

SPATIAL EFFECTS IN LEADERSHIP:
SUGGESTIVE EVIDENCE OF INTERACTION BETWEEN
CONSIDERATION, INITIATING STRUCTURE AND
LEADER'S INTERPERSONAL DISTANCE FROM SUBORDINATES

BY

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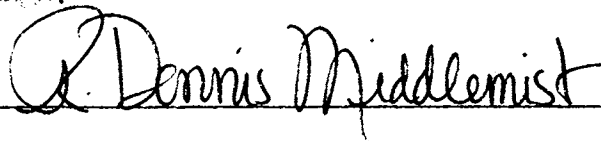
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Purpose and Method of Study: The purpose of this study is to examine the effects of personal space invasion and the leader behaviors of consideration and initiating structure on subordinate job related characteristics of satisfaction, performance, and anxiety. Using a 2 x 2 x 2 matrix design, scenarios were developed to convey high and low manipulations of the three independent variables. A sample composed of one hundred sixty personnel management students were instructed to answer questionnaires relating their feelings about the leader's supervisory style.

Findings and Conclusions: Several significant relationships were found: (1) consideration has a positive effect on job satisfaction, (2) initiating structure has a positive effect on job performance, (3) consideration is negatively related to anxiety, (4) initiating structure is positively related to anxiety, and (5) spatial invasion has a negative effect on anxiety. A three-way interaction was also found between the variables predicting job satisfaction. The results support the theory that spatial invasion interacts with leader behaviors. Better methods of conveying manipulations are needed to improve future research findings.

Advisor's Approval



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CHAPTER I

INTRODUCTION

Purpose of Study

The study of leader behaviors as predictors of compensatory behaviors in subordinates has focused mainly on the relationships between consideration and initiating structure as a leader's supervisory style and subordinates' job satisfaction and performance. Although many studies have found significant results showing the factors as adequate predictors, very few agree as to the correct relationships.

Supervisory style, however, is not limited to the two factors mentioned above. A third factor that could influence a subordinate's behavior is the physical contact and spatial invasion of the leader. This factor, known as "personal space invasion", has never been incorporated in a study researching supervisory style and its effect on subordinate behavior.

The purpose of this study is to examine the effects of personal space invasion and the leader behaviors of consideration and initiating structure on subordinate job related characteristics of satisfaction, performance, and anxiety.

Methodology

Undergraduate students from Oklahoma State University were asked to be subjects in this experiment. The design for this experiment is a 2 x 2 x 2 matrix containing high and low manipulations of the leader behaviors' consideration, initiating structure, and personal space invasion.

Scenarios were used to describe working situations to enable students to visualize the supervisory style developed by each of the cell blocks. Each student was randomly given a packet containing one scenario and two questionnaires. Students were instructed to answer the questionnaires by placing themselves in the position of the subordinate and relate their feelings about the leader and their own compensatory behaviors through a semantic differential.

The data was compiled and analyzed through the use of analysis of variance. The main effects and interactions between the independent variables were considered.

CHAPTER II

LITERATURE REVIEW

Contingency Theory

Research in the area of leadership behavior has focused on different theories and models. Recent trends have been toward a contingency theory. Contingency theory is based on the assumption that a group's performance will be contingent upon the appropriate matching of leadership style and the degree of favorableness of the group situation for the leader.

Fiedler (1967) in describing the theory suggested that group performance is related to both the leadership style and the degree to which the situation provides the leader with the opportunity to exert influence. "Task-oriented leaders perform best in situations which are highly favorable for them or in those which are relatively unfavorable. Considerate, relationship-oriented leaders tend to perform best in situations in which they have only moderate influence." (pg. 147) The favorable and unfavorable situations that Fiedler referred to can be illustrated by the amount of stress applied to the group to perform. In conditions of high stress, such as a military combat situation, the task-oriented leader will tend to perform best because the group members are ready to be directed and are expected to be told what to do. They must work as a team or else pay the consequences. In conditions of low stress, such as a voluntary committee planning a party, the task-oriented leader will again do best because he can make decisions without excess discussion and debate. On the

other hand, in situations of moderate stress, such as a group of creative designers, the considerate, relationship-oriented leader will tend to perform best because the task is relatively unstructured and more creative ideas are allowed to be discussed.

One of the most significant set of studies in the last quarter century using contingency theory has been the Ohio State Leadership Studies. The researchers tried to develop a method to describe leadership behavior which could be applied to many different situations. An instrument was first developed by Hemphill and others at the Personnel Research Board (Hemphill, 1950). It was a questionnaire containing 150 items which described how people in leadership positions operate in their leadership role. The major problem was to classify the items into meaningful categories of leader behavior. Fleishman (1953) using Air Force crew members who described their airplane commanders, analyzed the items on the questionnaire. The analysis revealed two major factors of "consideration" and "initiating structure." Fleishman and Peters (1962) later defined them in their study:

"Consideration reflects the extent to which an individual is likely to have job relationships characterized by mutual trust, respect for subordinates' ideas and consideration of their feeling. A high score is indicative of a climate of good rapport and two-way communication. A low score indicates the supervisor is likely to be more impersonal in his relations with group members.

Initiating structure reflects the extent to which an individual is likely to define and structure his role and those of his

subordinates toward goal attainment. A high score on this dimension characterized individuals who play a more active role in directing group activities through planning, communicating information, scheduling, trying out new ideas, etc." (pg. 130)

Although the dimensions have been defined in other terms, for the purpose of this study the above definitions of consideration and initiating structure will be used.

Consideration and Structure

There were several large-scale research programs on leader behavior, however, one of the most significant was that at Ohio State University during the years 1946 through 1956. The most significant finding of these studies was the isolation of consideration and initiating structure as basic dimensions of leader behavior. In his review of the literature in this area, Korman (1966) stated that "these variables were identified as a result of a series of investigations which attempted to determine, through factor-analytic procedures, the smallest number of dimensions which would adequately describe leader behavior, as perceived by the leader's subordinates and as the leader himself perceived his own attitudes toward his role." (pg. 349)

The dimensions are usually measured by three different instruments. The Leadership Opinion Questionnaire (LOQ) is a Likert-type attitude scale which attempts to assess how the supervisor thinks he should behave in his leadership role. The Leader Behavior Description Questionnaire (LEDQ) measures subordinate perceptions of supervisory behavior and the Supervisory Behavior Description Questionnaire (SEBQ) is similar to the LEDQ in that it obtains information from leader's subordinates, but the items are different. More studies yield statistically significant relationships using

the LEDQ and the SEDQ than for those which utilize the LOQ to obtain data.

Consideration has systematically been found to have a positive relationship with satisfaction and performance of subordinates (Schriesheim, House, and Kerr, 1976). Yukl (1969) found a strong positive relationship between consideration and subordinate satisfaction as did Lowin (1969) and Nealey and Blood (1968). In two laboratory experiments (Day and Hamblin, 1964; Misumi and Shirakashi, 1966) punitive leader behavior (low consideration) was associated with low subordinate satisfaction. In the relationship to performance the literature is more mixed. Kay, Meyer, and French (1965) found a strong positive relationship, and Downey, Sheridan and Slocum (1975) found that consideration was significantly related to both performance and satisfaction. Several researchers have found no significant linear relation (Day and Hamblin, 1964; Nealey and Blood, 1968) and negatively with proficiency ratings by higher management (Graen, Dausereau, and Minami, 1972).

Initiating structure has at various times, been significantly positive, significantly negative, and insignificantly related to subordinate satisfaction and performance. House (1971) stated that the evidence with respect to the relationship between initiating structure and satisfaction are very mixed. Yukl (1969) found positive correlations using first and second-line managers in two manufacturing companies and a public utility. Nealey and Blood (1968) found a negative correlation between initiating structure and subordinate satisfaction for second-level supervisors and a positive correlation for first-level supervisors. Negative correlations were also found by Vroom and Mann (1960) for delivery truck drivers but not for loaders and Fleishman and Harris (1962) concluded that structure often correlates negatively with subordinate satisfaction, grievances,

and turnover. Downey, Sheridan, and Slocum (1975) did not find a significant relationship between structure and satisfaction. In their study of leader initiating structure, Schriesheim, House, and Kerr found that type of measurement instrument affected the relationship. Using the LDDQ, the structure-satisfaction relationship was positive and with the SDDQ, the relationship was found to be negative. This can account for some of the variation in the literature mentioned.

