tasks with low repetitiveness and who had supervisors who were low in initiation. This level of performance was significantly less than conditions where the subordinates were highly motivated, worked on highly repetitive tasks and for leaders who were either high or low in initiation. Also, the less motivated subordinates with low leader initiation on less repetitive tasks or with high leader initiation on highly repetitive tasks performed better than the highly motivated

subordinates working on tasks with low repetitiveness and who had supervisors who were low in initiation. These results suggest that leader initiation is performing in the manner hypothesized by the Path-Goal model, but only for highly motivated subordinates. Perhaps the highly motivated subordinates require or expect more direction and control than low motivated subordinates.

The highly motivated subjects may have common underlying personality characteristics which cause them to react positively to direction and control, while less motivated subordinates working under conditions of high task repetitiveness react adversely to direction and control. The effects of subordinate personality and needs in leadership and motivation literature have been demonstrated and suggested for inclusion in research on the Path-Goal model (Vroom, 1960; Tosi, 1970; House and Dessler, 1973).

Leader consideration was predicted by the Path-Goal model to be positively associated with high performance under high task repetitiveness. The reasoning is that high leader consideration is a source of pleasant outcomes such as praise and recognition. This is especially true for highly repetitive tasks, which lack the intrinsic sources of outcomes found in low task repetitiveness (House, 1971). High leader consideration provides sources of satisfaction and can make the path to performance more pleasant to travel. High task repetitiveness

does not require additional direction and guidance from the leader in order for the subordinates to meet their task requirement since the job is fairly well defined by the task condition.

The results of the analysis do not support this hypothesis from the Path-Goal model. High leader consideration may not have been seen as a source of satisfying outcomes or if it was, then these outcomes were unrelated to performance. If the path to performance was sufficiently satisfying, then additional praise and recognition from the leader may have had little effect on satisfaction. Perhaps high leader consideration may be a satisfying condition to work under but conditions which are highly satisfying may not lead to high performance.

Task Independence

The Path-Goal model predicts that high leader initiation will provide direction and control for tasks of low independence. House (1971) assumed that these tasks were dissatisfying. The subordinates would, therefore, seek to avoid their tasks in order to avoid dissatisfaction. Performance would be low. However, high leader initiation imposes direction and control over the subordinates to preclude their avoidance of the task. Performance will, therefore, be high. However, for tasks with high independence, high leader initiation results in high performance

by providing guidance and direction to assist the subordinates in their task requirements.

The data presented indicate that high, not low, task independence was associated with the highest performance (see Table 21). Low task independence was associated with the lowest performance level. Higher performance occurred with conditions of high leader initiation on tasks seen as highly independent. However, under low task independence, performance was significantly lower than under high task independence.

Higher levels of performance may have been associated with high task independence because high task independence provided more intrinsic outcomes than low task independence. Intrinsic outcomes have been demonstrated to be related to performance (Lawler, 1970; House and Wahba, 1972) and under high task independence, the direction and guidance from high leader initiation may have been needed by the subordinates but seen as unnecessary under low task independence. This would follow the Path-Goal logic. Performance under high task independence would have benefited from the intrinsic outcomes and the direction and guidance from high leader initiation. It is also possible that the high performing subordinates who knew their jobs, saw the behavior of their supervisors as highly task oriented. Therefore, they would have scored them as being high on leader initiation.

A further examination of the data (see Table 21) reveals some other interesting four-way interaction patterns. The highest performance occurred with highly motivated subordinates working on tasks with high independence for supervisors who were low in consideration and high in initiation. The second highest level of performance occurred with highly motivated subordinates working on tasks with low independence and for supervisors who were high in initiation and low in consideration. This was, however, significantly different from the highest level of performance. In the first case, there was only one type of direction and control and it was provided by high leader initiation. However, when the subordinates were under high leader initiation and low task independence, they had two forms of direction and control. Two sources of control and direction are possibly seen as excessive and frustrating.

The highly motivated subordinates performed better with just one form of control and direction, in particular, when it emanated from the task. For the less motivated subordinates, another pattern of relationships occurred. The highest performance was associated with low leader initiation and high task independence, i.e. low direction and control. This performance level was significantly below the combination of high motivation, low leader consideration, high leader initiation and high task independence, but equal to high motivation, low leader consideration, high leader initiation and low task independence.

The less motivated subordinates, however, performed as well under low direction and control (low LIS and high task independence) as under high direction and control (high LIS-low task independence). Although the subordinates did do as well without the direction and control as they did with it, perhaps they did well for different reasons. The direction and control from high leader initiation and low task independence obligated them to perform. They could have resented the imposition of two sources of control and reduced their performance. Without direction and control they were able to work as well as with it, and perhaps they were less resentful. Their performance level, however, was lower than the highly motivated subordinates because they were less motivated to work than the highly motivated subordinates.

High leader consideration is hypothesized by the Path-Goal model to interact with low task independence and result in high performance. The results were the opposite of the Path-Goal predictions, and inconsistent with previous research (Besco and Lawshe, 1959). It is shown that low leader consideration was associated with the lowest performance (Table 21). Low leader consideration may have been perceived as more task oriented and rated as such by high performing subordinates.

Limitation of Research

Ability Was Not Measured

Measures of subordinates' abilities were not included. If subordinates have high levels of abilities, the need for direction and guidance from the leader may be substantially reduced. High leader initiation may not have been perceived as providing needed direction and guidance since the work situation might be such that the subordinate may have had the ability to solve the task requirements. Consequently, the leader's behavior may have had little effect on task performance and satisfaction.

Individual Personality Differences

Nor were measures of personality or need differences, such as the needs for affiliation, power and achievement, included in this research. Personality differences and need differences may explain when subordinates will react favorably or unfavorably to conditions of high leader initiation and low task independence or high leader initiation and high task repetitiveness. Personality differences may explain why highly motivated subordinates work better with direction and control than low motivated subordinates (House and Dessler, 1973).

Causal Inferences From Data

It was not possible to say that leadership behavior with certain task dimensions for the highly or less motivated

subordinates resulted in high or low subordinate satisfaction or resulted in high or low subordinate performance. Because this field survey research gathered data on these variables at a single point in time, only statements of relationships and not causality could be made.

Objective Measures of Task Characteristics

Objective measures of task independence and task repetitiveness were not obtained in this research. It is possible that the range of task repetitiveness was not large enough to detect significant differences between low and high leader initiation for low and high task repetitiveness conditions.[5] Leader initiation would then be having the same effect for all tasks in the sample if the real range were narrow. The results of the analyses suggest that perhaps these findings and interpretations may only be applicable to environments which have tasks with a narrow range of objective task repetitiveness and independence if the real range is narrow.

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[5]Range refers to the difference between the highest and lowest scores on the perceived task repetitiveness (independence) scales. The size of the range is a function of individual perceptions and the objective task characteristics. Although this research sample had different job types, the objective task repetitiveness and independence may have been narrow. The means for the high and low groups indicate that it was quite possible. The low repetitiveness group had a mean of 8.22 and the high group had 12.89. The high independence group had a mean of 17.01 and the low group had 11.37. The total possible range for repetitiveness and independence was 4 to 20.

