THE CONSIDERATION AND INITIATING STRUCTURE RELATIONSHIP: POTENTIAL MODERATOR VARIABLES

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ABSTRACT

THE CONSIDERATION AND
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By

Gregory Edward Huszczo

This thesis focused on three areas concerning leadership:

1. The relationship between Consideration and Initiating Structure and the allegation that CON. and I.S. are independent.

2. The possibility that some individual differences variables (particularly, personal background characteristics) moderate the relationship between CON. and I.S.

3. The possibility that I.S. is a moderator of the consideration-satisfaction relationship and CON. is a moderator of the initiating structure-satisfaction relationship.

An overview of leadership research focusing on studies involving Consideration and Initiating Structure was provided. House's Path-Goal theory of leadership was reviewed in depth because it combines the CON.-I.S. leadership research with the need to investigate the effects of moderator variables in leadership research.

The subjects of this study were 232 hourly production workers in large automobile plants. Data were collected by questionnaire using the following instruments: the Consideration and Initiating Structure

scales developed by Stogdill, 1965 (LBDQ Form XII), a Biographical Data Blank developed for the Chrysler Foreman Training Project, and the Job Involvement, Job Identification scales developed by Ruh, Johnson, and Scontrino [1973]. All of these scales are provided in the appendices of this thesis.

CON. and I.S. were found to be highly correlated. Several explanations are offered and serious questionning of the appropriateness of items on these scales with no concern to situational variables is discussed. None of the variables tested succeeded in moderating the CON.-I.S. relationship. Also, CON. failed to moderate the I.S.-Satisfaction relationship and I.S. failed to moderate the CON.-Satisfaction relationship. Several explanations are offered, focusing on the measurement "problems" the CON. and I.S. scales have in a sample like that used in this study.

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CHAPTER I

A LOOK AT THE LITERATURE

Leadership is a concept considered important and frequently encountered but seldom understood. Literally thousands of studies, articles, and books have dealt with leadership and its various aspects. It is recognized as a very important factor in the welfare of our country today. The health of our economy, the progress of our people, and the success of all sorts of organizations depends to some extent upon the quality of leadership associated with them. It would seem that with so much value and interest attached to good leadership, many clearcut facts would be known concerning this phenomenon. Unfortunately, for a variety of reasons, such is not the case. Lack of agreement over definitions, lack of consistent use of various concepts across studies, exclusion of factors in some studies, inclusion of factors in others have all led us to the problem of lack of generalizable knowledge concerning leadership. As a result, there is a great mass of literature in the field which has little organization, few common assumptions, and many different theoretical and methodological approaches.

A possible major reason for this situation of confusion is the apparent "faddish" approach to the study of leadership. A review of the literature reveals the major approaches to be the personality-trait approach (of the "Great Man Theory"), the peer-nomination approach (sociometric studies), the leaderless temporary group

approach (leader-emergent studies), the participation-influence approach (Scanlon Plan studies, effects of participation studies), the types of power approach (referent, expert, etc.), the role-function approach (small group studies), the leadership and organizational outputs approach, the behavioral approach (description studies), and the situational variables approach (Fiedler). Each of these approaches seem to be inspired by (a) successful finding(s) which set off a rash of studies using that approach. This has left us with several problems including subareas within leadership that have no overlap between approaches, apparent "loose-ends" left unresolved within individual approaches, and some difficulty in replicating some results of researchers using individual approaches.

The Behavioral Approach and the Ohio State Studies

In the last twenty-five years perhaps the most dominant approach (based on amount of literature generated) is the behavioral approach.

> The behavioral approach is quite simple in its philosophy. It states that the best way to study and to define leadership is in terms of what leaders do rather than in terms of what leaders are. Thus, one is concerned with leader "behaviors" rather than leader traits. In outline form, the behavior approach:
>
> 1. Collects critical incidents of good and bad leadership behavior.
> 2. Scales each incident to determine, in the eyes of experts, how "good" or how "bad" each behavior is judged to be.
> 3. Develops a check-list type questionnaire . . . . A leadership "score" can be computed by using the median scale value of the behaviors which have been checked [Blum & Naylor, 1968, p. 421].

The major impetus and best example of this approach is the Ohio State Leadership Studies. Begun in 1945, this interdisciplinary endeavor attempted to describe the behavior of leaders in terms of: 1) "What does an individual do while he operates as a leader, and 2) How does he go about what he does? [Hemphill & Coons, 1957, p. 6]."

"While this program was responsible for a variety of significant findings, it is quite likely that the most important contribution was isolation of 'Consideration' and 'Initiating Structure' as basic dimensions of leadership behavior in formal organization [Korman, 1966, p. 349]." These dimensions emerged, through factor-analytic procedures, in the development of a measuring instrument named the Leader Behavior Description Questionnaire (LBDQ) during these Ohio State studies. Since the purpose of this thesis is to provide further investigation of the two concepts Consideration and Initiating Structure, it is appropriate to take a detailed look at the development of the LBDQ.

When the Ohio State Leadership studies were initiated in 1945, "no satisfactory theory or definition of leadership was available." [Shartle, 1957, p. 1]. To provide a starting point, the research staff defined leadership as "the behavior of an individual when he is directing the activities of a group toward a shared goal." They decided not to define leadership as good leadership to avoid criterion contamination since their goal was the description of leadership first and then its evaluation as a separate research project. The Leader Behavior Description Questionnaire was its major outcome.

Development of the LBDQ

The LBDQ started with 1800 items generated by the staff members of the Personnel Research Board at Ohio State and two advanced university classes and was reduced to 150 items by "expert judges" who sorted them into nine "a priori" dimensions of leadership (Initiation, Membership, Representation, Integration, Organization, Domination, Communication, Recognition, and Production). This original form was administered to several groups and the results showed high correlations among the dimensions. A factor analysis was performed to reorganize the items into fewer and more independent categories of leader behavior. This factor analysis was performed on data from 300 Air Force crew members describing 52 air crew commanders. The results may be seen in Table 1. The two major factors (accounting for more than 80 percent of the common variance) were labeled "Consideration" and "Initiating Structure." The items that loaded on the "Consideration" factor described behavior like friendship, mutual trust and respect, and good "human relations" between the leader and his group. The items that loaded on the "Initiating Structure" factor described behavior such as organizing and defining the relationships between himself and the group, in defining interactions among group members, establishing production methods and scheduling.

Fleishman [1953] used these findings to develop a form of this questionnaire to be used in industry. This form is called the Supervisory Behavior Description (SBD) questionnaire and its final form consisted of twenty-eight items on the Consideration dimension and twenty items on the Initiating Structure dimension. This form

Table 1. Percent of common variance accounted for by four factors [Factor Analysis of Halpin & Winer, 1954, p. 41].

Factor Number	Factor Designation	Percent of Common Variance
I	Consideration	49.6
II	Initiating Structure	33.6
III	Production Emphasis	9.8
IV	Sensitivity (Social Awareness)	7.0

and slight variations of it has been widely used in empirical research, particularly in military organizations, industry, and education. A questionnaire parallel to the SBD that also measures the two dimensions Consideration and Initiating Structure is the Leadership Opinion Questionnaire [Fleishman, 1957]. However, this form deals with the perceptions of the leaders themselves of how they should act instead of the perceptions of the subordinate of how their leaders act. The form used in this thesis is called Form XII of the LBDQ. It represents further revisions of the LBDQ most notably by Stogdill [1962]. Details of this particular form will be presented in the methods section of this thesis.

Consideration and Initiating Structure

Fleishman and Harris [1962, p. 43-44] provided definitions of the two dimensions the studies at Ohio State have isolated. They are:

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.

Initiating 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. This dimension seems to emphasize overt attempts to achieve organization goals.