Korman (1966) criticized the literature on consideration and initiating structure in the following ways:

1. Korman pointed out that "in most cases the researchers have made little attempt to either conceptualize situational variables which might be relevant and/or measure them." (pg. 355) These situational variables which moderate the different dimensional relationships have since been studied. Moderating studies have been reviewed by Kerr, Schriesheim, Murphy, and Stogdill (1974). That review identified many variables which may moderate the relationships between leader behavior and various criteria. Kerr and Schriesheim (1974) classified these moderates in the following categories:

Subordinate considerations: Expertise, experience, competence job knowledge, hierarchical level of occupied position, expectations concerning leader behavior, perceived organizational independence, and various psychological aspects.

Supervisor considerations: Similarity of attitudes and behavior to those at higher management, and upward influence.

Task considerations: Degree of time urgency, amount of physical danger, permissible error rate, presence of external stress,

degree of autonomy, importance and meaningfulness of work, and degree of ambiguity. (pg. 558)

These potential moderators have been studied by various researchers, however, the results and conclusions are mixed. For example, House (1971) found that task structure moderated the relationship between leader initiating structure and the dependent variables of job satisfaction and performance, but when Downey et.al. (1975) tried to repeat House's finding, they found that task structure did not have a significant moderating effect.

2. Most of the reviewed studies yielded generally insignificant correlations between leader behavior and the criteria of job satisfaction and performance. Most of the studies cited by Korman utilized all three measurement instruments and, as stated earlier, the LOQ yielded less significant results than did the LBDQ and the SEDQ. Kerr and Schriesheim (1974) concluded that in general Korman's 1966 observation that use of the Ohio State Instruments is normally accompanied by insignificant correlations between leader behavior predictors and criteria (job satisfaction and performance) is not valid today.

3. Many of the studies require that the predictor and criterion ratings be made by the same individual. For example, a study using the LBDQ might gather information from subordinates concerning leader behavior and then obtain satisfaction scores from the same individuals. Korman expressed concern over the possibility that raters might distort their perceptions so to balance the results. The problem remains true in the more recent studies but to a lesser extent. Some studies have tried to obtain performance data from performance evaluations (Curmins, 1972) and

through objective measures of standard performance (Dawson, Messe, and Phillips, 1972). Researchers have not developed a means to collect direct satisfaction data from sources other than the subordinates themselves. However, in a few cases, a dissatisfaction rating was obtained using actual rates of absence, lateness, grievances, and turnover (Skinner, 1969; Fleishman and Harris, 1962).

4. The fourth criticism Korman notes was the question of causality. He was "unable to locate any studies in the literature where consideration and/or initiating structure were systematically varied in order to determine outcomes." (pg. 354) It is possible then, that the dependent variables could cause certain levels of consideration and structure rather than being caused by these variables. Very little research has been done on the subject of causality and Kerr and Schriesheim (1974) concluded that the problem is still as valid today as it was in 1966 when Korman pointed it out.

5. Korman's last criticism was that no one had attacked the problem of determining which leader behavior scores are related to variance in the criteria of satisfaction and performance, and which are not. Linear and curvilinear patterns of relationships have been found. Kerr and Schriesheim (1974) stated that this problem has still not been directly confronted.

It can be seen by Korman's review and criticism of the literature that several problems still exist in this area of research. Because of the inconsistency of the consideration and initiating structure findings, a new direction of research is needed to discover if there are other independent variables in leader behavior that affect job satisfaction and performance.

Stress

The amount of pressure or stress involved at the work place has, for many years, been correlated with leader behavior. One of the earlier studies was by Halpin (1954), who looked at the relationship between the crew's perception of leadership behavior in the airplane commander and ratings of his crew's performance in combat and his crew's satisfaction in combat. The consideration relationships were affected but not at a significant level. Oaklander and Fleishman (1964) suggested that when stress is applied from external sources, the initiating structure relationships with satisfaction and performance are affected, where under stress from intraunit sources, the consideration relationships are somewhat moderated.

In their review of the literature, Kerr, Schriesheim, Murphy and Stogdill (1974) concluded that "the greater the amount of pressure (stress), the greater will be subordinate tolerance of leader initiating structure, the greater will be the (positive) relationships between structure and satisfaction and performance criteria." (pg. 73) This conclusion was partially supported in a study by Schriesheim and Murphy (1976). They found that job stress moderated the structure-performance relationship. They did not, however, find that the structure-satisfaction relationship was moderated as Kerr et al. (1974) had suggested. One other interesting finding of Schriesheim and Murphy was the moderating effect on the consideration-performance relationship. Under conditions of high stress, the correlation was found to be negative and under conditions of low stress, the correlation was significantly positive.

Because of the inconsistency of findings in the literature, the

effect of stress on the relationships in leader behavior cannot be concluded as being moderating, but suggest a more direct relationship. The above studies have used external stress and stress stemming from the job itself. Felipe and Sorner (1966) suggested that the invasion of personal space causes tension on the part of the person being invaded. Thus, a leader, through his simple presence and physical contact, can invade a subordinate's personal space and cause stress.

Personal Space

Personal space is a psychological phenomena of interpersonal distances. It was defined by Little (1965) as the area immediately surrounding the individual in which the majority of his interactions with others takes place. Welwood (1977) further defined it as what a person perceives as their "lived in" space and subdivided that space into oriented space, feeling space and open space.

The fact that invasion of personal space creates stress has been studied on numerous occasions. Hoydale (1979) in his definition stated that personal space is the area that others cannot invade without arousing discomfort. McBride, King and Jones (1965) give support to this theory in their study using galvanic skin responses of subjects at different social distances and Baxter and Deanowick (1970) concluded that the degree of crowding increases the individual's arousal anxiety. Middelmist, Knowles, and Matter (1976) did a study using confederates placed in a men's lavatory. Men who entered the three-urinal lavatory to urinate were forced to use a urinal at different distances to the confederate. They concluded that arousal increases with decreases in interpersonal distance. It is not clear as to the reasons why these responses occur. Evans and Howard (1970) concluded that "we do not as

yet thoroughly understand all the variables which are relevant to personal-space behavior." (pg. 342)

Recently, researchers have tried to combine the areas of personal space and job-related characteristics. Worchel and Teddlie (1975) conducted a study on the effects of crowding and personal space invasion on task performance. They found that interaction distance significantly affected performance as groups performed better in the distant condition. The density, however, did not significantly affect task performance. They also found that violations of personal space led subjects to report feeling crowded, uncomfortable, and nervous. They concluded that violations of personal space can lead to a decrease in group performance. Rawls, Trego, McGaffey, and Rawls (1972) also studied the effects of personal space on performance. They came to the same conclusion that performance decreases as the degree of closeness increases. These studies manipulate personal space invasion through crowding conditions of fellow workers. There is not, however, any studies on the effects of personal space invasion of subordinates by their supervisor.

Summary

Over the last thirty years, studies on leadership behavior have directed their attention to two main factors that affect a person's work. These factors of "consideration and initiating structure" were developed by Ohio State Leadership Studies. They are characteristics of a leader's supervisory style that are used to predict a subordinate's job satisfaction and performance. The conclusions of later studies concerning the direction and usefulness of predictor's have been very mixed. Koman (1966) cited several problems associated with the literature through 1966 and researchers since that time have tried to address some of these issues.

Even with some of the problems solved, there still is not conclusive evidence to resolve the issue of mixed relationships between the predictors and job related factors. Researchers have looked for moderators to explain the mixed results. The moderators that have been discussed and studied have been associated with consideration as classified by Kerr and Schriesheim (1974). These moderators suggest that some spatial invasion does exist but interpersonal distance has never been studied as a moderator. A new direction in research is needed to resolve the mixed results of the leader behavior studies. One direction is a possible third predictor of job related factors. The literature on stress suggests that it can affect a worker's satisfaction and performance. Stress can be created through the work itself, time, outside pressures, and by people associated with the worker. One type of stress that can be placed on a worker is through personal space invasion by the leader. Although little research has been performed to relate personal space with the leader subordinate relationship, the literature does suggest that personal space invasion by peers can affect a person's work. By correlating the effects of personal space invasion with the effects of the leader behavior factors of consideration and initiating structure, the predictability of these factors might increase and produce clearer results. Another dependent variable that is likely to be affected by all three of the predictors, is anxiety. Anxiety can be defined as the interpersonal reaction to fear and uncertainty. Little research has been done to correlate anxiety with consideration and initiating structure but Farber and Deansvich (1970), Middlemist, Knowles and Matter (1976) and others linked it to personal space invasion.