Evaluation of Performance

Another limitation of the research may be the method of performance evaluation by the use of Corporate Evaluators. These Corporate Evaluators were removed from the subjects' daily operations, but indicated that they were familiar with the performance of the subjects. The method of using Corporate Evaluators is similar to the field review method of performance evaluation. Both methods have similarly trained individuals to evaluate the work of the subjects. Using only a few evaluators, the field review method increases the reliability of the performance evaluations across evaluators (Miner and Miner, 1973). This increases the possibility of legitimate performance comparisons among subjects in different groups of the organization. To have used the immediate supervisors to appraise the performance of their subordinates would have made the performance comparability across groups more difficult. The reliability of the performance evaluation across several supervisors may have been less than with the Corporate Evaluators since each supervisor may have used his own criteria on which to evaluate his workers.

The advantages of using the Corporate Evaluator method of performance evaluation may have been negated if the Corporate Evaluators only had a limited sample of the subjects' work which was not representative of the subjects' performance. It is possible that the common instructions

given to the Corporate Evaluators were not sufficient "training" to insure a high reliability of performance evaluation among the Evaluators. Therefore, this would have made it difficult to interpret the meaning of the performance data in this research.

To resolve these possible limitations on establishing comparable and meaningful performance data, subjects' performance evaluation made by their supervisors should be obtained along with the Corporate Evaluators. Also, the evaluation should be made on several aspects of subordinate performance and effort instead of one global measure. This might help establish comparable performance evaluations and make it possible to measure convergent and discriminant validity from interrater and intertrait agreement (Campbell, Dunnette, Lawler and Weick, 1970).

Revised Propositions

There are several new propositions suggested by the results of this research. The propositions utilize the same leader behaviors and task dimensions as discussed above as well as subordinate motivation and their interaction in relationship to satisfaction and performance.

Satisfaction With Work

Highly motivated subordinates working for highly considerate leaders have a higher level of satisfaction than less motivated subordinates working for less considerate leaders.

Subordinates working for highly considerate leaders on tasks with low repetitiveness have a higher level of satisfaction than working for leaders who are less considerate on tasks which are high in repetitiveness.

Subordinates working for leaders who are highly considerate on tasks which are high in independence have a higher level of satisfaction than subordinates working for leaders who are less considerate on tasks which are low in repetitiveness.

Performance

Highly Motivated Subordinates

Highly motivated subordinates working for leaders who are highly initiating on tasks with high repetitiveness have higher levels of performance than highly motivated subordinates working for leaders who are less initiating on tasks with less repetitiveness.

Highly motivated subordinates working for leaders who are highly initiating and less considerate on highly independent tasks have higher levels of performance than highly motivated subordinates working for leaders who are less initiating and highly considerate on less independent tasks.

Less Motivated Subordinates

Less motivated subordinates working for leaders who are less initiating on tasks with high repetitiveness have higher levels of performance than less motivated subordinates working for leaders who are highly initiating on tasks high in repetitiveness.

Less motivated subordinates working for leaders who are less initiating and less considerate on highly independent tasks have higher levels of performance than less motivated subordinates working for leaders who are highly initiating and highly considerate on less independent tasks.

Practical Implications

There are several practical implications which the results of this research suggest. The implications are first

discussed in terms of satisfaction with work and then in terms of performance.

Satisfaction With Work

When high subordinate satisfaction with work is desired, the variables to examine are subordinate motivation, leader consideration and task repetitiveness and independence. The leader's initiating behavior did not appear to influence the subordinate's level of satisfaction with work in this research. Therefore, there are several conditions of subordinate motivation, task structure and leader behavior which are favorable for high subordinate satisfaction.

The more considerate and supportive the supervisor is, the more likely that his subordinates will report a high level of satisfaction with their work. Especially when the subordinates are highly motivated, increasing leader consideration will have a positive influence upon the subordinates' level of satisfaction. Obtaining highly motivated subordinates is also a positive action toward employing individuals who report high satisfaction with work.

The controversy concerning the effects of task structure on workers' attitudes is not resolved in the literature (for example, see Hulin and Blood, 1968; Shepard, 1969; Schuler, 1973; Wanous, 1973), but this research indicates that high task independence is associated

with a higher level of satisfaction than low task independence. Individuals in this sample evidently preferred freedom and discretion from their supervisors. Reducing the amount of dependence and reliance of the subordinates on their supervisors should have a positive benefit on the subordinates' levels of satisfaction.

Another task dimension perceived by the subjects was task repetitiveness. Low task repetitiveness was preferred by these subjects over high task repetitiveness. Reducing the repetition and routine of the tasks should also be associated with high levels of subordinate satisfaction. The level of subordinate satisfaction can also be positively influenced if the situation presents itself to manipulate both the leader behavior and task structure can be changed. This positive influence may occur if it is possible to augment the leaders' consideration for their subordinates and also to increase the degree of task independence. A benefit for subordinates' satisfaction should also accrue from increasing the leaders' consideration for their subordinates and reducing the degree of task repetitiveness.

The alternative(s) selected to increase satisfaction will depend upon several factors. The first is whether or not supervisory behavior can be changed through training. The International Harvester study has shown the possibilities of changing leader behavior, but maintaining that changed

behavior may be more difficult. Research on successfully changing leader behavior is not extensive, so relying on leader training may not be an effective alternative (Fiedler, 1965). There are so many stimuli in the environment which may not reinforce the new behavior that the subjects changed may revert back to the previous behavior (Bennis, Berlew, Schein and Steele, 1973).

Second, whether supervisors with certain behavior patterns, e.g. showing high consideration and low initiation, can be recruited and selected may be difficult for it requires determining, a priori, the applicants' leader behaviors. For example, what subordinates would rate the applicants' leader behavior: the subordinates in the new organization or the previous organization? And what if the new applicants have never been employed before?

Third, the ability to select and recruit highly motivated subordinates must be considered. This may pose similar difficulties as in recruiting individuals with certain leader behaviors. The measurement of individual motivation in this research was a function of individuals' expectancies and intrinsic and extrinsic outcomes. Expectancies and the intrinsic and extrinsic outcomes may be situationally unique. This being the case:

1. Would the applicant be exposed to his job environment and then his expectancies measured?

2. Would his first impression of the job environment be correct? Intrinsic and extrinsic outcomes may also be situationally unique.
3. How could the applicant be exposed to the organization's outcomes during a pre-employment selection process?

Fourth, the feasibility of restructuring tasks may be limited by technological and/or economic constraints. Plant size, competitive forces and given work force may also preclude task restructuring.

Because of these barriers to training, recruiting, selecting and job restructuring, it may be more appropriate to think in terms of matching the existing conditions--that is, determining the present leaders' behaviors, types of tasks, and types of motivated subordinates and match these in accordance with the research results. Before such specific matching can occur, additional data on subordinates' competence levels and individual differences variables may need to be collected and analyzed also.

Performance

In attempting to influence subordinates' performance levels, it may be essential to treat highly motivated subordinates differently from the less motivated subordinates.

The level of performance of a highly motivated subordinate may best be influenced by providing direction

and guidance. This direction and guidance may be derived from the leader's behavior and/or the nature of the task.

In the situation of task independence, reducing the degree of task independence may be seen as increasing control but not direction and guidance. This increased control will probably be detrimental to the subordinate's performance. Increasing task independence and the leader's initiating (guidance and direction) behavior should be efficacious to the subordinate's performance level. If the degree of task independence cannot be changed, increasing the leader's initiating behavior should prove beneficial to the subordinate's performance.