Similar definitions are provided by Fleishman and Peters [1962], Halpin [1954], Hemphill [1955], and Rambo [1958]. The two scales are said to be reliable (Fleishman, Harris and Burtt, 1955 claim test-retest reliabilities over eleven months of .58 and .87 for consideration and .46 and .75 for initiating structure. Also, split-half reliabilities showing internal consistency have been reported for various samples ranging between .68 and .98). Attempts to establish validity for the two scales have been made by correlating these scales with independent measures of leadership effectiveness and organizational criteria. [See Stogdill and Coons monograph, 1957 for details]. Most notably, Fleishman and Harris [1962] found a relationship between

structure and satisfaction measures (i.e., absenteeism, turnover, and grievance rates). They also found that structure moderates the relationship between consideration and these measures. The two scales are claimed to be independent [Fleishman, 1953; Halpin and Winer, 1957] of each other based on the fact that consideration and initiating structure were orthogonal factors in factor analyses of the original items. Conceptually, the leader's behavior with respect to one dimension does not necessarily affect his behavior with respect to the other. Fleishman reports correlations of-.05 (for a sample of 176 ROTC students who described their superior officers), -.02 (for a sample of 122 foremen who described their own supervisors), and -.33 (for a sample of 394 workers who described the 122 foremen in the above mentioned sample). This last correlation might lead the reader to doubt the true independence of these two scales. Fleishman [1969] defended the claim of independence of the two scales against the reports of significant correlations occurring between them by arguing that there exists positive, negative and non-significant relationships but the median correlation of these studies would be the true value of zero and the significant correlations that have been found represent a simple sampling distribution around that true value. Korman [1966], Weissenberg and Kavanagh [1972], and Lowin, et al. [1969] all present evidence that the independence of the two scales is dubious at best. Since the major purpose of this thesis is to investigate the relationship between consideration and initiating structure, let us take a look at the evidence that the above-mentioned authors present.

Major Reviews of CON. and I.S. Research

Korman [1966] provides an extensive review of the research involving consideration and initiating structure. Korman's review deals with the correlations found between these two dimensions and various measures of effectiveness. Korman comes to fairly negative conclusions after reviewing sixteen studies that used the LOQ and sixteen studies that used the LBDQ. The studies that used the LOQ resulted in mostly insignificant correlations for both variables with the effectiveness criteria. "Whatever trend that does exist seems to indicate that consideration might have some relation to a 'pleasantly affective' work situation [Korman, 1966, p. 351]." The results using the LOQ for measurement of Initiating Structure are rather inconsistent and the only pattern that shows at all is a prevalence of low correlations. Studies using the LBDQ tended to show "a slightly more consistent pattern of Consideration being related to effective performance positively and Initiating Structure negatively, but there is a great degree of inconsistency even among studies using somewhat similar populations [Korman, 1966, p. 354]." Korman also points out that almost all the studies performed on these dimensions are of the concurrent validity variety. Thus, even in the cases where there are significant relationships between leader behavior and effectiveness, there is no evidence whether the variation on these scales is a predictor of different kinds of worker behavior or whether the reverse of this could be the case.

Furthermore, Korman points out that the designs of these studies generally just correlate the scale scores with the criterion variables without including situational variables that may be moderating these relationships. He concludes that future research of these variables must not only recognize the possible effects of situational variables, but must also systematically conceptualize what the variance due to these variables mean in relationship to leadership behavior. House [1971] attempts to do just that. Attention will be given to his propositions later in this review.

Anderson [1966] also reviewed the literature on I.S. and CON. though less exhaustively than Korman. He also comes to the conclusion that studies investigating variables that may moderate the relationships between the leader behavior dimensions and effectiveness criteria are sadly lacking. The focus of his paper is his cross-cultural correlational study using these dimensions. He points out that differing results occur when the data are analyzed separately within cultural groups. He explains this by speculating that the subordinates had differing role-expectations of the leaders. This is a suggestion that a personal background variable (culture) may moderate relationships involving consideration and initiating structure. Anderson concludes that in almost any situation, a subordinate holds some expectations as to the "proper" level of structuring to be provided by his supervisor. When leader behavior exceeds this expectation, it is likely to be perceived by the subordinate as an illegitimate, uncalled for imposition.

Weissenberg and Kavanaugh [1972] reviewed seventy-two studies using measures of Consideration and Initiating Structure. Of these

they found thirty-seven (51 percent of the studies reviewed) reporting significant positive relationships between the two leadership dimensions, seven (10 percent) reporting significant negative correlations, and twenty-eight (39 percent) reporting nonsignificant correlations. This surely throws doubt on the claim that Consideration and Initiating Structure are orthogonal. Furthermore, Weissenberg and Kavanaugh point out that the median for all the studies they reviewed was .36. This finding negates Fleishman's argument for a median of zero and a simple sampling distribution around that true score. They went further and discovered that studies that used the LOQ to measure Consideration and Initiating Structure generally showed independence between those two variables (of the twenty-four studies reviewed, three had significant positive relationships, five had significant negative relationships and sixteen had non-significant relationships). The forty-eight studies reviewed using the LBDQ, however, showed thirty-four positive relationships, two negative relationships, and twelve nonsignificant relationships between Consideration and Initiating Structure. Remember, the LOQ is a self-report, attitudinal questionnaire which asks the respondent to describe his ideal leadership behavior. The LBDQ asks the subordinates to describe the actual behavior of the leader as they perceive it. Thus, just whose perceptions of leader behavior one uses seems to effect what type of relationship will be found between the concepts Consideration and Initiating Structure.

Weissenberg and Kavanaugh also found a situational variable that seems to moderate the relationship between CON. and I.S., i.e., organizational level. Of these thirty-eight studies reviewed, sixteen of the twenty-seven studies using first level supervisors reported

significant relationships while only four of the eleven studies done on managers above the first level reported significant correlations.

Lowin, Hrapchak, and Kavanaugh [1969] performed one of the only experimental endeavors studying the relationships of Consideration and Initiating Structure with each other and with measures of productivity and job satisfaction. Their use of an experimental design provides some advantages that are not available in the correlational studies. First, it provides an opportunity to deal with the meaning of each concept as well as the distinction between consideration and initiating structure because the experimental conditions represent conceptual distinctions. Second, an experiment provides the opportunity to investigate directionality of relationships. Third, experimentation allows for closer examination of the perceived relationship between CON. and I.S. and "thus allows for a clarity (not simplicity!) of interpretation often unattainable in conventional observational research [Lowin et al., 1969, p. 241]."

Lowin et al., generated three hypotheses: 1) That consideration and initiating structure will be orthogonal when subordinates rate their supervisors, 2) that productivity and quality of work of the subordinates will positively correlate with both consideration and initiating structure of the leader, and 3) that job satisfaction of the subordinate will correlate positively with consideration. They used a 2 x 2 x 2 design where subjects received either a high or low consideration treatment, a high or low initiating structure treatment and with a productivity or quality orientation. The consideration and initiating structure treatments were accomplished by use of scripts

formed by using behaviors listed in the LBDQ as high or low consideration behaviors. The productivity or quality orientation was also transmitted verbally to the subjects. The job each subject worked on was a repetitive job of gapping spark plugs. After an interview with the experimenter each subject was hired and then was subjected to one of the treatment combinations. Subjects did not know they were in an experiment, they thought they were applying for a part-time job advertised in the newspaper. All subjects were debriefed after the experiment and paid for their time. The dependent variables studied in this experiment were perceived consideration, perceived initiating structure (using items from the LBDQ), productivity (number produced), quality (errors and deviations), and job satisfaction (using the Brayfield-Roth Index).

The results of this experiment give evidence that the manipulations of the variables were effective, that the subordinates perception of consideration was effected by his perception of initiating structure but not vice-versa, that consideration had an effect on productivity, quality, and job satisfaction, and that is all. No other main or interaction effects were significant. Lowin et al. reanalyzed their data to use perceived initiating structure and consideration scores to define treatment cells rather than assuming the treatment effect. The new analysis produced very similar findings except the effect consideration had on productivity was reduced to nonsignificance but the effect consideration had on job satisfaction increased to significance.