Hypotheses

The cumulation of literature suggests that a study is needed to establish a third behavioral predictor of subordinate work factors. It is the intention of this study to correlate the effects of personal space invasion and leader behaviors of consideration and initiating structure on job related characteristics of satisfaction, performance, and anxiety. It is an attempt to show that a leader's personal presence and spatial invasion of subordinates is another dimension to leader behavior that can predict the job characteristics mentioned.

Using the established and most frequently cited relationships in the literature, the following hypotheses will be tested in this research study:

Job satisfaction

1. When the leader displays high consideration to the subordinate, that subordinate will have relatively high job satisfaction.
2. When the leader conveys high initiating structure to the subordinate, that subordinate will have relatively high job satisfaction.
3. When the leader exhibits a high degree of invasion into the subordinate personal space, that subordinate will have relatively low job satisfaction.

Job performance

4. When the leader displays high consideration to the subordinate, that subordinate will show relatively high job performance.

5. When the leader conveys high initiating structure into the subordinate, that subordinate will show relatively high job performance.

6. When the leader exhibits a high degree of invasion into the subordinate's personal space, that subordinate will show relatively low job performance.

Anxiety

7. When the leader displays high consideration to the subordinate, that subordinate will have a relatively low level of anxiety.

8. When the leader conveys high initiating structure to the subordinate, that subordinate will have a relatively high level of anxiety.

9. When the leader exhibits a high degree of invasion into the subordinate's personal space, that subordinate will have a relatively high level of anxiety.

CHAPTER III

RESEARCH AND DESIGN

Sample

One hundred sixty undergraduate students enrolled in courses of personnel management were asked to take part in this experiment. The majority of students were in their junior year of college and were told that they were participating to collect data for an experiment; however, they were not given details concerning the purpose of this experiment. The eight different instruments packets containing a scenario and two questionnaires were randomly given to each class of students. Each of the subjects correctly completed the questionnaires so there was no need for partial scoring.

Scenarios

Eight different "leader" scenarios were constructed using manipulations of the independent variables of consideration, initiating structure, and personal space invasion. The "leader" was variously described as either high in the particular independent variable or low in the variable. There was no attempt to find any moderate manipulation because of the scope of this experiment. It was assumed that a linear relationship exists between the independent and dependent variables.

The scenarios were written about a group of aeronautical engineers and their supervisor (See Appendix A). Each scenario contained several specific situations that were used to demonstrate the leader's supervisory

style using the independent variables. The Leader Behavior Description Questionnaire (LBDQ) was used to run a manipulation check on the variables of consideration and initiating structure (See Appendix B).

The first situation within a scenario dealt with the supervisor's reaction to a subordinate who had been ill and absent from work. The variables consideration and personal space invasion were used in this illustration. Consideration was either high: concern about the subordinate's well being, or low: concern only for the lack of work by the subordinate (manipulation was checked by question No. 16 in Appendix B). Personal space invasion was considered either high: leader putting his arm around subordinate or patting his back, or low: leader calling subordinate on the telephone.

The second situation within the scenario concerned the leader's assigning of a new project to his subordinates. The variables initiating structure and personal space invasion were manipulated in this instance. When initiating structure was high, the following illustrations were used: 1. the leader explained the problem, background, and previously tried solutions; 2. he assigned specific tasks to the engineers; 3. he specified a deadline for completion; 4. he recommended normal design procedures; and 5. he told them he wanted to check their progress on the assignment. Structure was then low in the following illustrations: 1. the leader gave little explanation concerning the project; 2. no work was specifically assigned; 3. deadlines were vague; 4. someone besides the leader discussed design procedures; and 5. the leader said he would be around if there was problems (LBDQ questions No. 2,3,5,6, & 7 check this

manipulation). Personal space invasion was considered high when: 1. the project was discussed in a staff meeting; 2. the leader shook hands with the engineers, and 3. he checked on their progress in person. Personal space invasion was low when: 1. a packet explaining the project was sent to the engineer, and 2. the leader checked on the subordinates' progress by having the subordinate call him on the telephone.

The next situation was about the installation of a new WATES line. All three variables were used to illustrate this situation. Consideration was high when the leader gave the subordinates advance notice and low when he told them the day it was installed (manipulation checked by No. 15 of the LBDO). Initiating structure was considered high when the leader informed the engineers about the rules and instructions concerning the use of the line and low when he did not (checked by No. 6 of the LBDO). Personal space invasion was then considered high when the information concerning the WATES line was conveyed in person and low when it was in a memo or on the bulletin board.

Situation No.4 dealt with the supervisor's handling of an employee who was late to work. Initiating structure and personal space invasion were the variables involved. Structure was considered high when the leader stressed company policy to the tardy employee and low when he let the situation pass (manipulation again checked by No. 6). Personal space invasion was considered high when the subordinate was confronted face-to-face by the leader and low when the information was passed by telephone or bulletin board memos.

In situation No. 5 an engineer informed a fellow engineer about the

leader's use of uniform procedures. Initiating structure and personal space invasion are the manipulated variables. Structure was high when the leader required a standard format of design presentation and low when the leader was not particular about the format (checked by No. 4 and 5 of the LBDQ). A small change in personal space invasion was used in that the subordinate said she was going to show the proposal to the leader (high manipulation) or send the proposal to the leader (low manipulation).

The next situation concerned the leader's relationship with his subordinates with membership at a bowling team being used to illustrate the condition. Consideration and personal space invasion were the manipulated variables. In conditions of high consideration, the leader and the subordinate engineers were all members of an office bowling team and the leader inquired about the attendance of a member of the team who had been ill. Under low consideration, the leader was a member of a supervisors' team and bragged to the subordinate about how well they were doing (manipulation checked by questions No. 10, 13 and 16). Personal space invasion was high when the leader came in person and put his hand on the subordinate's shoulder and low when he telephoned. During the course of this situation the leader is asked about a problem concerning the proposal design. Initiating structure was then manipulated by the leader making several specific recommendations (high manipulation) or referring the subordinate to one of the other engineers for specifics (low manipulation, checked by No. 7, 8 and 9 in the LBDQ).

The last situation dealt with the selection of the best design proposal. All three variables are again used to illustrate this situation. Consideration is considered high in the following cases used: 1. the leader

provided coffee and refreshments for the engineers; 2. the leader made specific recommendations in several of the design; 3. the engineers were given an opportunity to respond to the recommended changes, and 4. the leader expressed appreciation to the engineer whose design was selected. Consideration is then low when: 1. the leader did not provide coffee or asked one of the engineers to bring just him a cup; 2. recommendations suggested by the leader were only general changes; 3. there was no discussion about the changes suggested, and 4. the leader did not express appreciation to any of the engineers (checked by question No. 9, 10, 11, 12, 13, & 14). Initiating structure was high when the leader selected the best design and low when the engineers selected the design to be used (checked by questions No. 1, 7 and 8). Personal space invasion was manipulated high when: 1. the leader called a meeting of the group, and 2. shook the selected engineer's hand or put his arm around him. It was manipulated low when: 1. the secretary collected the proposals, and 2. the best design was posted on the bulletin board.

Description of instruments

Two instruments were used to collect data for this research experiment. After the students had read the scenarios describing the leader's supervisory style, a manipulation check for the consideration and initiation structure variables was performed.

Leader Behavior Description Questionnaire. The manipulation check instrument was a questionnaire derived from LEO Form XII. Bish and Schriesheim (1974) conducted a content validity study of the Ohio State Leadership scales and determined strong and medium loadings for items from the Form XII. The following items (strong loadings) were used to

measure consideration:

1. He tries out his ideas with the group.
2. He does little things to make it pleasant to be a member of the group.
3. He acts without consulting the group.
4. He expresses appreciation when one of the group members does a good job.
5. He treats all group members as his equals.
6. He is willing to make changes.
7. He gives advance notice of changes.
8. He look out for the personal welfare of group members.

Item number 3 was considered a negative item and for the purpose of analysis the response scores were reversed. Initiating structure was measured using the following items:

1. He makes his attitudes clear to the group.
2. He assigns group members to particular tasks.
3. He schedules the work to be done.
4. He maintains definite standards of performance.
5. He encourages the use of uniform procedures.
6. He asks that group members follow standard rules and regulations.
7. He decides what shall be done and how it shall be done.

The subjects were asked to rate the leader on each item using a five point Likert scale. Each point on the scale was assigned a number from one to five to analyze the data collected.