Additional guidance and direction can also result from a greater degree of task repetitiveness. Therefore, increasing the degree of task repetitiveness for highly motivated subordinates should be beneficial. Increasing the leader's initiation and structure along with the degree of task repetitiveness is also suggested as an inducement for higher performance.

With less motivated subordinates, the strategy for influencing performance is different. Less motivated subordinates prefer to have less direction and guidance from either the task structure or the leader's behavior. Accordingly, it will be beneficial for performance, if the less motivated subordinates work for a boss who has a low amount of initiation. While working for this type of supervisor,

performance can also be assisted by reducing the degree of task repetitiveness.

Both the highly motivated and less motivated subordinates respond favorably to increases in task independence, i.e. both types of subordinates appreciate less control from the supervisor in conjunction with the task. Additionally, both subordinate types work better under a supervisor who gives little consideration and support to them.

The selection of alternative(s) which influence performance is also confronted with the problems in selecting strategies to influence satisfaction. Thus the suggestion is made to consider matching the leader's behaviors with subordinate types working under certain task conditions. However, further data on subordinate competence levels and individual differences should be obtained before making conclusive match-ups among the task structure, leader behavior and subordinate motivation.

Suggestions for Future Research

Future research on the Path-Goal theory of leadership should examine individual difference variables such as needs, preferences and personality characteristics (House and Dessler, 1973). Individual differences could help to explain why highly motivated subordinates respond to task dimensions and leadership behaviors differently from less motivated subordinates.

Knowledge of the level of subordinate competence may aid in specifying when high leader initiation will be effective, e.g. conditions of high task independence or low task independence. Even if the subordinates are competent and the task requirements known, the subordinates may still prefer high leader initiation. Information of individual preferences may assist in explaining when high leader initiation will be preferred.

Since the individual's perceptions of the probabilities of effort to performance and performance to reward (Expectancy 1 and Expectancy 2) were added together in this research, it may be desirable to look at the expectancies separately and examine their effects on satisfaction and performance in interaction with task structure and leadership behavior.

The lack of predicted interaction of leader initiation and task repetitiveness and task independence for satisfaction and the lack of interaction of leader consideration with task repetitiveness and task independence for performance may have been due to a narrowness of range of task repetitiveness and task independence. This suggests that a broader spectrum of tasks be obtained with a large a priori objective difference in task repetitiveness and task independence.

Both supervisors' performance rankings and Corporate Evaluators' performance rankings should be obtained.

Additionally, information on the size and number of groups in the organization, and the administration and flexibility of the reward systems should be obtained. These are organization variables which may affect subordinates' attitudes and behavior, in addition to the leadership and task structure in the organization. The more important these other variables are, the less effect leadership, task dimension and subordinate motivation may have on the subordinates' performance and satisfaction.

Conclusion

The essence of these findings for leadership research and theory is that in explaining the effects of the supervisor's behavior upon the subordinate's performance and satisfaction, task repetitiveness, task independence and motivation of the subordinate should be considered. The precise theoretical framework of the leadership behavior task and motivational variables will vary when using satisfaction and performance as the dependent variables. When using satisfaction, the leader's initiating behavior did not perform as hypothesized. High satisfaction was not reported by subordinates who had highly initiating supervisors and who worked on highly independent tasks, nor with subordinates who had highly initiating supervisors and who worked on less repetitive tasks.

However, highly motivated subordinates were high performers when their leaders were highly initiating and

worked on tasks which were highly repetitive. The amount that the leader was considerate did not affect subordinate performance under task repetitiveness, but did positively affect subordinate performance when the subordinate was highly motivated and worked on a highly independent task for a highly initiating supervisor. Less motivated subordinates performed best under the less structured conditions of high task independence and less initiating and less considerate supervisors.

It was suggested that future research include more objective measures of task repetitiveness and task independence and performance rankings from the supervisors also. Having knowledge of individual differences and individual competence levels may provide additional insight into effective matching of task structure, level of subordinate motivation and leader behaviors.

APPENDICES

APPENDIX A

DESCRIPTION OF LEADERSHIP BEHAVIOR FACTORS

Appendix A

Description of Leadership Behavior Factors

Items	Table Number
Means and Standard Deviations for the Leadership Behavior Description Questionnaire Items	A-1
LBDQ Factor Analysis, 28 items, 2 factors	A-2, A-3

The following items were deleted from the original scale:

He talks down to subordinates.

He asks questions for the purpose of embarrassing others.

He constantly sets challenging goals.

Directions were provided as to what shall be done and how it should be done.

He puts subordinates down when correcting their work or giving them instructions.

Members of the group know what's expected of them.

He maintains definite standards of performance.

He makes his attitudes clear to the group.

He makes sure his part in the group is understood by group members.

He tries out his ideas on the group.

Table A-1.--Means, standard deviations, and item descriptions for leadership behavior.

Item	Mean	S.D.	Item Description
1	3.847	1.075	He shows he has confidence in his subordinate's ability to meet the objectives.
2	3.617	1.119	He asks subordinates for their ideas and suggestions.
3	3.308	1.196	He gives clear recognition for outstanding work.
4	3.516	1.150	He shows concern for the needs of the group members.
5	3.417	1.094	The objectives are clarified at the outset.
6	2.961	1.090	He tells subordinates about specific poor task performance.
7	3.062	1.068	He lets his subordinates know about specific poor task performance.
8	2.969	1.287	He tries to get all members of the group involved in the discussion of the problems.
9	3.293	1.183	He praises subordinates whose performance was especially good.
10	3.811	1.057	He makes an effort to be helpful.
11	3.104	1.103	He lets subordinates know how they are doing throughout the task.
12	2.948	.956	He gets on subordinates if their work is not as good as he thinks it should be.
13	3.109	1.117	He tries to suspend evaluation of alternatives until everyone has a chance to speak.

Table A-1.--Continued.

Item	Mean	S.D.	Item Description
14	3.554	1.045	He shows approval of subordinates who put forth their best effort.
15	2.215	1.281	He behaves as though others were not as smart or as competent as he is.
16	3.834	1.074	He is pleasant when telling others what to do.
17	2.671	1.037	He reprimands subordinates whose performance is below his expectations.
18	3.738	1.066	He encourages continual improvement.
19	3.635	1.115	He gives serious consideration to the ideas and suggestions of others.
20	3.435	1.054	He gives recognition to subordinates for improvement in their performance.
21	3.345	1.069	He tries to make the task enjoyable.
22	3.702	1.102	Members of the group know what is expected of them.
23	2.824	1.048	He is quick to let subordinates know when he thinks they are not performing well.
24	3.132	1.143	He decides what shall be done and how it shall be done.
25	3.733	1.074	He assigns group members to particular tasks.
26	3.114	1.305	He schedules the work to be done.

Table A-1.--Continued.

Item	Mean	S.D.	Item Description
27	3.534	1.187	He asks that the group members follow standard rules and regulations.
28	3.484	1.185	He encourages the use of uniform procedures.

Table A-2.--Factor loadings for leadership behavior items.[a]

Item	1	2
Factor 1: Leader Consideration		
19	83*	4
10	81*	7
14	80*	16
21	80*	1
3	80*	10
9	78*	13
2	77*	1
20	77*	13
4	77*	11
1	73*	-11
11	71*	32
18	70*	31
5	69*	22
16	69*	- 5
13	65*	- 3
22	62*	24
8	61*	17
15	-61*	31
Factor 2: Leader Initiation		
7	8	77*
23	2	77*
6	- 1	75*
12	- 1	75*
17	-13	72*
27	24	54*
24	- 6	52*
28	25	45*
26	11	36*
25	23	35*
Proportion of Variance		
	1	2
	.35	.16

[a]These item numbers correspond to item numbers in Table A-1. The succeeding Appendix tables follow the same format.