Lowin et al. conclude that consideration and initiating structure are interdependent under certain circumstances. They speculate

that there is reason for anticipating such a relationship. The exercise of authority by supervisor may force some degree of emotional distance between himself and his subordinates. A negative correlation between consideration and initiating structure would then be expected. (This study resulted in a correlation between CON. and I.S. of -.20). However, they cite Anderson's [1966] notion that subordinates have an expectation of what is the "proper" level of structuring for a given situation. When actual structuring exceeds that expectation, the subordinate feels imposed upon and thus will effect his perception of the consideration level of the supervisor. Variables like subordinate competence and task simplicity would surely effect the intercorrelation of CON. and I.S. then. The correlation between CON. and I.S. would also be effected by the extent of a halo effect in the situation and any effect due to the method used to measure the variables.

The effect that consideration had on job satisfaction was expected and the extent to which job satisfaction was motivational may explain the relationship between consideration and productivity and quality. The lack of correlation between productivity and initiating structure was explained by the authors as the result of the simplicity of the task. The task was simple enough that imposed structure could not improve performance. This is parallel to what House [1971] predicts in his theory that will be discussed later in this review. Lowin et al. re-emphasized the need for further research investigating the effect moderator variables such as job level and other job characteristics have on relationships involving consideration and initiating structure.

The same article by Lowin et al. [1969] reports another study they performed concerning the perception of supervisory behavior. In this study they wanted to investigate the above-mentioned finding that perceptions of consideration were affected by level of initiating structure but not vice-versa. A panel of thirty-three male undergraduates, unfamiliar with the concepts, were trained to rate behaviors of consideration and initiating structure. The results of rating tests involving leader behavior gave evidence that the judges were able to learn the concepts and reflected a marked negative correlation between perceptions of consideration and initiating structure. To test whether perceptions of consideration were affected more by initiating structure than vice-versa several analyses were performed to discover if judges confused consideration or initiating structure items more often. The results seemed to indicate that the judges perceived consideration as affecting initiating structure as much as initiating structure affected consideration.

Moderator Variables of the CON. and I.S. Relationship

A common theme of Korman [1966], Anderson [1966], Lowin, et al. [1969], and Weissenberg and Kavanaugh [1972], is that there are moderator variables affecting the relationships between Consideration and Initiating Structure with each other, and these dimensions, with measures of effectiveness. Katzell, Barrett, and Parker [1961] suggest specifically that effectiveness of particular kinds of leadership practices might be moderated by such variables as the size of the company and the degree of urbanization where the company is located.

Vroom [1964] feels that the effectiveness of particular kinds of supervisory practices would be moderated by the wishes and expectancies of the subordinates. House [1971] takes directly off from this speculation of Vroom's. He uses expectancy theory to explain how leader behavior affects the subordinates and thus the measures of effectiveness commonly studied in the literature on Consideration and Initiating Structure. His theory asserts there are three kinds of moderator variables on which the effects of leader behavior are contingent: task variables, environmental variables and individual difference variables. The details of House's theory lay the conceptual framework for an explanation of the effects of subordinate's expectations on their perceptions of leadership behavior.

House's Leadership Theory

House's Path-Goal Theory of leadership combines the research efforts using the expectancy theory of motivation and the Path-Goal hypothesis of Georgopolous, Mohoney and Jones [1957]. House states:

> The central concept of Expectancy Theory is that the force on an individual to engage in a specific behavior is a function of (1) his expectations that the behavior will result in specific outcomes, and (2) the sum of the valences, that is, personal utilities or satisfactions, both intrinsic and extrinsic, that he expects to derive from the outcomes. Research findings indicate that the function is a non-linear monotonically increasing product of expectations and valences [House, 1971b, p. 4].

House uses the Galbraith and Cummings [1967] expectancy model. This model is an extension of Vroom's [1964] model with the addition that some of the valences associated with a behavior are intrinsic to the behavior itself and some are extrinsic consequences of that

behavior. Notice that when the behavior itself is largely intrinsically valent, then the instrumentality (which here is Evan's [1968] Path instrumentality defined as "the cognition of the degree to which following a particular path [behavior] will lead to a particular outcome"--similar to Vroom's "expectancy") must be one or close to that. After all, behavior that is intrinsically valent can be assumed to be also intrinsically motivational because valences associated with it are completely certain.

This is the motivation theory House uses:

$$M = IV_b + E_1 \left[IV_a + \sum_{b=1}^{n} (E_2 \, EV_i)\right] \quad i = 1, \ldots, n$$

M = Motivation to work.

E_1 = The individual estimates the probability that his behavior will accomplish some work goal . . . So he must consider his abilities to do what is necessary and also the barriers that stand in his way of accomplishing the task, and also the support he can count on from others to complete the task.

E_2 = The individual also estimates the probability that accomplishing the task will get him the rewards that he wants (i.e., that are valent to him).

IV_b = The individual gives some subjective value to the intrinsic valence that the behavior itself (the behavior necessary for the goal accomplishment) would bring to him.

IV_a = The individual gives some subjective value to the intrinsic valence that accomplishing the work goal will bring him.

EV_i = The individual gives some value to the extrinsic valences associated with the outcomes he will personally receive for accomplishing the task.

Using this as a stepping stone, House points out that a leader's behavior can affect each of those variables that will lead to motivation.

EV_i = The leader (at least in part) helps determine the extrinsic rewards associated with accomplishment of the work goal. He may assist in raises in wages, in promotions, certainly in recognition of the accomplishment, and possible assignments to the more interesting or better parts of jobs.

E_2 = The leader can increase the expectancy of the subordinate of the reward(s) occurring upon completion of the work goal. He can clarify the connection between rewards and work-goal accomplishment by being consistent in recognizing and rewarding the accomplishments. When the subordinates see this behavior then their estimate of E_2 will increase.

E_1 = The leader can affect the three areas that an individual considers in his estimate of E_1. That is, he may provide support for the subordinates efforts; he may help train the individual and thus increase the subordinates abilities to perform the task; and he may reduce the barriers that stand in the subordinate's way of accomplishing the task. These last two leader behaviors (increasing abilities and reducing barriers) are sometimes not possible in certain operations. However, providing support for the subordinates should always be possible.

IV_b = The leader behavior associated with increasing this variable is very similar to those associated with increasing E_1. In order to make the work behavior itself more intrinsically valent, the leader may reduce frustrating barriers, be supportive especially in times of stress, and be considerate of the different needs of the subordinates. This may mean increasing the social interaction on the job, encouraging more participation of the subordinates in planning the task, praising the worker personally for his work related behavior, or any other method that the leader has at his disposal to make the work itself more satisfying for the subordinates.

IV_a = The leader may increase the intrinsic valence associated with the subordinate's accomplishing the task by making the rewards more in line with the subordinates higher level needs and by assigning subordinates to positions that upon accomplishment produce the rewards the subordinate wants. For example, by giving more influence and goal control to subordinates with high needs for independence [Vroom, 1959; Campion, 1968] or high needs for achievement [Litwin & Stringer, 1968], the leader will increase the intrinsic valence associated with work goal accomplishment for these people.

House further points out that when a leader has influence with his superiors and peers, he may be able to influence the goals and design of the whole (or at least the parts significant to his subordinates) organization task system. Any efforts on his part that help bring the goals and procedures more in line with his subordinates

needs and desires will bring about increases in one or more of the variables that influence motivation.