Semantic Differential. The second instrument was a semantic differ-

ential scale consisting of ten items describing various terms for the dependent variables anxiety, job satisfaction and job performance. The items measured the subjects' perceptions of likely subordinate feelings given the set of circumstances in the senario. Anxiety was measured by the following pairs:

1. Tense - Calm
2. Nervous - Serene
3. Anxious - Tranquil

Each item had a five point Likert scale to denote varying degrees of the opposite adjectives. Perceived job satisfaction was measured by:

1. Satisfied - Unsatisfied
2. Fascinated - Bored
3. Challenged - Unchallenged
4. Happy - Unhappy

The last category of items assessed perceived job performance. It was measured by the following items:

1. Productive - Unproductive
2. Motivated - Unmotivated
3. Hard working - Lazy

To avoid the bias effects of proximity errors, some of the items were reversed and in the analysis coded to correct this reversal.

CHAPTER IV

RESULTS

The results of this experiment will be shown through an examination of the three dependent variables measured and a manipulation check of two independent variables.

Manipulation Check

As described earlier in the methodology section, a manipulation check was performed on the independent variables consideration and initiating structure. A form of the LEDQ was used to collect the data needed to determine significant relationships. Using the SPSS version of the analysis of variance, the manipulations of both variables were found to be significant. (See Table 1) Consideration was found to have

TABLE 1
ANALYSIS OF VARIANCE FOR
MANIPULATION CHECKS

Source	df	MS	F
Consideration	1	737.656	27.617***
Initiating Structure	1	4829.004	180.679*

p < .01*
p < .001**
p < .0001***

an F value of 27.617 which is significant beyond the .0001 level. The manipulation of initiating structure was found to have an F value of 180.679 and was also significant to the .01 level.

The results of the check give support to the validity of the scenarios to successfully convey the manipulation of consideration and initiating structure. Without the verification, the results from the dependent variables would be meaningless. Because there is not a standardized paper and pencil instrument to measure invasion of personal space available and because the students were not physically subjected to invasion of personal space, the students were not used to check the manipulation of this independent variable. However, two judges were asked to assess the manipulation of personal space in a blind condition. Their assessments corresponded to the intended manipulation.

Job Satisfaction

The 2 x 2 x 2 analysis of variance for the dependent variable job satisfaction is given in Table 2. The main effects reveal that only consideration has a significant relationship as a predictor of job satisfaction. When consideration was manipulated high, job satisfaction was significantly higher ($\bar{x} = 3.85$) than when consideration was low ($\bar{x} = 3.40$, $p < .0001$, refer to Tables 2 and 3). This gives support to the first hypothesis.

There is not a main effect produced by the variable initiating structure as predicted in Hypothesis 2. The relationship indicated by the analysis corresponds to the predicted relationship: job satisfaction under high initiating structure ($\bar{x} = 3.65$) was greater than under low structure ($\bar{x} = 3.50$), but not at a significant level ($p = .607$).

TABLE 2
 ANALYSIS OF VARIANCE FOR
 THE DEPENDENT VARIABLE JOB SATISFACTION

Source	df	MS	F
Main Effects			
Consideration	1	131.406	19.357***
Initiating Structure	1	1.806	0.266
Spatial Invasion	1	1.056	0.156
Two-Way Interactions			
Consideration Initiating Structure	1	15.006	2.211
Consideration Spatial Space	1	0.556	1.260
Initiating Structure Spatial Invasion	1	6.806	1.003
Three-Way Interaction	1	49.506	7.293*
Total	159	7.836	

p < .01*

p < .001**

p < .0001***

TABLE 3
 MEANS FOR THE DEPENDENT
 VARIABLE JOB SATISFACTION

	Consideration	Structure	Spatial Invasion
High	3.85	3.65	3.60
Low	3.40	3.50	3.64

Note: Means correspond to a 5 point scale with 5 being the highest.

The main effect of personal space invasion is also found to be non-significant, but in the direction as indicated in Hypothesis 3: under high spatial invasion, job satisfaction is lower ($\bar{x} = 3.60$) than under low invasion ($\bar{x} = 3.64$, $p = .694$). There are no two-way interaction effects found to be significant between the independent variables but a three-way interaction is found to be significant at a level of .0001. The possible explanation for this result will be given in the next section.

Job Performance

The results for this variable are found in Tables 4 and 5. There is not a significant main effect produced by consideration: under high conditions of consideration, job performance was greater ($\bar{x} = 3.90$) than under low consideration ($\bar{x} = 3.66$); however, the 0.078 significance level is low enough to be considered in future studies as a possible relationship. This relationship is found to be positive as predicted in Hypothesis 4.

TABLE 4
ANALYSIS OF VARIANCE FOR
THE DEPENDENT VARIABLE JOB PERFORMANCE

Source	df	MS	F
Main Effects			
Consideration	1	19.600	3.157
Initiating Structure	1	31.225	13.033***
Spatial Invasion	1	0.900	0.145
Two-way Interactions			
Consideration - Initiating Structure	1	0.000	0.000
Consideration - Spatial Invasion	1	7.225	1.164
Initiating Structure - Spatial Invasion	1	3.100	1.305
Three-way Interaction	1	11.025	1.776
Total	159	6.741	

p < .01*

p < .001**

p < .0001***

TABLE 5
 MEANS FOR THE DEPENDENT
 VARIABLE JOB PERFORMANCE

	Consideration	Structure	Spatial Invasion
High	3.90	4.02	3.75
Low	3.66	3.54	3.80

The main effect produced by initiating structure is found to be at a significant level. When initiating structure was high, job performance was considered significantly higher ($\bar{x} = 4.02$) than when structure was low ($\bar{x} = 3.54$, $p < .0001$). This give support for the prediction in Hypothesis 5.

The main effect produced by personal space invasion is not significant but as predicted when invasion was high, performance was lower ($\bar{x} = 3.75$) than when invasion was low ($\bar{x} = 3.80$, $p = .704$). There are no significant two or three-way interaction effects found between the independent variables as relating to performance.

Anxiety

The means and the analysis of variance for anxiety can be found in Tables 6 and 7. There is a significant main effect produced by consideration. As predicted in Hypothesis 7, when consideration was manipulated high, anxiety was significantly lower ($\bar{x} = 2.53$) than when consideration was low ($\bar{x} = 3.00$, $p < .0001$).

TABLE 6
 ANALYSIS OF VARIANCE FOR THE
 DEPENDENT VARIABLE ANXIETY

Source	df	MS	F
Main Effects			
Consideration	1	79.806	15.827***
Initiating Structure	1	237.656	47.132***
Personal Space Invasion	1	79.806	15.827***
Two-Way Interactions			
Consideration Initiating Structure	1	0.156	0.031
Consideration Spatial Invasion	1	1.406	0.279
Initiating Structure Spatial Invasion	1	3.906	0.775
Three-Way Interaction	1	6.006	1.191
Total	159	7.391	

p < .01*
 p < .001**
 p < .0001***

TABLE 7
 MEANS FOR THE DEPENDENT
 VARIABLE ANXIETY

	Consideration	Structure	Spatial Invasion
High	2.53	3.17	2.53
Low	3.00	2.36	3.00

Another significant main effect is produced by initiating structure. It has a significance level of less than .0001 and when initiating structure is high, anxiety is significantly higher ($\bar{x} = 3.17$) than when structure was low ($\bar{x} = 2.36$). This gives support to Hypothesis 8.

The third main effect is produced by personal space invasion. It was also found to be significant at level of less than .0001. When the invasion was high the analysis revealed that anxiety was lower ($\bar{x} = 2.53$) than under low invasion ($\bar{x} = 3.00$). This is contrary to the relationship predicted in Hypothesis 9. A possible explanation will be discussed in the next section. As in job performance, no interaction effects are found to be significant.

CHAPTER V

DISCUSSION

The results of this experiment have yielded interesting findings; some supporting the current literature and others pointing to new directions. The hypotheses on job satisfaction and performance were all found to have the correct relationships although only a few were found to be significant. This part of the research supports the findings of such research as Key, Meyer, and French (1965); Yukl (1969); Downey, Sheridan, and Slocum (1975); and Schriesheim, House, and Kerr (1976). The research data supports the hypothesis that consideration positively affects job satisfaction. This was expected to be significant with consideration tied closely to satisfaction in the literature. The other significant relationship was the positive effect initiating structure had on job performance. This is consistent with that literature which suggests that if the leader plays a more active role in directing the group, performance will then increase because the leader has a directional or motivating affect on the subordinates.