Table A-3.--Factor intercorrelations and loading matrix for leadership behavior items.

	19	10	14	21	3	9	2	20	4	1	11	18	5	16	13	22	8	15	7	23	6	12	17	27	24	28	26	25	501	502
19	70	67	66	66	62	62	71	67	62	62	55	61	58	56	58	54	53	49	11	9	4	2	-4	17	-7	17	7	22	84	13
10	67	66	60	68	60	57	61	56	61	57	62	62	59	63	52	53	49	49	9	9	3	2	-9	26	6	26	14	25	81	19
14	66	60	66	62	74	75	63	75	62	53	66	61	50	46	52	45	47	42	22	16	14	11	4	19	-2	18	12	25	81	24
21	66	68	62	63	61	59	60	59	63	55	61	58	54	60	50	50	45	50	6	4	-3	-1	-10	22	-3	21	14	14	79	11
3	62	60	74	61	64	81	61	69	62	53	66	55	54	45	50	42	51	40	18	10	9	11	-0	16	-3	15	9	13	80	16
9	62	57	75	58	81	61	58	71	59	50	65	55	51	43	51	39	55	37	19	14	11	12	4	17	-6	15	6	18	78	19
2	71	61	63	60	61	58	59	53	59	64	54	56	48	48	53	42	52	48	12	3	4	4	-4	12	-9	14	2	15	77	9
20	67	56	75	59	69	71	53	61	60	48	61	63	52	47	51	46	46	39	16	15	10	14	3	20	-3	13	4	21	78	19
4	62	68	62	63	62	59	59	60	59	57	59	55	51	55	50	47	47	39	16	9	7	9	-5	25	4	22	14	24	77	21
1	62	57	53	55	53	50	64	48	57	50	42	46	49	53	46	50	39	55	8	-8	-3	-10	-14	16	-13	14	0	13	71	-1
11	55	62	66	61	66	65	54	61	59	42	55	58	57	44	44	43	51	28	30	27	19	26	11	29	14	29	26	27	74	40
18	61	62	61	58	55	55	56	63	55	46	58	52	59	51	38	49	42	27	26	26	22	19	9	37	12	34	14	35	72	40
5	59	58	50	54	54	51	48	52	51	49	57	59	49	47	41	65	42	38	19	13	11	10	-0	39	15	36	22	27	70	33
16	56	63	46	60	45	43	48	47	55	53	44	51	47	44	39	47	36	50	-3	-4	-6	-9	-14	21	1	25	11	19	67	7
13	58	52	52	50	50	51	53	51	50	46	44	38	41	39	41	29	57	42	10	-1	4	-0	-4	3	-15	8	1	12	64	3
22	54	53	45	50	42	39	42	46	47	50	49	49	65	47	29	39	34	37	21	20	12	11	2	37	17	34	23	24	62	34
8	53	49	47	45	51	55	52	46	47	39	51	42	42	36	57	34	38	29	19	10	14	19	7	18	-1	24	12	18	62	24
15	49	49	42	50	40	37	48	39	39	58	28	27	38	50	42	37	29	31	-15	-19	-14	-22	-25	1	-27	-2	-7	-5	56	-23
7	11	9	22	6	18	19	12	16	16	0	30	26	19	-3	10	21	19	-15	48	62	81	56	59	24	24	19	14	20	18	69
23	9	9	16	4	10	14	3	15	9	-8	27	26	13	-4	-1	20	10	-19	62	52	62	66	67	28	30	21	18	17	12	72
6	4	3	14	-3	9	11	4	10	7	-3	19	22	11	-6	4	12	14	-14	81	62	44	55	59	26	25	15	10	13	9	67
12	2	2	11	-1	11	12	4	14	9	-10	26	19	10	-9	-0	11	19	-22	56	66	55	49	65	29	30	22	17	21	8	70
17	-4	-9	4	-10	-0	4	-4	3	-5	-14	11	9	-0	-14	-4	2	7	-25	59	67	59	65	41	24	27	15	6	14	-4	64
27	17	26	19	22	16	17	12	20	25	16	29	37	39	21	3	37	18	1	24	28	26	29	24	37	42	73	42	31	28	61
24	-7	6	-2	-3	-3	-6	-9	-3	4	-13	14	12	15	1	-15	17	-1	-27	24	30	25	30	27	42	30	34	46	34	-2	55
28	17	26	18	21	15	18	14	13	22	14	28	34	36	25	8	34	24	-2	19	21	15	22	15	73	34	25	37	35	28	50
26	7	14	12	14	9	6	2	4	14	0	26	14	22	11	1	23	12	-7	14	18	10	17	6	42	46	37	16	32	14	40
25	22	25	25	14	13	18	16	21	24	13	27	35	27	19	12	24	18	-5	20	17	13	21	14	31	34	35	32	16	26	40
501	84	81	81	79	80	78	77	78	77	71	74	72	70	67	64	62	62	56	18	12	9	8	-4	28	-2	28	14	26	100	24
502	13	19	24	11	16	19	9	19	21	-1	40	40	33	7	3	34	24	-23	69	72	67	70	64	61	55	50	40	40	24	100

APPENDIX B

DESCRIPTION OF INTRINSIC OUTCOMES

FACTOR ANALYSIS

Appendix B

Description of Intrinsic Outcomes Factor Analysis

Items	Table Number
Means and Standard Deviations for the Intrinsic Outcomes	B-1
Intrinsic Outcomes Factor Analysis, 23 items, 2 factors	B-2, B-3

The following items were dropped from the original scale:

of relief
that I have guided other people
of togetherness with other people
of exasperation
of fatigue
of having worked with others
of unhappiness
of having gotten to know others better
that I have been able to help other people
of joy
that I have influenced things to run smoothly
of having enjoyed frequent contact with other people
nervousness
of my ability to influence others
of group membership
that the result is as good as could have been achieved
learning
involved
nervous
restricted
afraid
active
angry
doing my own thing
furthering my own career
talking and joking with others
helping others
working as a team member
getting to know new people
sympathizing with others
keeping others happy
making new or better friends

Table B-1.--Means, standard deviations and item descriptions for intrinsic outcomes.

Item	Mean	S.D.	Item Description
1	1.200	.488	Of being skillful.
2	1.522	.661	Of satisfaction.
3	1.579	.676	That I have met high standards.
4	1.644	.703	That I have helped other people.
5	1.101	.378	Of increased importance.
6	2.013	.441	Of pleasantness.
7	1.564	.791	Of having completed a total task rather than only part of one.
8	1.353	.660	That I have successfully spent my time convincing others what to do.
9	1.444	.686	Of a sense of pride.
10	1.597	.689	That I can supervise a number of people.
11	1.878	.503	That I have accomplished something significant.
12	1.597	.750	That I have successfully managed other people.
13	1.361	.654	Achieving something significant.
14	1.348	.610	Meeting high standards.
15	1.439	.678	Able to measure my own performance.
16	1.953	.342	Happy.
17	1.842	.675	Persuading others.
18	1.608	.691	Supervising others.

Table B-1.--Continued.