House goes on to clarify and modify these statements concerning the behaviors of the leader and their effects on motivation by stating eight propositions. Basically, these deal with situational factors and make predictions concerning the effect of particular leader behaviors possible. These propositions may be stated as:

1. "The motivational functions of the leader consists of increasing personal payoffs to subordinates for work-goal attainment, and making the path to these payoffs easier to travel by clarifying expectancies, reducing road blocks and pitfalls, and increasing the opportunities for personal satisfaction en route [House, 1972, p. 6]."
2. The leader's clarifying of the path-goal relationship and thus increasing expectancies will have positive motivational effects to the extent that:
   a. it reduces role ambiguity. Role ambiguity is negatively valent to subordinates [Rizzo et al., 1970] and it "is usually associated with low subjective estimates of the probabilities that effort will be rewarded."
   b. it makes possible the exercise of externally imposed controls. Externally imposed controls are motivational because they make possible the allocation of valences contingent on desirable behavior. This works only when the leader controls the positively valent rewards the subordinate desires, when the leader controls the punishment associated

with the negatively valent aspects, when the rewards and punishments are contingent on performance, and when the contingency is clearly perceived by the subordinates. (Note that here House referred to motivation for performance.) "Whether performance motivated by external controls is satisfying to the subordinate depends on his needs, values, and perceptions of equity in the exchange of effort for rewards [House, 1972, p. 7]."

3. When the system controls the objectives and routines of the task, a leader's attempts to clarify path-goal relationships may be seen as redundant with existing conditions. If the use of these externally imposed controls by the leader are seen as redundant, such controls may increase performance but will also decrease satisfaction.
4. Leader behavior directed at need satisfaction of subordinates will result in increased performance to the extent that such satisfaction increases the net positive valence associated with goal-directed behavior.
5. Satisfaction desired by subordinates from the behavior of his leader equals the frequency of that behavior, multiplied by the subordinates preference for it. Thus, the leader behavior must be congruent with the subordinates behavioral preferences to be satisfying. The extent that it is or is not congruent is the extent that it is or is not satisfying.
6. Subordinate preferences are determined by the personality and cultural training of subordinates.

7. The extent that particular leader behaviors are seen as legitimately required to facilitate the subordinate's task performance determines the extent that such behavior will increase the expectancies of subordinates that their effort will lead to work-goal attainment (E_1). Thus, E_1 is a function of the frequency of the leader behavior multiplied by the degree to which the subordinates perceive that behavior as facilitating their task performance. This perception is determined by the objective performance requirements of the task and the subordinates' familiarity with those task requirements.
8. The more the subordinate is dependent on the leader, the greater will be the effect of the leader's behavior on the subordinate's expectancy that work goal accomplishment will result in desired outcomes.

These propositions assert then, that there are three kinds of moderator variables on which the effects of leader behavior is contingent: task variables, environmental variables, and individual difference variables.

It is clear that behavior that clarifies path-goal relationships, reduces role ambiguity, or imposes external controls would be considered initiating structure behaviors. Leader behavior providing support and providing need satisfaction would be examples of consideration behaviors.

In a presentation of his theory [House, 1971], House reviewed the literature involving initiating structure as measured by

perceptions of the subordinates (LBDQ). He came to basically the same conclusions the previous reviewers came to. He found the relationships between initiating structure, performance measures, and satisfaction measures were inconsistent. He found that these relationships were affected by job level, group size, and level of consideration. He then proceeds to give a post hoc interpretation of these results using his Path-Goal Theory constructs. Basically, he explains positive correlations of I.S. with measures of performance and satisfaction by citing evidence concerning situational variables (e.g., evidence of ambiguity in the job situation where the measures were taken--thus increased consideration and satisfaction ratings). He also uses situational variables to explain negative and zero correlations too (e.g., in routine jobs I.S. is seen as redundant external control and thus lowers ratings of consideration, and satisfaction or in autonomous jobs (sales) initiating structure would not clarify expectations that performance will result in rewards, since the performance-reward relationship is determined by the compensation system. Thus increased, I.S. would be of no help and may actually hinder). House admits he made some assumptions concerning the moderator variables he used in this post hoc analysis. So, he included an empirical test of his theory also. A report of his study follows.

Dessler and House administered the LBDQ [form XII Stogdill, 1965], a modified form of Evans' [1958] expectancy scales (Expectancy I and II), a modified form of Porter's scales designed to measure opportunities for valent intrinsic or extrinsic outcomes, a role ambiguity scale [Rizzo, House and Lirtzman, 1970] and a scale developed

to measure certainty or predictability of task demands. All scales had reliabilities in excess of .70. The following hypotheses were tested:

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; and (b) the positive correlation with satisfaction and expectancies.

2. The correlations between leader consideration and subordinate satisfaction and expectancies will be positively moderated by task certainty. The consideration-role ambiguity will be negatively moderated.

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. Specifically, when leader consideration is held constant, the moderating effect of task certainty will be more pronounced [House, 1972, p. 21].

After adjusting the moderator groups for homogeneity of occupational level, Dressler and House report these results. Support for the first hypothesis was found with respect to Expectancy II and Role Ambiguity but not for Expectancy I, intrinsic job valence or extrinsic valence opportunities. The second hypothesis was strongly supported with respect to Expectancy I and opportunities for both intrinsic and extrinsic valence. The third hypothesis was also strongly supported. Nine of the 11 r's between initiating structure and the dependent variables decrease in the predicted direction as task certainty increases.

This study provides rather strong support for House's theory. In the discussion section of his paper [House, 1972], House proposes a modification of the theory to include the effect due to covariance

of consideration on any relationships between structure and dependent variables. House proposes that such covariance would have its greatest effect under conditions where the task is less satisfying.

> The present findings indicate that covariance of consideration suppresses the r between structure and the dependent variables under conditions of high task certainty. It is likely that tasks with more certain demands are also more dissatisfying for at least a majority of the respondents [House, 1972, p. 24].

The findings of the study referred to in his paper clearly show that under conditions of low task certainty, with consideration held constant, the relationships between leader structure and the dependent variables are in line with the predictions of House's theory. House mentions that the findings of this study indicate that as task certainty increases, leader consideration becomes an increasingly important function. Under high certainty, consideration facilitates performance, thus raising the expectancy that effort will lead to goal attainment and goal attainment will lead to the rewards that are desired.

Caution should be taken in considering the results reported by House. No cross-validation on the correlations was attempted and all of his results are correlational in nature--though, despite this, House infers some causality. House suggests further research be performed on the relationships he describes. He states the need for more moderator variable approaches to understand the complex relationships between Initiating Structure, Consideration and effectiveness criteria.

Conclusions from Literature Review

After reviewing all of the previous literature, the present author has come to several conclusions:

--that the literature about CON. and I.S. presents a complex picture of results.

--that there is sufficient evidence to state that a relationship exists between perceptions of Consideration and Initiating Structure [Anderson, (1966), Lowin et al. (1969), House (1972), and Weissenberg and Kavanaugh (1972)].

--that there exist moderator variables that influence the relationships of I.S. to CON. and of each to measures of leader effectiveness (performance and satisfaction measures).

--that research in this area that includes moderator variables is insufficient.

--that the most promising moderator variables to investigate include task characteristic variables, situational variables, and individual difference variables of both the leaders and the subordinates.

--that the speculations of Lowin et al. [1969] and especially the Path-Goal Theory of Leadership of House [1972] provide a reasonable framework to explain the apparent inconsistent findings of studies involving Consideration and Initiating Structure.

The purpose of this thesis is to expand the literature in three areas: 1) Further investigate the claim of independence in the CON.-I.S. relationship; 2) Investigate the possibility that some individual

difference variables (in particular personal background characteristics) moderate the relationship between perceived consideration and perceived initiating structure; 3) Investigate the possibility of initiating structure as a moderator of the consideration-satisfaction relationship and consideration as a moderator of the initiating structure-satisfaction relationship.

CHAPTER II

METHODS

This study was part of a larger program investigating the effectiveness of an experimental foreman training program and uses data collected from the hourly employees with instruments embedded in a larger questionnaire.

Subjects

The subjects of this study were 232 hourly production workers in the Detroit area Chrysler Corporation manufacturing plants. An attempt was made to collect data on 592 subjects by means of a questionnaire using three procedures: 1) personal administration of the questionnaire; 2) mail and returned through the mail; and 3) distribution at the plant and returned through the mail. The usable data includes the data of subjects collected in the plant (24) the data of subjects returned via the mail (258). The return rate (calculated as the proportion of data collected from the available sample) was 48 percent. Of these 282 subjects some (50) did not complete those sections of the questionnaire used for this study. The data for those subjects were also dropped thus leaving 232 usable subjects.