The results also revealed a strong relationship between anxiety and each of the three independent variables. Consideration was found to be very negatively related to anxiety which supports the findings of Oaklander and Fleishman (1964). When a leader is considerate towards a subordinate through supportive actions, that subordinate will feel more secure in his/her position and thus levels of anxiety will be reduced. Initiating structure was found to be very positively related to anxiety. This can

be expected since the use and compliance with strict rules and regulations can increase tension on the part of the subordinate. Personal space invasion was found to be a strong negative predictor of anxiety. This is contrary to the hypothesis and the literature in this area. Invasion was consistently found to be arousing in studies such as Felipe and Sommar (1966); Baxter and Deanovich (1970); Middlemist, Knowles, and Matter (1976); and Worchel and Teddlie (1976). One explanation for this seemingly opposite effect is that the subjects in this experiment perceived the manipulations of invasion of personal space as an extension of the consideration variable. The physical invasion of the leader is difficult to convey through the means of a written scenario. The students could have perceived the physical contact of the leader as a degree of warmth. This explanation is consistent with the finding that consideration is a negative predictor of anxiety. If the leader showed warmth instead of invasion, a similar relationship would exist.

The other area in the results that deserves attention in this section is the three-way interaction between the variables predicting job satisfaction. This was the only interaction found to be significant. The interaction between these variables is not a simple relationship. As illustrated by Figure 1, an inverse relationship exists between consideration and initiating structure. Higher levels of satisfaction are associated with high consideration. This is evident in Table 8 which is the tabular form of Figure 1. Regardless of the manipulations of structure and spatial invasion, consideration predicts the level of satisfaction. This suggests that of the three predictors, consideration is the strongest contributor to satisfaction.

FIGURE 1
 THREE-WAY INTERACTION EFFECT
 ON THE DEPENDENT VARIABLE JOB SATISFACTION

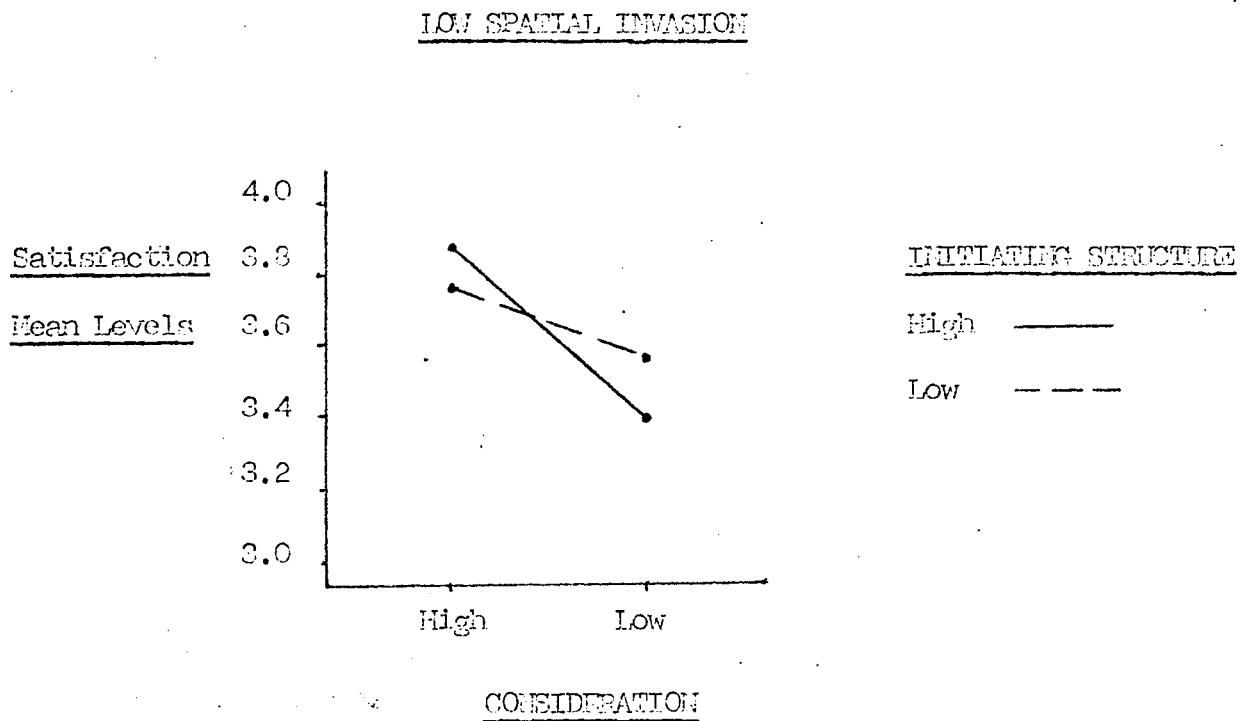
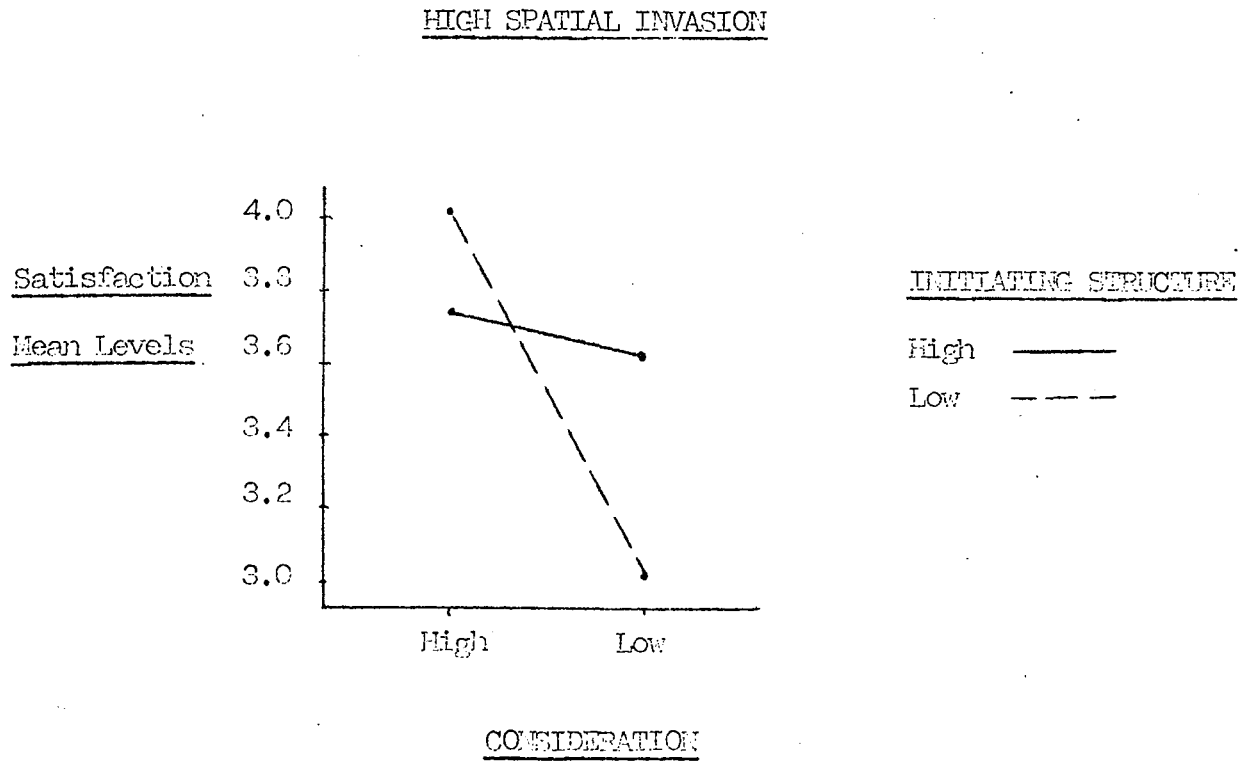


TABLE 8
 THREE-WAY INTERACTION EFFECT ON
 THE DEPENDENT VARIABLE JOB SATISFACTION

<u>Satisfaction</u>	<u>Manipulations</u>		
Mean levels	Consideration	Structure	Spatial Invasion
4.03	High	Low	High
3.85	High	High	Low
3.78	High	Low	Low
3.75	High	High	High
3.61	Low	High	High
3.56	Low	Low	Low
3.39	Low	High	Low
3.03	Low	Low	High

Initiating structure, according to the main effects results, is positively related to satisfaction. In this interaction the relationship is found to be very weak. When consideration is high, structure plays a small part in increasing satisfaction. If the top row of Table 8 were dropped to below the fourth line, the manipulations and their effects would become more consistent. The highest level of satisfaction would then be obtained through high degrees of consideration and structure and a low degree of spatial invasion. Initiating structure (the weakest component) would then be the distinguishing factor between level 1 and 2. Then with spatial invasion (the second strongest component) manipulated high, initiating structure would again distinguish between level 3 and 4. To continue this explanation for the lower half of the table, line 5 and 6 would have to be reversed.