Item	Mean	S.D.	Item Description
19	1.166	.482	Telling others what to do and how to do it.
20	1.751	.728	Coordinating efforts of others.
21	1.268	.580	Trying to get others to cooperate.
22	1.629	.752	Trying to convince others.
23	1.390	.656	Trying to sell an idea.

Table B-2.--Factor loadings for the intrinsic outcomes.

Item	1	2
Factor 1: Intrinsic Outcome of Work Accomplishment		
9	62*	2
11	58*	23
14	55*	16
2	54*	- 3
3	52*	19
13	51*	18
1	49*	7
16	42*	13
4	42*	24
6	42*	4
5	41*	29
7	39*	17
15	33*	2
Factor 2: Intrinsic Outcome of Work Behavior		
18	10	67*
22	6	66*
21	1	64*
12	14	64*
17	19	62*
20	18	58*
23	6	55*
10	16	55*
19	19	49*
8	19	47*
Proportion of Variance		
	1	2
	.14	.17

Table B-3.--Factor intercorrelations and loading matrix for intrinsic outcomes.

	9	11	14	2	3	13	1	16	4	6	5	7	15	18	22	21	12	17	20	23	10	19	8	501	502
9	37	35	26	44	27	28	31	33	22	33	28	24	14	5	10	5	9	11	17	6	14	11	7	61	16
11	35	40	36	35	31	42	33	21	26	20	34	30	17	26	20	13	22	28	19	18	24	18	20	64	35
14	26	36	33	15	48	39	26	20	34	14	30	20	22	10	15	16	18	22	12	17	13	16	14	58	26
2	44	35	15	23	14	15	30	25	24	24	14	16	22	9	0	0	3	6	16	-2	6	18	8	48	11
3	27	31	48	14	28	32	19	17	33	19	28	27	12	17	12	15	20	18	18	11	15	19	19	53	28
13	28	42	39	15	32	28	23	28	30	21	24	16	9	18	15	10	18	20	17	20	14	15	14	53	27
1	31	33	26	30	19	23	24	14	16	20	32	21	21	12	9	7	17	10	16	5	14	6	7	49	18
16	33	21	20	25	17	28	14	18	16	31	16	15	12	15	12	11	9	20	18	4	11	17	18	42	23
4	22	26	34	24	33	30	16	16	21	16	15	21	12	9	17	19	20	24	25	21	17	18	24	45	33
6	33	20	14	24	19	21	20	31	16	15	14	9	10	7	5	3	6	13	13	5	9	12	17	39	15
5	28	34	30	14	28	24	32	16	15	14	21	23	10	27	24	15	25	30	21	17	28	16	15	46	37
7	24	30	20	16	27	16	21	15	23	9	23	13	24	10	18	11	17	11	13	17	16	15	15	42	24
15	14	17	22	22	12	9	21	12	12	10	10	24	9	4	3	-1	8	7	6	1	3	12	15	31	10
18	5	26	10	9	17	18	12	15	3	7	27	10	4	49	38	33	51	46	47	29	39	49	30	27	70
22	10	20	15	0	12	15	9	12	17	5	24	18	3	38	41	56	34	42	32	53	24	32	25	25	64
21	5	13	16	0	15	10	7	11	19	3	15	11	-1	33	56	36	34	34	43	43	31	22	22	20	60
12	9	22	18	3	20	13	17	9	20	6	25	17	8	51	34	34	42	38	33	22	55	31	39	31	65
17	11	28	22	6	19	20	10	20	24	13	30	11	7	46	42	34	38	42	40	35	32	34	37	35	65
20	17	19	12	15	18	17	16	18	25	13	21	13	6	47	32	43	33	40	38	29	35	37	28	33	62
23	6	18	17	-2	11	20	5	4	21	5	17	17	1	29	53	43	22	35	29	25	16	15	27	22	50
10	14	24	13	6	15	14	14	11	17	9	28	16	3	39	24	31	55	32	35	16	29	24	33	29	54
19	11	18	16	18	19	15	6	17	18	12	16	15	12	49	32	22	31	34	37	15	24	26	28	31	51
8	7	20	14	8	13	14	7	18	24	17	15	15	15	30	25	22	39	37	28	27	33	28	25	31	50
501	61	64	58	48	53	53	49	42	45	39	46	42	31	27	25	20	31	35	33	22	29	31	31	100	48
502	16	35	26	11	28	27	18	23	33	15	37	24	10	70	64	60	65	65	62	50	54	51	50	48	100

APPENDIX C

DESCRIPTION OF TASK STRUCTURE

FACTOR ANALYSIS

Appendix C

Description of Task Structure Factor Analysis

Items	Table Location
Means and Standard Deviations for Task Structure	C-1
Task Structure, Factor Analysis, 8 items, 2 factors	C-2, C-3

The following items were deleted from the original scale:

How much are you required to depend upon your supervisor for the financial resources necessary for the performance of your job?

How often are you given assignments requiring you to search for a solution without directions from your supervisor?

How much do your rewards depend upon your supervisor?

How much do your rewards depend upon your performance?

In your effort to get ahead on your job, to what extent do you act as an innovator?

To what extent do the resources you receive depend upon your supervisor?

To what extent do you set objectives, goals, and procedures for your job rather than following directions or established procedures?

Table C-1.--Means, standard deviations and item descriptions for task dimensions.

Item	Mean	S.D.	Item Description
1	4.117	1.000	To what extent are you able to act independently of your supervisor in performing your task functions?
2	3.448	.929	How often does the supervisor keep check on you and closely observe your work?
3	2.285	1.104	How repetitious are your duties on your present job?
4	2.593	1.273	How much variety is there in the work tasks which you perform?
5	3.000	1.590	Every job is confronted by certain routine and repetitive demands; what percent of the activities or work demands connected with your job would you consider to be of a routine nature?
6	3.220	1.031	To what extent are you able to schedule and plan your task requirements independent of others in the organization?
7	3.666	1.196	To what extent do you control your job and pace of your work?
8	3.720	1.094	What is the average time it takes you to complete an assigned task?

Table C-2.--Factor loading for task dimensions.

Item	1	2
Factor 1: Task Independence		
4	76*	-10
3	63*	-23
5	-51*	10
8	32*	11
Factor 2: Task Repetitiveness		
7	- 9	76*
1	- 4	74*
6	1	62*
2	-25	33*
Proportion of Variance		
	1	2
	.18	.21

Table C-3.--Factor intercorrelations and loading matrix for task dimensions.

	4	3	5	8	7	1	6	2	501	502
4	77	56	38	24	-15	-10	- 9	-17	91	-20
3	56	28	21	8	-26	-19	- 9	-17	52	-29
5	38	21	22	19	-13	- 8	- 5	-28	46	-22
8	24	8	19	8	10	5	- 1	- 5	27	4
7	-15	-26	-13	10	58	57	49	23	-20	77
1	-10	-19	- 8	5	57	57	41	30	-15	76
6	- 9	- 9	- 5	- 1	49	41	33	16	-11	57
2	-17	-17	-28	- 5	23	30	16	11	-31	33
501	91	52	46	27	-20	-15	-11	-31	100	-31
502	-20	-29	-22	4	77	76	57	33	-31	100

APPENDIX D

INSTRUCTIONS GIVEN TO THE CORPORATE EVALUATORS

Appendix D

Instructions Given to the Corporate Evaluators

The data we are gathering will be used only as part of our research project on managerial effectiveness and motivation. The responses of individuals will be held in the strictest confidence. It is particularly important to the success of this project that you complete this form conscientiously. Without this information from you, data cannot be related with the information from the individuals in your work group, It would then be impossible to reach any conclusions concerning managerial effectiveness and motivation.