Instruments

Three instruments were employed in this study. 1) Measures of Consideration and Initiating Structure on which the subjects rated their foreman's behavior were achieved through the use of the Leader Behavior Description Questionnaire [Form XII, Stogdill, 1965]. The items of these scales are listed in Appendices A and B.

Marder [1960] reported the first use of this form of the scales in a study of an army division and a state highway patrol organization. Day [1961, 1963], Stogdill [1962] and Goode [1963] used revised forms of this questionnaire in studies on an industrial organization, a group of ministers, leaders in a community development, United States Senators, and presidents of corporations. The subscales, means, standard deviations, and reliabilities from previous studies (determined by a modified Kuder-Richardson formula--modified in that each item was correlated with the remainder of the items in its subscale rather than with the subscale score including the item, thus "Conservative" estimate of subscale reliability) are all shown in Table 2.

2) The second instrument used in this study was the Biographical Data Blank developed for the Chrysler Foreman Training Research Project. A copy of this instrument appears in Appendix C.

3) The third instrument used consisted of two scales: Job Involvement and Job Identification (see Appendix D). These scales, developed by Ruh, Johnson, and Scontrino [1973], are used as a means of measuring a worker's satisfaction with his job. Responses to items of these scales were presented in Lickert-type format.

Table 2. Means, standard deviations, and reliabilities of I.S. and CON. scores in studies using form XII of the LBDQ.

Subscales		Army Division	Highway Patrol	Aircraft Executives	Ministers	Community Leaders	Corporation Presidents	Labor Presidents	College Presidents	Senators
Initiating Structure	Mean	3.86	3.97	3.66	3.87	3.72	3.85	3.83	3.77	3.88
	SD	.57	.45	.54	.49	.57	.50	.56	.42	.55
	Rel.	.79	.75	.78	.70	.72	.77	.78	.80	.72
Consideration	Mean	3.71	3.69	3.71	4.25	4.11	4.15	4.23	4.13	4.11
	SD	.56	.65	.58	.58	.47	.40	.55	.41	.59
	Rel.	.76	.87	.84	.85	.77	.78	.83	.76	.85

Analyses

In order to "further investigate the claim of independence in the CON.-I.S. relationship," an 11 x 11 correlation matrix was generated. The eleven variables included each subjects': mean Consideration scale score, mean Initiating Structure scale score, mean Job Involvement scale score, mean Job Identification scale score, age, company seniority, job seniority, own education level, education level of father, size of community where raised, and father's occupation. Reliabilities for the Consideration, Initiating Structure, Job Involvement, and Job Identification scales were determined using Cronbach's Alpha Reliability Coefficient [Cronbach, 1951]. This measures

internal-consistency test reliability and was selected because unlike most other reliability formulas, "Cronbach's is not restricted to dichotomous scoring, thus it is especially useful for Likert-type scales [Gilmore, 1968, p. 1]."

In order to "investigate the possibility that some individual difference variables may moderate the relationship between perceived consideration and perceived initiating structure," the seven personal background characteristic variables and two satisfaction measures were each dichotomized (see Table 3) and the correlation between CON. and I.S. for each of these subgroups was calculated. A test for the difference between independent correlations was performed using Fisher Z scores [see Guilford, 1965, p. 163-164]. This analysis was performed on the data of all odd-numbered subjects, n = 117, (to be referred to as the Validation sample). Any significant findings were to be cross-validated on the data of all even-numbered subjects, n = 115. The division of the total sample into validation and cross-validation samples was accomplished to minimize the possibility of results due only to chance in this exploratory-type study.

Finally, in order to "investigate the possibility of initiating structure as a moderator of the consideration-satisfaction relationship and consideration as a moderator of the initiating structure-satisfaction relationship," the variable initiating structure was dichotomized around the sample mean (see Table 3) of 2.0. Correlations for the CON.-Job Involvement and the CON.-Job Identification relationships were calculated for both the High and Low I.S. groupings. Then the variable consideration was dichotomized around its sample mean

Table 3. Dichotomization of potential moderator variables to be used.

Variable	Subgroup 1 label	Cutoff Point	N_1 (of total sample)	Subgroup 2 label	Cutoff Point	N_2 (of total sample)
Age	Old	≥ 30 Yrs. Old	121	Young	< 30 Yrs. Old	111
Company Seniority	Senior	> 120 Months	70	Junior	≤ 120 Months	162
Job Seniority	Senior	≥ 36 Months on present job	120	Junior	< 36 Months	112
Ed. of Self	H.S. or more	Response "12, some college, college or grad work" on the Data Blank	139	Less than H.S.	Response "11" or less on the Data Blank	93
Ed. of Father	More than G.S.	Response "9" or higher on Data Blank	116	G.S. or Less	Response "8" or less on Data Blank	116
Size of Community Where Raised	Urban	Response 4 or 5 on Data Blank	142	Rural	Response 1, 2, or 3 on Data Blank	90
Father's Occupation	Skilled	Response 3-9 on Data Blank	112	Unskilled	Response 1 or 2 on Data Blank	120
Job Involvement	Involved	Mean Score > 3.00	136	Not Involved	Mean Score ≤ 3.00	96
Job Identification	Very Identified	Mean Score ≥ 4.00	94	Less Identified	Mean Score < 4.00	138
Initiating Structure	High I.S.	Score > 2.00	91	Low I.S.	Score ≤ 2.00	141
Consideration	High CON.	Score ≥ 2.50	93	Low CON	Score < 2.50	139

of 2.5 (see Table 3). Correlations for the I.S.-Job Involvement and the I.S.-Job Identification relationships were calculated for both the High and Low CON. groupings. The test of difference between independent correlations of each pair was again applied.

CHAPTER III

RESULTS

First, the data on the four scale scores used in these studies were investigated. Table 4 summarizes the results found in this sample. Table 2 (in previous chapter) showed the same type of data found in nine previous studies. A comparison of the two tables shows that the reliability coefficients are very similar but the CON. and I.S. scores of this sample are considerably lower than any of the nine studies referred to in Table 2. The data on the Job Involvement and Job Identification scales for this sample show scale reliabilities of a respectable nature (Alpha = .83 and .78 respectively).

Table 4. Means, standard deviations, and reliabilities of scales used in this study.

Subscale	Mean	SD	Rel. (Cronbach's Alpha)
Consideration	2.49	0.83	.86
Initiating Structure	2.02	0.76	.76
Job Involvement	3.18	0.81	.83
Job Identification	3.92	0.59	.78

Table 5 shows the intercorrelation matrix for all eleven variables used in this study. The correlations are all Pearson-Product-Moment correlation coefficients not corrected for attenuation. One should take special note of the correlation between CON. and I.S. (.593). When corrected for attenuation this increases to r = .76.

Table 6 displays the results of the investigation of potential moderator variables of the CON.-I.S. relationship. $AZ \geq 1.96$ is necessary for a significant (.05) difference between correlations. Since no groups were found significantly different, the cross-validation analysis was abandoned. In order to satisfy this researcher's curiosity, and in order to explore the possibility that a larger sample might establish a result approaching significance in the validation sample; the same analysis was performed on the total sample (Validation and Cross Validation samples combined). Table 7 presents those results. Note that even in this larger sample, no significant differences were found.

Finally, Table 8 displays the results of the use of I.S. as a moderator of the Consideration-Satisfaction relationship and the use of CON. as a moderator of the I.S.-Satisfaction relationship. Again, no significant differences were found.

Table 5. Correlation matrix for total sample (N = 232).