Although the above theory is not fully supported by the results in this experiment, it does give a basis from which further research can be employed. The results do support the theory that spatial invasion is involved and does interact with leader behaviors. Better methods of conveying manipulations are needed to assure accurate results in future studies.

There are a few suggestions on the design that might improve the findings of future research in this area. First, the sample could be improved by selecting subjects more accustomed to the leader/subordinate relationships. Most students have limited experience in dealing with a supervisor. Secondly, as Korman (1966) suggested, performance data should not be collected from the same individuals that rate the predictors. Job evaluations would be a good means of obtaining performance data that would not be subject to subordinate biases. Finally, one interesting way to

convey the manipulations of consideration, structure, and spatial invasion is through the use of video equipment. This would illustrate the interpersonal distances more efficiently than the scenarios. A combination of the scenarios and the video tapes might very well solve the problem of subjects misinterpreting spatial invasion for warmth.

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APPENDIX A

SET OF SCENARIOS

SENARIO NO. 1

Manipulations

Consideration	High
Initiating Structure	High
Spatial Invasion	High

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer Systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under their normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract was negotiated with the Navy for the fighters, Mr. Manning was a logical choice to head up one of the designing teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. Robert has a degree in aeronautical engineering and has been with the firm for six years. He was out with the flu the preceding Thursday and Friday. In the office lobby, Mr. Manning put his arm around Robert, welcoming him back to work. Mr. Manning asked him how he was feeling and if he needed any help catching up. Robert told him that he was better and wouldn't have any problems catching up. Mr. Manning then reminded him of the staff meeting to be

held later that morning.

In the staff meeting, everyone was greeted with a handshake by Mr. Manning. He then introduced a new project to all the engineers on his team. Because of the stress put on the landing gear of the jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. Mr. Manning gave a short history of the problem and mentioned previously tried solutions. He then made specific work assignments to the individuals on the team and asked that they be prepared to present their findings on Thursday. He also reminded the engineers to follow the company's normal design procedures: making the drawing to scale, recommending a series of experiments to test the design, etc. He asked that he be allowed to check each engineer's progress by examining each step in the production and development of the new design.

After answering questions on the new project, Mr. Manning made some administrative announcements. He told the team that the company was installing a new WATTS line on Thursday, so from Thursday on they should be careful to make all long distance calls on that line alone. He promised further details on the line's use when it was installed. As a final announcement Mr. Manning brought up the fact that several employees were not at the office on time in the mornings. He reminded them that it was company policy that they be there on time or they would have to make up the time.

On Tuesday, Robert was working in his office when a fellow engineer, Dorothy Andrews, stopped in with a sketch of the proposed design. She planned to show it to Mr. Manning and asked Robert's opinion. After looking the drawing over, Robert reminded Dorothy that Mr. Manning required a certain format for design presentations, including a specific scale and a number of measurements and relevant figures on the same page. Dorothy thanked Robert for his criticisms

and returned to her office.

Later that afternoon Mr. Manning dropped by Spaulding's office to check on Robert's progress on the design. They discussed a problem Robert had with the wheel bearings and Mr. Manning made several specific recommendations. Afterward Mr. Manning put his hand on Robert's shoulder and asked him if he felt up to bowling with them in the company league that evening. Robert assured him that he would be able to attend.

Thursday afternoon, after examining all the proposals, Mr. Manning called a meeting for all the engineers and asked his secretary to bring them some coffee. At this time, Mr. Manning proposed some changes of his own in some of the designs and asked for the team's objections and suggestions. After a forty-five minute discussion, Mr. Manning decided that Tom Jackson's design was the best. Mr. Manning shook Tom's hand and congratulated him on the selection of his design. At the end of the meeting, Mr. Manning gave each employee a WATTS directory and a manual outlining the procedures for its use.

SCENARIO NO. 2

Manipulations

Consideration	High
Initiating Structure	High
Spatial Invasion	Low

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under their normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract for the fighters was negotiated with the Navy, Mr. Manning was a logical choice to head up one of the designing teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. Robert has a degree in aeronautical engineering and has been with the firm for six years. He was out with the flu the preceding Thursday and Friday. In his office, Robert received a telephone call from Mr. Manning, who asked how he was feeling and if he needed any help in catching up on his work. He told Robert to expect the secretary to bring him a packet containing that week's project. Later that morning, Robert received his packet and

as Mr. Manning had said, it contained specific information on a new design project. Because of the stress put on the landing gear of the jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. A brief history of the problem was included in the packet and previously tried solutions were mentioned. Robert was given his specific assignment and was asked to prepare a report for Mr. Manning for Thursday. Mr. Manning's note reminded Robert to follow the company's normal design procedure: making the drawing to scale, recommending a series of experiments to test the design, etc. It also asked Robert to keep Mr. Manning posted on the progress of each step in the production and development of the design.

On Tuesday, Robert received a memo from Mr. Manning which stated that the company was installing a new WATTS line on Thursday and instructed him to make all long distance calls on that line alone following Thursday. It also told him that he would be receiving a WATTS directory and a manual outlining the procedures for its use.

On Wednesday, Robert was working in his office when a fellow engineer, Dorothy Andrews, stopped in with a sketch of the proposed design. She planned to send it to Mr. Manning and asked Robert's opinion. After looking over the drawing, Robert reminded Dorothy that Mr. Manning required a certain format for design presentations, including a specific scale and a number of measurements and relevant figures on the same page. Dorothy thanked Robert for his criticisms and asked him if he had noticed the new announcement that Mr. Manning had posted on the bulletin board. When he said that he had not, she said it reminded all employees that it was company policy that they be on time in the mornings or they would have to make up the time.

Later that day, Mr. Manning called Robert to check on his progress on the design. They discussed a problem Robert had with the wheel bearings and

Mr. Manning made several specific recommendations. Afterwards, he asked Robert if he felt up to bowling with them in the company league that evening. Robert assured him that he would be able to attend.

On Thursday morning, Mr. Manning's secretary came by and collected the design proposals. She told Robert that Mr. Manning had provided coffee and doughnuts for the engineers in the lounge. After Mr. Manning reviewed each proposal, he returned them with specific recommendations for changes. He then wanted each team member to let him know what they thought of his recommendations.

On his way out of the office Friday afternoon, Robert noticed that Tom Jackson's proposal had been posted on the bulletin board. It had been selected by Mr. Manning as the design for the project. Robert stopped by Tom's office and congratulated him.

SCENARIO NO. 3

Manipulations

Consideration	High
Initiating Structure	Low
Spatial Invasion	High

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer Systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under their normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract was negotiated with the Navy for the fighters, Mr. Manning was a logical choice to head up one of the designing teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. He has a degree in aeronautical engineering and has been with the firm for six years. Robert was out with the flu the preceding Thursday and Friday. In the office lobby, Mr. Manning put his arm around Robert, welcoming him back to work, and asked him if he was feeling better and if he needed any help in catching up. Robert told him that he was better and wouldn't have any problems catching up. Mr. Manning reminded him of the staff meeting

to be held later that morning.

In the staff meeting, Mr. Manning greeted everyone with a handshake. He then introduced the new project to all the engineers on his team. Because of the stress put on the landing gear of a jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. Mr. Manning gave a general description of the problem and asked them to make their assignments and submit a design later that week. He also told them he would be around throughout the week if they needed him. As an administrative announcement, Mr. Manning told the team that the company was installing a new WATTS line on Thursday. Mr. Manning left the meeting and the engineers discussed who would have each assignment. One of the engineers suggested that it might be a good idea if they followed some type of uniform procedures. The other engineers agreed and the procedures were set by the group.

Tuesday morning, Joe Benson, one of the engineers, was late getting to work. Joe went to Mr. Manning and explained the reason why he was late. Mr. Manning put his hand on Joe's arm and told him it was all right and not to worry about it.