It is well known that employees differ widely in their overall job performance. There are, of course, a number of things that influence how well someone performs his job. For this ranking we are interested in your overall evaluation, all things considered, of how well you feel the employees in the work group given you are performing their jobs. Would you please rank the people in the work group on the basis of how well you feel they are performing their jobs and contributing to the effectiveness of the company relative to other employees in the work group. Rank the employees from 1 to 4. You may use intervals of .5, e.g. 1.5 as well as 3.0, 2.0 etc. The highest performance rank is 1. The lowest rank is 4.

APPENDIX E

MANAGERIAL NEEDS AND EFFECTIVENESS STUDY QUESTIONNAIRE

Appendix E

Managerial Needs and Effectiveness Study Questionaire

EVn

In this part of the questionnaire we are trying to identify what you think are the most important characteristics of a job to you personally.

Please indicate how you would rank the importance of the following job characteristics to you personally. Rank the items numerically, using 10 as the highest ranking and 1 as the lowest. Use each number 1 through 10 only once.

Please rank all items, even though you may find it difficult to do so.

.....

58.___opportunity to earn more money.

59.___chances for subsequent promotion.

60.___recognition of your work by others.

61.___assurance that the job will not be eliminated.

62.___challenging work.

63.___opportunity to work with pleasant employees.

JOB DESCRIPTION INVENTORY

The purpose of this section of the questionnaire is to determine how you feel about your job and what you think are the most important aspects of work for you.

You will be asked to describe your feelings about what job characteristics are important to you. All information that you provide will be kept strictly confidential. Many of the questions will be repeated, using slightly different phrasing. This repetition is not intended as a check on your honesty or consistency. Rather, we have found that questionnaires yield more reliable information if the ideas are communicated in several different ways.

Please answer one question at a time without thinking about your prior answers.

The following sections deal with how you feel <u>while working toward</u> accomplishment of job goals <u>or</u> while <u>carrying out</u> necessary tasks. Please indicate these feelings by checking the column with the number that most reflects your feelings while you are engaged in work activities.

.....

Think of your present job. What is it like most of the time? In the blank beside each word given below, write:

1 for "Yes" if it describes your work
2 for "No" if it does not describe it
3 if you cannot decide

Think of the pay you get now. How well does each of the following words describe your present pay? In the blank beside each word, put:
1 for "Yes" if it describes your pay
2 for "No" if it does not describe it
3 if you cannot decide

PLEASE FILL IN EVERY BLANK

.....

WORK ON PRESENT JOB

1____fascinating	10____useful
2____routine	11____tiresome
3____satisfying	12____healthful
4____boring	13____challenging
5____good	14____on your feet
6____creative	15____frustrating
7____respected	16____simple
8____hot	17____endless
9____pleasant	18____gives sense of accomplishment

IVa

Think of how you usually feel immediately after accomplishing job goals. How well does each of the following works describe your feelings? In the blanks beside each work, put:

1 if it describes the feelings you experience after completing a job goal
2 if it does not describe them
3 if you cannot decide

PLEASE FILL IN EVERY BLANK

.....

When I accomplish my job goals I have a feeling:

1____of being skillful
2____of relief
3____that I have guided other people
4____of togetherness with other people
5____of satisfaction
6____of exasperation
7____that I have met high standards
8____that I have helped other people
9____of having been creative and innovative
10____of increased importance
11____of fatigue
12____that I have enjoyed being with others
13____of pleasantness
14____of having worked with others
15____of having completed a total task rather than only part of one
16____of unhappiness
17____that I have successfully spent my time convincing people what to do
18____of having gotten to know others better
19____of a sense of pride
20____that I can supervise a number of people
21____that I have accomplished something significant
22____of joy
23____that I have been able to help other people
24____that I have influenced things to run smoothly
25____of having enjoyed frequent contact with other people
26____nervousness
27____of my ability to influence others
28____of group membership
29____that the result is as good as could have been achieved
30____that I have successfully managed other people

IVb

Think of what you are usually involved in and how you usually feel while carrying out your work. How well does each of the following words describe you at work? In the blank beside each word below, put:

1 if it describes you at work
2 if it does not describe you at work
3 if you cannot decide.

PLEASE FILL IN EVERY BLANK

.....

On my present job I am often:

31___learning
32___involved
33___restricted
34___nervous
35___afraid
36___active
37___angry
38___achieving something significant
39___meeting high standards
40___able to measure my own performance
41___happy
42___doing my own thing
43___furthering my career
44___persuading others
45___supervising others
46___telling others what to do and how to do it
47___coordinating efforts of others
48___trying to get others to cooperate
49___trying to convince others
50___trying to sell an idea
51___talking and joking with others
52___helping others
53___working as a team member
54___getting to know new people
55___sympathizing with others
56___keeping others happy
57___making new or better friends

LBDQ

Following is a list of items that may be used to describe the behavior of your superior or supervisor. Each item describes a specific kind of behavior but does not ask you to judge whether the behavior is desirable or undesirable. Although some items may appear similar, they express differences that 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 supervisor.

Note that the term "group" as used in the questions refers to a department, division, or other unit of organization that is supervised by the person being described. The term "members" refers to all the people in the unit of organization that are supervised by him.

Please indicate the extent to which you think best describes his behavior by circling the appropriate number:

		very little	seldom	somewhat	often	great extent
74.	He shows he has confidence in his subordinates' ability to meet the objectives.	1	2	3	4	5
75.	He asks subordinates for their ideas and suggestions.	1	2	3	4	5
76.	He gives clear recognition for outstanding work.	1	2	3	4	5
77.	He talks down to subordinates.	1	2	3	4	5
78.	He shows concern for the needs of the group members.	1	2	3	4	5
79.	The objectives are clarified at the outset.	1	2	3	4	5
80.	He tells subordinates about specific poor task performance.	1	2	3	4	5
81.	He lets his subordinates know about specific poor task performance.	1	2	3	4	5
82.	He tries to get all members of the group involved in the discussion of the problems.	1	2	3	4	5
83.	He praises subordinates whose performance was especially good.	1	2	3	4	5
84.	He asks questions for the purpose of embarrassing others.	1	2	3	4	5
85.	He makes an effort to be helpful.	1	2	3	4	5
86.	He lets subordinates know how they are doing throughout the task.	1	2	3	4	5

LBDQ

		very little	seldom	somewhat	often	great extent
87.	He gets on subordinates if their work is not as good as he thinks it should be.	1	2	3	4	5
88.	He constantly sets challenging goals.	1	2	3	4	5
89.	He tries to suspend evaluation of alternatives until everyone has a chance to speak.	1	2	3	4	5
90.	He shows approval of subordinates who put forth their best effort.	1	2	3	4	5
91.	He behaves as though others were not as smart or as competent as he is.	1	2	3	4	5
92.	He is pleasant when telling others what to do.	1	2	3	4	5
93.	Directions were provided as to what should be done and how it should be done.	1	2	3	4	5
94.	He reprimands subordinates whose performance is below his expectations.	1	2	3	4	5
95.	He encourages continual improvement.	1	2	3	4	5
96.	He gives serious consideration to the ideas and suggestions of others.	1	2	3	4	5
97.	He gives recognition to subordinates for improvement in their performance.	1	2	3	4	5
98.	He puts his subordinates down when correcting their work or giving them instructions.	1	2	3	4	5
99.	He tries to make the task enjoyable.	1	2	3	4	5
100.	Members of the group know what is expected of them.	1	2	3	4	5
101.	He is quick to let subordinates know when he thinks they are not performing well.	1	2	3	4	5
102.	He lets group members know what is expected of them.	1	2	3	4	5
103.	He tells what shall be done and how it shall be done.	1	2	3	4	5