	(1) CON. Ave. Score	(2) I.S. Ave. Score	(3) Job Inv. Ave. Score	(4) Job Ident. Ave. Score	(5) Age	(6) Co. Sen.	(7) Job Sen.	(8) Ed. of Self	(9) Ed. of Father	(10) Com. Raised	(11) Father Occ.
1	1.000										
2	.593	1.000									
3	-.223	-.146	1.000								
4	-.200	-.153	.549	1.000							
5	-.179	-.220	.168	.327	1.000						
6	-.108	-.140	.098	.248	.766	1.000					
7	-.091	-.088	.160	.210	.512	.428	1.000				
8	.194	.207	-.246	-.240	-.447	-.429	-.142	1.000			
9	.024	.096	-.138	-.176	-.356	.242	-.189	.199	1.000		
10	-.025	-.042	-.131	-.048	-.098	.056	.041	.167	.120	1.000	
11	.061	.021	-.167	.014	.012	.006	.111	.007	.299	.068	1.000

Significance of r for 200 subjects
at .05 = .138
at .01 = .181

Table 6. Results of investigation of potential moderator variables of CON.-I.S. relationship using validation sample (odd numbered subjects only, n = 117).

Potential Moderating Variable	Dichotomized Label	$r_{CON.,I.S.}$	n	Z
Age	Old	.646	56	0.121
	Young	.633	61	
Co. Seniority	(Co.) Senior	.739	31	1.326
	(Co.) Junior	.578	86	
Job Seniority	(Job) Senior	.674	62	0.753
	(Job) Junior	.588	55	
Ed. of Self	H.S. or More	.675	73	1.127
	Less than H.S.	.536	44	
Ed. of Father	More than G.S.	.645	62	0.090
	G.S. or Less	.635	55	
Size of Community where raised	Urban	.604	70	0.928
	Rural	.706	47	
Father's Occupation	Skilled	.672	56	0.753
	Unskilled	.586	61	
Job Involvement	Involved	.682	71	1.118
	Not Involved	.548	46	
Job Identification	Very Identified	.681	39	0.468
	Less Identified	.627	78	

Table 7. Results of investigation of potential moderator variables of CON.-I.S. relationship using total sample (N = 232)

Potential Moderating Variables	Dichotomized Label	$r_{CON.,I.S.}$	N	Z
Age	Old	.578	121	0.353
	Young	.608	111	
Co. Seniority	(Co.) Senior	.637	70	0.794
	(Co.) Junior	.563	162	
Job Seniority	(Job) Senior	.623	120	0.737
	(Job) Junior	.559	112	
Ed. of Self	H.S. or More	.574	139	0.228
	Less than H.S.	.553	93	
Ed. of Father	More than G.S.	.641	116	1.218
	G.S. or Less	.536	116	
Size of community where raised	Urban	.593	142	0.036
	Rural	.596	90	
Father's Occupation	Skilled	.659	112	0.414
	Unskilled	.714	120	
Job Involvement	Involved	.642	136	1.533
	Not Involved	.504	96	
Job Identification	Very Identified	.555	94	0.750
	Less Identified	.622	138	

Table 8. Results of investigation of use of I.S. and CON. as moderator variables in I.S.-satisfaction and CON.-satisfaction relationships.

Potential Moderator	Dichotomized Label	$r_{investigated}$	N	Z
Initiating Structure	High I.S.	$r_{CON,JINV} = -.147$	91	0.103
	Low I.S.	$r_{CON,JINV} = -.160$	141	
Initiating Structure	High I.S.	$r_{CON, JIDENT} = -.125$	91	0.184
	Low I.S.	$r_{CON, JIDENT} = -.100$	141	
Consideration	High CON.	$r_{IS, JINV} = .013$	93	1.052
	Low CON.	$r_{IS, JINV} = -.129$	139	
Consideration	High CON.	$r_{IS, JIDENT} = -.064$	93	0.096
	Low CON.	$r_{IS, JIDENT} = -.051$	139	

CHAPTER IV

DISCUSSION

Worthy of Note

Throughout the discussion of the results of this thesis, the reader should keep in mind the work environment that each of the subjects in this study must cope with every working day. The factories they work in are all large, highly automated, multi-floored and noisy. In brief, the physical work conditions are not seen as pleasant. These factors, this author believes, significantly effect the results found.

The CON.-I.S. Relationship

Perhaps the most striking result of this study was the high positive correlation (.593) between the Consideration and the Initiating Structure scores. This result conflicts with Fleishman's claim that these scales are independent. This study is not the first to find results that conflict with Fleishman's claim as the review of the literature (see Chapter I, pp. 6-13) pointed out. Fleishman's defense [1969] generally states that the appearance of significant correlations between CON. and I.S. represents a simple sampling distribution with a true value of r = 0. The results of Weissenberg and Kavanagh's review [1972] of seventy-two studies using the CON. and I.S. dimensions seems

more convincing. They pointed out that over all those studies, there was a mean correlation of .23 and a median correlation of .36 between CON. and I.S. A further investigation of their data shows that studies using the LBDQ (subordinates' perception of leader behavior) rather than the LOQ (leaders rate themselves or ideal behavior) were more likely to show a positive correlation between CON. and I.S. Korman's review [1966] indicates the same trend leading this author to conclude that although the variables Consideration and Initiating Structure may be conceptually distinct, they are not perceptually independent to most subordinates. The results of this thesis lends further support to this conclusion. CON. and I.S. were measured through the perceptions of leader behaviors by their subordinates by using the LBDQ. Future research using the behavioral approach to investigate leadership concepts such as CON. and I.S. should keep in mind the influence of perceptual bias on the results. Unfortunately, this thesis did not include other data measuring the behaviors of the supervisors. Thus, the extent to which perceptual bias influenced the findings concerning CON. and I.S. cannot be determined. The reader should therefore keep in mind that any other conclusions reached in this study pertain to perceived consideration and perceived initiating structure.

House's Path-Goal Theory offers a possible explanation of the high CON.-I.S. correlation found in this thesis. House states that when the system controls the objectives and routines of the task, a leader's attempts to clarify path-goal relationships (to initiate structure) may be seen as redundant with existing conditions. Such behavior then may be perceived as dissatisfying behavior. Since all the subjects of

this study are factory workers, in large automated plants, one may assume that their tasks are routine and that the system controls their objectives. Such subjects may tolerate only a small amount of I.S. before they perceive the leader's behavior as dissatisfying. The I.S. scores of this study were considerably lower than the averages reported by Stogdill in studies involving less routine jobs (see Table 4). CON. scores were also lower than found in previous studies, possibly indicating that even low levels of structuring by the supervisor was seen as relatively inconsiderate behavior.

Besco and Lawshe [1959] offer an explanation very similar to House's. Their study also found a high positive correlation between Subordinate Perceived Consideration and Subordinate Perceived Initiating Structure (.40) in a highly automated production facility. They suggest that the factors of such a situation (automated machines, fixed work pace, fixed production schedules, static job assignments, etc.) tend to restrict the range of possible I.S. behavior of the foremen. They state,

> . . . in this situation the only variation in Initiation of Structure scores was due to error variation and the halo effect. Behavior of the Consideration type was the only leadership behavior that really varied between the foremen [Besco and Lawshe, 1959, p. 581].

The present study did result in less variance in the I.S. scores compared to the CON. scores but the difference is not statistically significant. However, the point of the above explanations is to question the appropriateness of using an I.S. scale to measure leadership behavior in a situation where the leader has little opportunity to display such behavior. A look at the content of the individual

items of these subscales raises further doubts about the appropriateness of these scales to measure leader behavior in a highly automated work situation. In particular, items 4 ("He gives advance notice of changes."), 13 ("He assigns group members to particular tasks."), and 15 ("He schedules the work to be done,") deal with behaviors that are typically out of the control of a first-level supervisor in a large auto plant such as was the case in this study. Table 9 shows the results of a factor analysis (using a computer program called FACTOR, developed by John Hunter of Michigan State University) with a varimax rotation. Note that all the CON. items (items 1-10) loaded on the same factor with the exception of item 4 (which loads about equally on both scales). Also, note that two I.S. items (items 13 and 15) load on the factor the CON. items did while the rest of the I.S. items loaded on Factor 2. One might conclude from this that items 4, 13, and 15 are "bad" items. A cluster analysis subsequently performed (using Hunter's program "Package") lends further support to this conclusion. Appendix E supplies the interested reader with the complete intercorrelation matrix of all 17 items and two scales.