On Wednesday, Robert was working in his office when a fellow engineer, Dorothy Andrews, stopped in with a sketch of the proposed design. She planned to show the drawing to Mr. Manning and asked Robert's opinion on the format. After looking over the drawing, Robert told her that Mr. Manning didn't require any particular format, but the format she used was fine.

Later that afternoon, Mr. Manning dropped by Spaulding's office. He put his hand on Robert's shoulder and asked him if he felt up to bowling with them in the company league that evening. Robert assured him that he would be able to attend. Robert then asked Mr. Manning about a problem he had with the design of the wheel bearings. Mr. Manning told him to check with one of the

other engineers for specifics.

Thursday afternoon Mr. Manning called the engineering group into his office and told them to bring their proposals with them. Mr. Manning asked his secretary to bring them some coffee. After looking over the designs that were finished, Mr. Manning proposed some changes of his own and asked for the team's objections and suggestions. The team discussed the different proposals and decided that Tom Jackson's design was the best. Mr. Manning shook Tom's hand and congratulated him on the selection of his design. At the end of the meeting, Mr. Manning gave everyone a WATTS directory for their desks.

SCENARIO NO. 4

Manipulations

Consideration	High
Initiating Structure	Low
Spatial Invasion	Low

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer Systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under their normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract for the fighters was negotiated with the Navy, Mr. Manning was a logical choice to head up one of the designing teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. He has a degree in aeronautical engineering and has been with the firm for six years. Robert was out with the flu the preceding Thursday and Friday. In his office Robert received a telephone call from Mr. Manning, who asked how he was feeling and whether he needed any help in catching up on his work. Mr. Manning also told him to expect the secretary to bring him a packet containing this week's project. Later that morning Robert received his packet

and as Mr. Manning had said, it contained information on the new project. Because of the stress put on the landing gear of the jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. A general description of the problem was enclosed and Robert was asked to submit a design later that week. Mr. Manning said to call if Robert had problems with the design. After lunch, the engineers got together to discuss the new project and to decide who would have each assignment. One of the engineers suggested that it might be a good idea if they followed some type of uniform procedure. The other engineers agreed and the procedures were set up by the group.

Tuesday morning Joe Benson, one of the engineers, was late getting to work. Joe called Mr. Manning and explained the reason why he was late. Mr. Manning told him that it was all right and not to worry about it.

Later on Tuesday Robert received from Mr. Manning a memo which stated that the company was installing a new WATTS line on Thursday.

On Wednesday, Robert was working in his office when another engineer, Dorothy Andrews, stopped in with a sketch of the proposed design. She planned to send it to Mr. Manning and asked Robert's opinion on the format. After looking over the drawing, Robert told her that Mr. Manning didn't require any particular format, but the format she used was fine.

Later that day Mr. Manning called Robert and asked if he felt up to bowling with them in the company league that evening. Robert assured him he would be able to attend and then asked Mr. Manning about a problem he had with the design of the wheel bearings. Mr. Manning told him to check with one of the other engineers for specifics.

Thursday morning Mr. Manning's secretary came by and collected the design proposals. She told Robert that Mr. Manning had provided coffee and doughnuts

in the lounge for the engineers. After reviewing the proposals that were finished, Mr. Manning posted each proposal on the bulletin board and asked all the engineers to vote for the best design.

On his way out of the office Friday afternoon, Robert noticed that Tom Jackson's design was posted on the bulletin board. It had been selected by the engineers for the project. Robert stopped by Tom's office and congratulated him.

SCENARIO NO. 5

Manipulations

Consideration	Low
Initiating Structure	High
Spatial Invasion	High

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer Systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under their normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract for the fighters was negotiated with the Navy, he was a logical choice to head up one of the design teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. He has a degree in aeronautical engineering and has been with the firm for six years. Robert was out with the flu the preceding Thursday and Friday. In the office lobby, Robert was stopped by Mr. Manning who asked why he was behind in his work. Robert explained that he had been ill the last part of the previous week. Mr. Manning put his hand on Robert's shoulder and told him to do his best to get caught up quickly because they had a new

project that week. Mr. Manning then reminded him of the staff meeting to be held later that morning.

In the staff meeting everyone greeted Mr. Manning with a handshake. Mr. Manning introduced a new project to all the engineers on his team. Because of the stress put on the landing gear of the jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. Mr. Manning gave a short history of the problem and mentioned previously tried solutions. He then made specific work assignments to the individuals on the team and asked that they be prepared to present their findings on Thursday. Mr. Manning also reminded the engineers to follow the company's normal design procedures: making the drawing to scale, recommending a series of experiments to test the design, etc. He asked that he be allowed to check each engineer's progress by examining each step in the production and development of the design. As a final announcement, Mr. Manning brought up the fact that certain employees were not at the office on time in the mornings. He specifically reminded Joe Benson that it was company policy that he be there on time or he would have to make up the time.

On Tuesday, Robert was working in his office when a fellow engineer, Dorothy Andrews stopped in with a sketch of the proposed design. She planned to show it to Mr. Manning and asked Robert's opinion. After looking the drawing over, Robert reminded Dorothy that Mr. Manning required a certain format for design presentations, including a specific scale and a number of measurements and relevant figures on the page. Dorothy thanked Robert for the criticisms and returned to her office.

Later that afternoon Mr. Manning dropped by Spaulding's office to check Robert's progress on the design. They discussed a problem Robert had with the wheel bearings and Mr. Manning made several specific recommendations. Afterwards he talked about his bowling team. Putting his hand on Robert's

shoulder, Mr. Manning told him how well he and some other supervisors on his bowling team were doing in the company league. Robert congratulated him on their success.

Thursday afternoon, Mr. Manning called the engineering group into his office and told them to bring their proposals with them. After examining each design, he decided that Tom Jackson's design was the best. Mr. Manning put his arm around Tom and handed him the design. He told Tom to make several specific changes before implementing the design. Mr. Manning asked Dorothy to bring him some coffee and told the other engineers that the company had installed a new WATTS line and from then on, they were to use that line for all long distance calls. He then handed them a WATTS directory and a manual outlining the procedure for its use.

SCENARIO NO. 6

Manipulations

Consideration	Low
Initiating Structure	High
Spatial Invasion	Low

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer Systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under their normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract for the fighters was negotiated with the Navy, he was a logical choice to head up one of the designing teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. He has a degree in aeronautical engineering and has been with the firm for six years. Robert was out with the flu the preceding Thursday and Friday. In his office Robert received a telephone call from Mr. Manning who asked why he was behind in his work. Robert explained that he had been ill the last part of the previous week. Mr. Manning told him to do his best to get caught up quickly because they had a new project that week. Mr. Manning also told him

to expect the secretary to bring him a packet containing that week's project. Later that morning Robert received his packet and as Mr. Manning had said, it contained specific information on a new design project. Because of the stress put on the landing gear of the jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. A brief history of the problem was included in the packet and previously tried solutions were mentioned. Robert was given his specific assignment and was asked to prepare a report for Mr. Manning for Thursday. Mr. Manning's note reminded Robert to follow the company's normal design procedures: making the drawing to scale, recommending a series of experiments to test the design, etc. It also asked Robert to keep him posted on the progress of each step in the production and development of the design.

Tuesday morning, Joe Benson, one of the engineers, was late getting to work. Joe called Mr. Manning and explained the reason why he was late. Mr. Manning told him he would have to make up the time because it was company policy that employees make up lost time.

On Wednesday, Robert was working in his office when a fellow engineer, Dorothy Andrews, stopped in with a sketch of the proposed design. She planned to send it to Mr. Manning and asked Robert's opinion. After looking over the drawing, Robert reminded Dorothy that Mr. Manning required a certain format for design presentations, including a specific scale and a number of measurements and relevant figures on the same page. Dorothy thanked Robert for his criticisms and returned to her office.

Later that day Mr. Manning called Robert to check his progress on the design. They discussed a problem Robert had with the wheel bearings and Mr. Manning made several specific recommendations. Afterward Mr. Manning talked about how well he and some other supervisors on his bowling team were doing in

the company league. Robert congratulated him on their success.

Thursday morning Mr. Manning's secretary came by and collected the design proposals. After examining the proposals, Mr. Manning decided that Tom Jackson's design was the best. Manning sent Tom's proposal back to him and told him to make several specific changes before implementing the design.