LBDQ

		very little	seldom	somewhat	often	great extent
104.	He assigns group members to particular tasks.	1	2	3	4	5
105.	He maintains definite standards of performance.	1	2	3	4	5
106.	He makes his attitudes clear to the group.	1	2	3	4	5
107.	He makes sure his part in the group is understood by group members.	1	2	3	4	5
108.	He tries out his ideas on the group.	1	2	3	4	5
109.	He schedules the work to be done.	1	2	3	4	5
110.	He asks that the group members follow standard rules and regulations.	1	2	3	4	5
111.	He encourages the use of uniform procedures.	1	2	3	4	5

In order to perform the required analysis of the data on leadership effectiveness and motivation which will allow us to combine certain types of managers with certain types of jobs for increased motivation and satisfaction, please indicate the name of your supervisor:

_____

.....

The purpose of the following items is to seek a job description of the job on which you work. Included are descriptions of how independent you are on your job and how much variety you have.

Please indicate the choice which best describes the characteristic of your job.

112. To what extent are you able to act independently of your supervisor in performing your task functions?

Hardly ever _____
Seldom _____
Occasionally _____
Frequently _____
Almost always _____

113. How much are you required to depend on your superiors for the non-financial resources (information, supplies) necessary for the performance of your job?

Almost always _____
Very much _____
Quite a bit _____
Seldom _____
Not at all _____

114. How often are you given assignments requiring you to search for a solution without directions from your superior?

Rarely _____
Sometimes _____
Often _____
Very often _____
Almost always _____

TA JS TC

115. How much do your job rewards depend upon your superiors?

Almost completely ____
Very much ____
Quite a bit ____
Some ____
Little ____

116. How much do your job rewards depend upon your performance?

Very little ____
Some ____
Quite a bit ____
Very much ____
Almost all ____

117. To what extent are you able to schedule and plan your task requirements independent of others in the organization?

Hardly ever ____
Seldom ____
Occasionally ____
Frequently ____
Almost always ____

118. In your effort to get ahead on your job, to what extent do you act as an innovator?

Hardly ever ____
Seldom ____
Occasionally ____
Frequently ____
Almost always ____

119. To what extent do the resources (personnel, budget) you receive depend upon your superiors?

Very large ____
Large ____
Some ____
Slight ____
Almost none ____

120. To what extent do you set objectives, goals, and procedures for your job rather than following directions or established procedures?

Almost never ____
Little ____
Somewhat ____
Large ____
Very large ____

121. How repetitious are your duties on your present job?

Very little ____
Some ____
Quite a bit ____
Very much ____
Completely ____

122. How much variety is there in the work tasks which you perform?

Very much ____
Quite a bit ____
Some ____
Little ____
Very little ____

123. Every job is confronted by certain routine and repetitive demands. What percent of the activities or work demands connected with your job would you classify to be of a routine nature?

0-20% ____
20-40% ____
40-60% ____
60-80% ____
80-100% ____

TA JS TC

124. What is the average time it takes you to complete an assigned task?

1 day or less _____
1-3 days _____
3 days to 1 week _____
1-2 weeks _____
more than 2 weeks _____

125. How often does the supervisor keep check on you and closely observe your work?

Almost always _____
Frequently _____
Occasionally _____
Seldom _____
Hardly ever _____

126. To what extent do you control your job and pace of your work?

A little _____
Some _____
Quite a bit _____
Very much _____
Almost completely _____

APPENDIX F

SCHEFFÉ TESTS FOR THE INTERACTION OF MOTIVATION, LIS, TASK REPETITIVENESS FOR PERFORMANCE

Appendix F

Scheffé Tests for the Interaction of Motivation, LIS, Task Repetitiveness for Performance

High motivation-high LIS-high task repetitiveness (2.19)/ low motivation-low LIS-low task repetitiveness (2.15)	n.s.
High motivation-high LIS-high task repetitiveness (2.19)/ high motivation-low LIS-high task repetitiveness (2.09)	n.s.
High motivation-high LIS-high task repetitiveness (2.19)/ low motivation-high LIS-high task repetitiveness (2.05)	n.s.
High motivation-high LIS-high task repetitiveness (2.19)/ high motivation-high LIS-low task repetitiveness (1.95)	n.s.
High motivation-high LIS-high task repetitiveness (2.19)/ low motivation-low LIS-high task repetitiveness (1.89)	n.s.
High motivation-high LIS-high task repetitiveness (2.19)/ low motivation-high LIS-low task repetitiveness (1.72)	n.s.
High motivation-high LIS-high task repetitiveness (2.19)/ high motivation-low LIS-low task repetitiveness (1.45)	Sig.
Low motivation-low LIS-low task repetitiveness (2.15)/ high motivation-low LIS-high task repetitiveness (2.19)	n.s.
Low motivation-low LIS-low task repetitiveness (2.15)/ low motivation-high LIS-high task repetitiveness (2.05)	n.s.
Low motivation-low LIS-low task repetitiveness (2.15)/ high motivation-high LIS-low task repetitiveness (1.95)	n.s.
Low motivation-low LIS-low task repetitiveness (2.15)/ low motivation-low LIS-high task repetitiveness (1.89)	n.s.
Low motivation-low LIS-low task repetitiveness (2.15)/ low motivation-high LIS-low task repetitiveness (1.72)	n.s.
Low motivation-low LIS-low task repetitiveness (2.15)/ high motivation-low LIS-low task repetitiveness (1.45)	Sig.
High motivation-low LIS-high task repetitiveness (2.09)/ low motivation-high LIS-high task repetitiveness (2.05)	n.s.
High motivation-low LIS-high task repetitiveness (2.09)/ high motivation-high LIS-low task repetitiveness (1.95)	n.s.

High motivation-low LIS-high task repetitiveness (2.09)/ low motivation-low LIS-high task repetitiveness (1.89)	n.s.
High motivation-low LIS-high task repetitiveness (2.09)/ low motivation-high LIS-low task repetitiveness (1.72)	n.s.
High motivation-low LIS-high task repetitiveness (2.09)/ high motivation-low LIS-low task repetitiveness (1.45)	Sig.
Low motivation-high LIS-high task repetitiveness (2.05)/ high motivation-high LIS-low task repetitiveness (1.95)	n.s.
Low motivation-high LIS-high task repetitiveness (2.05)/ low motivation-low LIS-high task repetitiveness (1.89)	n.s.
Low motivation-high LIS-high task repetitiveness (2.05)/ low motivation-high LIS-low task repetitiveness (1.72)	n.s.
Low motivation-high LIS-high task repetitiveness (2.05)/ high motivation-low LIS-low task repetitiveness (1.45)	Sig.
High motivation-high LIS-low task repetitiveness (1.95)/ low motivation-low LIS-high task repetitiveness (1.89)	n.s.
High motivation-high LIS-low task repetitiveness (1.95)/ low motivation-high LIS-low task repetitiveness (1.72)	n.s.
High motivation-high LIS-low task repetitiveness (1.95)/ high motivation-low LIS-low task repetitiveness (1.45)	Sig.
Low motivation-low LIS-high task repetitiveness (1.89)/ low motivation-high LIS-low task repetitiveness (1.72)	n.s.
Low motivation-low LIS-high task repetitiveness (1.89)/ high motivation-low LIS-low task repetitiveness (1.45)	Sig.
Low motivation-high LIS-low task repetitiveness (1.72)/ high motivation-low LIS-low task repetitiveness (1.45)	Sig.