No wonder why much inconsistency has appeared in previous studies using CON. and I.S. One might speculate on the confusion subjects must face when asked to respond to such inappropriate items. This could result in random responses to such items (causing error variance in scale scores), the introduction of a third factor guiding such responses, and/or an overall general (Halo effect) factor accounting for responses. A principal components solution was elicited from the same factor analysis program used earlier. Table 10 displays the

Table 9. Factor analysis with varimax rotation (asterisk indicates the factor on which each item had its highest loading).

Item Number	Factor 1	Factor 2
1	60*	31
2	58*	27
3	67*	18
4	43	43*
5	38*	11
6	74*	35
7	53*	27
8	58*	19
9	49*	4
10	73*	20
11	10	58*
12	19	63*
13	35*	9
14	23	68*
15	40*	26
16	27	70*
17	21	63*

Proportion of variance accounted for by factor.
Factor 1: 23 percent
Factor 2: 17 percent

Table 10. Factor analysis with principle components solution (the factor on which each variable has its highest loading is marked by an asterisk).

Item Number	Factor 1	Factor 2
1	66*	-13
2	62*	-15
3	64*	-27
4	60*	7
5	36*	-15
6	80*	-18
7	58*	-11
8	58*	-21
9	41*	-27
10	70*	-29
11	44*	40
12	54*	38
13	33*	-14
14	60*	39
15	47*	- 5
16	64*	39
17	56*	37

EIGENVALUES
Factor 1: 5.59
Factor 2: 1.15
Proportion of variance
Factor 1: 33 percent
Factor 2: 7 percent

results. All items were submitted and programmed to form as many factors as possible with the criterion that the analysis will stop once the Eigenvalues fell below Kaiser's criterion of 1.00. Only two factors thus resulted with the highest loading for each of the seventeen items on the first factor. Also, one might note that of the 40 percent of the variance this two-factor solution accounts for, 33 percent of the variance is accounted for by this first factor. This points out two important aspects of the data used in this study: 1) There is evidence of a halo effect or some general factor effecting the data (all items, CON. and I.S. loaded on the same factor) and 2) that a large proportion of the variance (60 percent) must be accounted for by small factors (with Eigenvalues less than 1.00 and accounting for a very small percentage of variance each) and error variance.

The form of the LBDQ used in this study was Form XII developed by Stogdill. An article by Stogdill, Goode, and Day [1962] describes the development of this form. Upon close inspection, one will see that in each of the populations used in the development, a factor analysis of the results was performed. The results show the emergence of large general factors in these populations as well. The authors state "Despite a strong general factor which accounts for 45 percent of the total factor variance, several of the subscales exhibit sufficiently high loadings on specific factors to suggest that they have some value as measures of discrete aspects of leader behavior [p. 264]." Thus, the large general factor found in this study apparently should have been expected.

The high correlation between CON. and I.S. found in this study could possibly be explained as the effect of the existence of a third factor interacting with these concepts. In a recently completed dissertation, Johnson [1973] posits that the degree of participative decision making allowed will effect the CON.-I.S. relationship. He concludes that "empirical research supports the notion that the initiating structure, participative decision making and consideration are oblique [correlated] dimensions of leadership behavior [Johnson, 1973, p. 23]." The results of his own empirical study lends further support to his statement. Studies done by Stogdill, Goode, and Day [1962, 1963, 1964] and Beer [1966] also support this notion, at least partially, in that consideration was found to correlate with measures of participative decision making. However, the results of the factor analysis previously mentioned discounts this as an explanation of the results of this study.

Finally, despite Fleishman's claim of independence of CON. and I.S., the evidence does seem to leave much doubt of that claim. It may be helpful to point out that Fleishman's claim is anchored into the development of the LBDQ, [Stogdill and Coons, 1957] of which he played a major part. The CON. and I.S. dimensions came out as orthogonal factors in a factor analysis of potential LBDQ items.

> Given that a factor is a linearly weighted combination of all items being factor analyzed, and that orthogonality refers to zero correlation between these weighted composites, it is easily seen why the actual scale scores tend to be correlated. The orthogonality is a mathematically imposed constraint which may not be psychologically meaningful [Johnson, 1973, p. 20].

In conclusion the high positive correlation found in this study in combination with the explanations of this result offered above,

leads this researcher to conclude that the Consideration and Initiating Structure dimensions of leadership behavior are not necessarily independent, especially when measurement of the dimensions are obtained through perceptions of subordinates and when situational variable (like automation) may make items on the scales (if not the whole I.S. scale) meaningless.

Investigation of Potential Moderator Variables

The second purpose of this study was to investigate potential moderator variables of the CON.-I.S. relationship. All nine of the variables investigated failed to moderate the CON.-I.S. relationship significantly. Several factors may have led to this result.

In order for a variable to moderate a relationship between two other variables, one must have two other variables. The previous discussion in this chapter supplied much evidence of a general factor possibly operating on the data. CON. and I.S. were not perceived as independent variables and this is true of every subgroup of subjects produced through the dichotomizing of the variables here used. Thus, one might conclude that none of the nine variables tested, differentially effected CON. and I.S. A look at the results displayed in Table 5 confirms this notion. With the exception of Company Seniority, any variable that correlated significantly with CON. also correlated significantly with I.S. The test for the hypothesis that $r_{xy} = r_{xz}$ for the same population [Walker and Lev, 1953, p. 256] was performed for each of the potential moderator variables of the CON.-I.S. relationship. No significant differences were found. Furthermore, the

largest correlation between these variables and CON. or I.S. was r = .223. Such a correlation could only account for 5 percent of the common variance. Thus, none of the variables used as moderators in this study provide an important avenue of understanding of leadership behavior as here measured.

The extent of measurement error in the instruments used in this study may have influenced the results of this study. The items used as data for this thesis were embedded in a larger questionnaire (necessary for another study). The chances for error in measurement due to fatigue, rater bias, misunderstanding of questions, and even random responding are quite possible.

The design of this thesis may also have contributed to the lack of dinding significant moderating effects. The moderator variables were dichotomized. This procedure, although often practiced in moderator variable research, could mask any differences if the variable actually effects the relationship in a curvilinear fashion rather than a linear one. An improvement in the design to correct this possible flaw might involve trichotomizing the moderator variables. Others might argue against the method by which the moderator variables were dichotomized. Still others would point out the lack of data collected on the foremen's actual behavior seriously limits any conclusions concerning moderation of the relationship of CON.-I.S. leader behavior. It is possible that the proposed moderator variables did not result in significant effects because the subjects merely accurately described their foremen.

A recent study by Runyon [1973] also found no significant relationship between an individual difference variable (Rotter's concept of locus of control--Internal vs. External) and a subordinate's perception of management style. This same study, though, found that subordinates' satisfaction with supervision was very significantly affected by the interaction of a subordinate's personality trait and his foreman's management style. The results of Runyon's study might lead one to believe that even if the flaws in design and other criticisms listed above were corrected, personal background characteristics would still be found to have no moderating effects on the perceived CON. and I.S. relationship. However, the effects of these background characteristics might be seen in the subordinates' attitudes towards their foremen. This could explain the evidence of halo effect in the CON. and I.S. scores found in this thesis.

CON., I.S., and Satisfaction Measures

Finally, this thesis dealt with the use of CON. as a moderator of the I.S.-Satisfaction relationship and I.S. as a moderator of the CON.-Satisfaction relationship. Again, no significant moderator effect was found. Most of the above criticisms of the section above also hold for this section. In particular, the fact that CON. and I.S. scores were dichotomized rather than trichotomized when used as moderator variables in an appropriate criticism. The classic study of Fleishman and Harris [1962] established that curvilinear relationships exist between CON. and satisfaction measures (Grievance and Turnover rates)

and between I.S. and the same satisfaction measures. Fleishman trichotomized the CON. and the I.S. data to investigate the effects of interaction of CON. and I.S. on satisfaction measures. The failure of this study to replicate the significant results that Fleishman and Harris found may be due to this lack of trichotomizing.