Friday afternoon Robert received a memo from Mr. Manning telling him that the company had installed a new WATTS line on Thursday and from then on he should make long distance calls only on that line. He also sent Robert a WATTS directory and a manual outlining the procedures for its use.

SCENARIO NO. 7

Manipulations

Consideration	Low
Initiating Structure	Low
Spatial Invasion	High

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer Systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract for the fighters was negotiated with the Navy, Mr. Manning was a logical choice to head up one of the designing teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. Robert has a degree in aeronautical engineering and has been with the firm for six years. He was out with the flu the preceding Thursday and Friday. In the office lobby, Robert was stopped by Mr. Manning who asked why he was behind in his work. Robert explained that he had been ill the last part of the previous week. Mr. Manning put his hand on Robert's shoulder and told him to do his best to get caught up quickly because they had a new project that week.

Mr. Manning then reminded Robert of the staff meeting to be held later that morning.

In the staff meeting, everyone greeted Mr. Manning with a handshake when he arrived. Mr. Manning then introduced the new project to all the engineers on the team. Because of the stress put on the landing gear of the jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. Mr. Manning gave a general description of the problem and asked them to make their assignments and submit a design later that week. He also told them that he would be around throughout the week if they needed him. Mr. Manning left the meeting and the engineers discussed who would have each assignment. One of the engineers suggested that it might be a good idea if they followed some type of uniform procedures. The other engineers agreed and the procedures were set by the group.

Tuesday morning, Joe Benson, one of the engineers, was late getting to work. Joe went to Mr. Manning and explained the reason why he was late. Mr. Manning put his hand on Joe's arm and told him that it was all right but not to let it happen too often.

On Wednesday, Robert was working in his office when a fellow engineer, Dorothy Andrews, stopped in with a sketch of the proposed design. She planned to show it to Mr. Manning and asked Robert's opinion on the format. After looking the drawing over, Robert told her that Mr. Manning didn't require any particular format, but that the format she used was fine.

Later that afternoon, Mr. Manning dropped by Spaulding's office. Putting his hand on Robert's shoulder, Mr. Manning talked about how well he and some other supervisors on his bowling team were doing in the company league. Robert congratulated him on their success and then asked Mr. Manning about a problem he had with the design of the wheel bearings. Mr. Manning told him to check

with one of the other engineers for specifics.

Thursday afternoon, Mr. Manning called the engineering group into his office and told them to bring their proposals with them. After a forty-five minute discussion on the proposals that were finished, the team decided that Tom Jackson's design was the best. Mr. Manning handed him the design, and with one arm on Tom's shoulder, told him of some very general changes that Tom should think about before implmenting the design. Mr. Manning asked Dorothy to bring him some coffee and told the other engineers that the company had installed a new WATTS line that day.

SCENARIO NO. 8

Manipulations

Consideration	Low
Initiating Structure	Low
Spatial Invasion	Low

Greer Systems is a large corporation, located in a midwestern state, that contracts the design and production of aircraft. They would like to improve the supervisory skills of their first and second line managers. Greer Systems has been looking for a coordinator to head up a supervision workshop. In order to assess potential candidates, observers were sent to several leading managers to record their supervisory styles. The selected managers were told that their office was being observed to determine the function of each employee in Greer Systems. The observer would be a temporary assistant to help catch up on the paperwork that was lagging behind. In this manner the manager and his subordinates could be observed under their normal conditions. We would like you to read one of the observer's reports and answer some questions assessing the manager's supervisory skills.

Mr. Jerry Manning is the head of an engineering team in charge of landing gears. The team is composed of four engineers who have been working together for about eleven months. Presently the team is working on a project to improve the landing gear for a jet fighter produced for the Navy. Mr. Manning is a former naval pilot and has been with the company for several years. When the contract for the fighters was negotiated with the Navy, Mr. Manning was a logical choice to head up one of the designing teams.

The observation started Monday morning, the 12th of February. This observer worked in an office with Robert Spaulding, a senior member of the team. Robert has a degree in aeronautical engineering and has been with the firm for six years. He was out with the flu the preceding Thursday and Friday. In his office, Robert received a telephone call from Mr. Manning, who asked him why he was behind in his work. Robert explained that he had been ill the last part of the previous week. Mr. Manning told him to do his best to get caught up quickly because they had a new project that week. Mr. Manning also told him

to expect the secretary to bring him a packet containing that week's project. Later that morning, Robert received his packet and as Mr. Manning had said, it contained information on the new project. Because of the stress put on the landing gear of the jet fighter when it makes a short landing on an aircraft carrier, a problem arose with the wheel bearings. A general description of the problem was included in the packet and instructions asked Robert to submit a design later that week. Mr. Manning said to call if Robert had any problems with the design. After lunch the engineers got together to discuss the new project and to decide who would have each assignment. One of the engineers suggested that it might be a good idea if they followed some type of uniform procedures. The other engineers agreed and the procedures were set by the group.

Tuesday morning, Joe Benson, one of the engineers, was late getting to work. Joe called Mr. Manning and explained the reason why he was late. Mr. Manning told him that it was all right but not to let it happen too often.

On Wednesday, Robert was working in his office when a fellow engineer, Dorothy Andrews, stopped in with a sketch of the proposed design. She planned to send it to Mr. Manning and asked Robert's opinion on the format. After looking over the drawing, Robert told her that Mr. Manning didn't require any particular format, but that the format she used was fine.

Later that day Robert called Mr. Manning about a problem he had with the design of the wheel bearings. Mr. Manning told him to check with one of the other engineers for specifics. Mr. Manning then talked about how well he and some other supervisors on his bowling team were doing in the company league. Robert congratulated him on their success.

Thursday morning, Mr. Manning's secretary came by and collected the design proposals. After reviewing the proposals that were finished, Mr.

Manning posted each proposal on the bulletin board and asked all the engineers to vote for the best design.

On his way out of the office Friday afternoon, Robert noticed on the bulletin board that the company had installed a new WATTS line on Thursday. It was also posted that Tom Jackson's proposal had been selected by the engineers as the design for the project. Robert stopped by Tom's office and congratulated him.

APPENDIX B

QUESTIONNAIRES

SUPERVISOR

The following section is to be used to describe the leader of the group. Assuming that the brief description of Mr. Jerry Manning is typical of his usual behavior, we would like your opinion of that behavior. Your opinions are to be indicated by placing a circle around one answer for each question.

1. He makes his attitudes clear to the group.
always often occasionally seldom never
2. He assigns group members to particular tasks.
always often occasionally seldom never
3. He schedules the work to be done.
always often occasionally seldom never
4. He maintains definite standards of performance.
always often occasionally seldom never
5. He encourages the use of uniform procedures.
always often occasionally seldom never
6. He asks that group members follow standard rules and regulations.
always often occasionally seldom never
7. He decides what shall be done and how it shall be done.
always often occasionally seldom never
8. He makes sure that his part in the group is understood by the group members.
always often occasionally seldom never
9. He tries out his ideas with the group.
always often occasionally seldom never
10. He does little things to make it pleasant to be a member of the group.
always often occasionally seldom never
11. He acts without consulting the group.
always often occasionally seldom never
12. He expresses appreciation when one of the group members does a good job.
always often occasionally seldom never

13. He treats all group members as his equals.

always often occasionally seldom never

14. He is willing to make changes.

always often occasionally seldom never

15. He gives advance notice of changes.

always often occasionally seldom never

16. He looks out for the personal welfare of group members.

always often occasionally seldom never

SUBORDINATES

In this section of the questionnaire, you are asked to judge the extent to which each of the following descriptive words accurately describes the feelings and job performances of Mr. Jerry Manning's subordinates.

For each pair of words, place an X over the degree that you feel best describes the subordinates. For example, if the pair of words were Happy, Unhappy, and you felt the subordinates were probably extremely happy, then you would place an X on degree number 1 as shown below.

Happy X Unhappy
 1 2 3 4 5

Mr. Manning's subordinates are likely to be:

1. Tense Calm
 1 2 3 4 5

2. Satisfied Unsatisfied
 1 2 3 4 5

3. Unproductive Productive
 1 2 3 4 5

4. Bored Fascinated
 1 2 3 4 5

5. Challenged Unchallenged
 1 2 3 4 5

6. Serene Nervous
 1 2 3 4 5

7. Motivated Unmotivated
 1 2 3 4 5

8. Anxious Tranquil
 1 2 3 4 5

9. Unhappy Happy
 1 2 3 4 5

10. Hard Working Lazy
 1 2 3 4 5