APPENDIX G

SCHEFFÉ TESTS FOR THE INTERACTION OF MOTIVATION, LC, LIS, TASK INDEPENDENCE FOR PERFORMANCE

Appendix G

Scheffé Tests for the Interaction of Motivation, LC, LIS, Task Independence for Performance

High motivation-low LC-high LIS-high task indep. (3.00)/ high motivation-low LC-high LIS-low task indep. (2.36) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ high motivation-low LC-low LIS-low task indep. (2.25) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-low LC-low LIS-high task indep. (2.29) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ high motivation-high LC-high LIS-high task indep. (2.21) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ high motivation-high LC-high LIS-low task indep. (2.21) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-low LC-high LIS-low task indep. (2.18) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-low LC-low LIS-high task indep. (2.10) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-low LC-high LIS-high task indep. (2.11) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ high motivation-low LC-low LIS-high task indep. (2.02) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-high LC-low LIS-high task indep. (2.00) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ high motivation-high LC-low LIS-high task indep. (1.38) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ high motivation-high LC-low LIS-low task indep. (1.50) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-low LC-low LIS-low task indep. (1.63) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-high LC-high LIS-low task indep. (1.41) Sig.

High motivation-low LC-high LIS-high task indep. (3.00)/ low motivation-high LC-high LIS-low task indep. (.83) Sig.

High motivation-low LC-high LIS-low task indep. (2.36)/ high motivation-low LC-low LIS-low task indep. (2.25)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-low LC-low LIS-high task indep. (2.29)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ high motivation-high LC-hish LIS-high task indep. (2.21)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ high motivation-high LC-high LIS-low task indep. (2.21)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-low LC-high LIS-low task indep. (2.18)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-low LC-low LIS-high task indep. (2.19)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-low LC-high LIS-high task indep. (2.11)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ high motivation-low LC-low LIS-high task indep. (2.02)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-high LC-low LIS-high task indep. (2.00)	n.s.
High motivation-low LC-high LIS-low task indep. (2.36)/ high motivation-high LC-low LIS-high task indep. (1.38)	Sig.
High motivation-low LC-high LIS-low task indep. (2.36)/ high motivation-high LC-low LIS-low task indep. (1.50)	Sig.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-low LC-low LIS-low task indep. (1.63)	Sig.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-high LC-high LIS-low task indep. (1.41)	Sig.
High motivation-low LC-high LIS-low task indep. (2.36)/ low motivation-high LC-high LIS-low task indep. (.83)	Sig.
High motivation-low LC-low LIS-low task indep. (2.25)/ low motivation-low LC-low LIS-high task indep. (2.29)	n.s.
High motivation-low LC-low LIS-low task indep. (2.25)/ high motivation-high LC-high LIS-high task indep. (2.21)	n.s.

High motivation-low LC-low LIS-low task indep. (2.25)/ high motivation-high LC-high LIS-low task indep. (2.21)	n.s.
High motivation-low LC-low LIS-low task indep. (2.25)/ low motivation-low LC-high LIS-low task indep. (2.18)	n.s.
High motivation-low LC-low LIS-low task indep. (2.25)/ low motivation-low LC-low LIS-high task indep. (2.19)	n.s.
High motivation-low LC-low LIS-low task indep. (2.25)/ low motivation-low LC-high LIS-high task indep. (2.11)	n.s.
High motivation-low LC-low LIS-low task indep. (2.25)/ high motivation-low LC-low LIS-high task indep. (2.02)	n.s.
High motivation-low LC-low LIS-low task indep. (2.25)/ low motivation-high LC-low LIS-high task indep. (2.00)	n.s.
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High motivation-low LC-low LIS-low task indep. (2.25)/ high motivation-high LC-low LIS-low task indep. (1.50)	Sig.
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Low motivation-low LC-low LIS-high task indep. (2.29)/ high motivation-high LC-high LIS-high task indep. (2.21)	n.s.
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Low motivation-low LC-low LIS-high task indep. (2.29)/ low motivation-low LC-high LIS-low task indep. (2.18)	n.s.
Low motivation-low LC-low LIS-high task indep. (2.29)/ low motivation-low LC-low LIS-high task indep. (2.19)	n.s.
Low motivation-low LC-low LIS-high task indep. (2.29)/ low motivation-low LC-high LIS-high task indep. (2.11)	n.s.
Low motivation-low LC-low LIS-high task indep. (2.29)/ high motivation-low LC-low LIS-high task indep. (2.02)	n.s.

Low motivation-low LC-low LIS-high task indep. (2.29)/ low motivation-high LC-low LIS-high task indep. (2.00)	n.s.
Low motivation-low LC-low LIS-high task indep. (2.29)/ high motivation-high LC-low LIS-high task indep. (1.38)	Sig.
Low motivation-low LC-low LIS-high task indep. (2.29)/ high motivation-high LC-low LIS-low task indep. (1.50)	Sig.
Low motivation-low LC-low LIS-high task indep. (2.29)/ low motivation-low LC-low LIS-low task indep. (1.63)	Sig.
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High motivation-high LC-high LIS-high task indep. (2.21)/ high motivation-high LC-high LIS-low task indep. (2.21)	n.s.
High motivation-high LC-high LIS-high task indep. (2.21)/ low motivation-low LC-high LIS-low task indep. (2.18)	n.s.
High motivation-high LC-high LIS-high task indep. (2.21)/ low motivation-low LC-low LIS-high task indep. (2.19)	n.s.
High motivation-high LC-high LIS-high task indep. (2.21)/ low motivation-low LC-high LIS-high task indep. (2.11)	n.s.
High motivation-high LC-high LIS-high task indep. (2.21)/ high motivation-low LC-low LIS-high task indep. (2.02)	n.s.
High motivation-high LC-high LIS-high task indep. (2.21)/ low motivation-high LC-low LIS-high task indep. (2.00)	n.s.
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High motivation-low LC-low LIS-high task indep. (2.02)/ high motivation-high LC-low LIS-low task indep. (1.50)	Sig.
High motivation-low LC-low LIS-high task indep. (2.02)/ low motivation-low LC-low LIS-low task indep. (1.63)	Sig.
High motivation-low LC-low LIS-high task indep. (2.02)/ low motivation-high LC-high LIS-low task indep. (1.41)	Sig.
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High motivation-high LC-low LIS-low task indep. (1.50)/ low motivation-high LC-high LIS-low task indep. (.83)	Sig.
Low motivation-low LC-low LIS-low task indep. (1.63)/ low motivation-high LC-high LIS-low task indep. (1.41)	n.s.
Low motivation-low LC-low LIS-low task indep. (1.63)/ low motivation-high LC-high LIS-low task indep. (.83)	Sig.
Low motivation-high LC-high LIS-low task indep. (1.41)/ low motivation-high LC-high LIS-low task indep. (.82)	Sig.

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