Another possible criticism of this study is the use of Job Involvement and Job Identification as measures of satisfaction. More appropriate measures might have been measurements of the subordinates' satisfaction with supervision. Conceivably any subject could have been very satisfied with his supervisor but very dissatisfied with his job or vice-versa. Interestingly enough, however, negative correlations were found between CON. and both satisfaction measures as well as between I.S. and the satisfaction measures. Previous literature would indicate a positive relationship between CON. and satisfaction but would be less clear about the I.S.-satisfaction relationship. The results of this study show a high Job Identification score average (3.92), average Job Involvement scores (3.18), and relatively low CON. and I.S. scores (2.49 and 2.02, respectively). All of these scores have a possible range of 1 to 5. If one assumes a halo effect is operating on the CON. and I.S. data, one might predict a negative relationship between satisfaction with supervision and satisfaction with the job for this sample. Data is not available to test this hypothesis.

One might also note that in all eight of the subgroupings (as shown in Table 8), the relationship between either CON. or I.S. and either of the satisfaction measures is very small. In fact the largest correlation of any of them is an r of -.16. Thus, the importance of

any moderating effect found would have been very small in terms of the amount of variance that could have been accounted for.

Summary

This thesis lends further support to the notion the Consideration and Initiating Structure behaviors of first-line supervisors are not perceived independently by their subordinates. Situational variables (e.g., work situation) do seem to effect the results of leadership studies. Future researchers should keep this in mind and question the appropriateness of the I.S. scale or at least the appropriateness of certain items on that scale. One must question what gain in the advancement of knowledge on leadership can be accomplished by asking subordinates to rate the leader on behaviors over which the leader has no control.

None of the variables tested significantly moderated the CON.-I.S. relationship. The large general factor (probably a halo effect) operating on the CON.-I.S. data probably is the main reason for the lack of findings here. Runyon's [1973] findings offer an important explanation, i.e., that perception of CON. and I.S. are not differentially effected by these variables but attitudes toward supervision may be. Future researchers might do well to keep this in mind and also consider other individual difference variables (e.g., personality variables) as moderators of such relationships.

Finally, CON. failed to moderate the I.S.-Satisfaction relationship, and I.S. failed to moderate the CON.-Satisfaction

relationship. Again, one must question just what are the CON. and I.S. scales measuring in this study. Future researchers might do well to look at the relationship of leadership variables with satisfaction with leadership rather than overall job satisfaction.

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APPENDICES

APPENDIX A

CONSIDERATION SUBSCALE OF LBDQ--FORM XII

1. He does little things to make it pleasant to be a member of the group.
2. He puts suggestions made by the group into operation.
3. He treats all group members as his equals.
4. He gives advance notice of changes.
5. He keeps to himself.
6. He looks out for the personal welfare of group members.
7. He is willing to make changes.
8. He refuses to explain his actions.
9. He acts without consulting the group.
10. He is friendly and approachable.

APPENDIX B

INITIATING STRUCTURE SUBSCALE OF LBDQ--FORM XII*

11. He lets group members know what is expected of them.
12. He makes his attitudes clear to the group.
13. He assigns group members to particular tasks.
14. He makes sure that his part in the group is understood by the group members.
15. He schedules the work to be done.
16. He maintains definite standards of performance.
17. He asks that group members follow standard rules and regulations.

---

*Slightly modified version (See Dawson, 1972).

APPENDIX C

CHRYSLER FOREMAN TRAINING RESEARCH PROJECT--

BIOGRAPHICAL DATA BLANK

Age _____
Sex _____
Name of Supervisor to whom you report directly _____

How long have you been employed at Chrysler? Years _____ Months _____
How long have you worked at your present job? Years _____ Months _____

INSTRUCTIONS: Simply circle the number in front of the answer that is closest to being true for you.

How many years of school have you completed? (circle highest grade completed)

6 or less 7 8 9 10 11 12 some college college graduate work

In what type of community were you raised (before age 18)?

1. In the country
2. Town of less than 2,000
3. Town of 2,000 or more but less than 10,000
4. City of 10,000 to 100,000
5. City of more than 100,000

What was (or is) your father's chief occupation?

1. Unskilled worker -- day laborer
2. Semi-skilled worker -- factory worker, for example
3. Skilled worker -- machinist, tool and die maker, for example
4. Office worker or clerk in store
5. Sales work
6. Foreman or supervisor
7. Subprofessional -- bookkeeper, pharmacist, surveyor, draftsman, etc.
8. Scientist or professional 11 lawyer or engineer, for example
9. Small business man
10. Executive in a large company

APPENDIX D

SATISFACTION SCALES

Job Involvement

1) My job means a lot more to me than just money.
2) I'm really interested in my work.
3) I would probably keep working even if I didn't need the money.
4) The major satisfaction in my life comes from my job.
5) The most important things that happen to me involve my work.
6) I actually enjoy the daily activities that make up my job.
7) I look forward to coming to work each day.

Job Identification

1) I feel bad when I make mistakes in my work.
2) I really want to work hard at my job.
3) I really want to do a good job.
4) I'm really a perfectionist about my work.
5) My personal satisfactions are related to how well I do my job.
6) The welfare of my company is related to my own personal welfare.
7) The company's achievement of its goals helps my achievement of my own personal goals.

APPENDIX E

ITEM AND SCALE INTERCORRELATION MATRIX WITH COMMUNALITIES
IN DIAGONAL AND CORRELATIONS CORRECTED FOR ATTENUATION

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	501	502
1	(44)	47	38	37	28	58	34	39	32	48	27	26	23	39	30	37	30	66	54
2	47	(38)	38	33	21	55	32	36	36	40	26	32	28	30	31	31	25	61	52
3	38	38	(47)	37	27	56	45	51	25	55	12	32	18	21	27	34	26	68	43
4	37	33	37	(28)	10	47	32	33	28	38	26	36	22	38	36	46	32	53	60
5	28	21	27	10	(14)	33	25	23	19	28	24	14	12	10	19	12	19	37	28
6	58	55	56	47	33	(71)	49	46	39	62	25	33	27	44	40	46	39	84	65
7	34	32	45	32	25	49	(32)	33	20	45	22	23	26	28	26	34	33	57	49
8	39	36	51	33	23	46	33	(38)	33	46	16	33	12	27	19	26	23	62	40
9	32	36	25	28	19	39	20	33	(23)	37	8	11	2	17	17	10	17	48	21
10	48	40	55	38	28	62	45	46	37	(55)	20	23	30	33	29	31	33	75	51
11	27	26	12	26	24	25	22	16	8	20	(26)	41	3	41	12	40	38	34	51
12	26	32	32	36	14	33	23	33	11	23	41	(38)	8	46	20	48	41	43	62
13	23	28	18	22	12	27	26	12	2	30	3	8	(6)	18	32	21	6	33	24
14	39	30	21	38	10	44	28	27	17	33	41	46	18	(55)	29	54	49	47	74
15	30	31	27	36	19	40	26	19	17	29	12	20	32	29	(17)	34	19	45	41
16	37	31	34	46	12	46	34	26	10	31	40	48	21	54	34	(62)	52	50	79
17	30	25	26	32	19	39	33	23	17	33	38	41	6	49	19	52	(38)	45	62
501*	66	61	68	53	37	84	57	62	48	75	34	43	33	47	45	50	45	100	76
502**	54	52	43	60	28	65	49	40	21	51	51	62	24	74	41	79	62	76	100

*501 = Consideration scale score (Sum of items 1-10).

**502 = Initiating Structure scale score (Sum of items 11-17).

Average Communality = 37.18

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