

PERSON-THING ORIENTATION
WITHIN AN
INTERACTIONAL MODEL OF LEADER BEHAVIOR

by

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ABSTRACT

A simplified interactional model of leader behavior was theoretically developed by reviewing the variety of approaches to the study of leadership and integrating some of the more recent major concerns. The model was conceptualized as including two original independent variable components - the person (leader) and the situation - with a continuous reciprocal influence between them so as to produce a theoretical hybrid interaction variable. The dependent variables consisted of the leader behavior dimensions of Initiating Structure and Consideration. The person component was operationalized by utilizing the construct of Person-Thing orientation from specialization theory and the situation component by creating and categorizing situations in terms of their people-thing nature. The dependent variables were measured by a self-rating behavior checklist.

244 subjects were administered a questionnaire which assessed their Person-Thing orientation, asked for their perceptions of three situations in terms of their nature, and solicited their responses in terms of how they would behave as a leader in each situation.

Analysis of the data was carried out (1) to test for the existence of theoretical interaction between the person and situation variables, (2) to test for a significant relationship between Person orientation and Consideration behavior, and, between Thing orientation and Initiating Structure behavior, and (3) to test for differences in behavioral responses as influenced by both a person's specialist orientation and the nature of the situation.

The results tended to support the existence of a theoretical interaction effect as conceptually defined between the person and the situation in that both variables had a significant influence on leader behavior. Person orientation and the nature of the situation predicted a Consideration behavior profile between specialties and situations but Thing orientation was not a predictor for Initiating Structure responses. Instead, Initiating Structure was partially predicted by Person orientation. In addition, the two behavior dimensions were found to be highly interdependent. Subsequent analysis discovered the existence of three behavior dimensions: Initiating Structure, Consideration (Being Friendly), and Consideration (Enhancing Participation).

The data supported the hypothesized model but resulted in rejecting a connection between Thing orientation and Initiating Structure.

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INTRODUCTION

Leadership remains complex and confusing notwithstanding numerous theoretical and empirical attempts directed towards more adequately explaining this phenomenon. There still is no truly integrative theory or understanding of leadership and despite numerous pleas for new integrations and directions in both theory and research (Stogdill, 1974; Hunt & Larson, 1975; Hunt & Larson, 1973; Fleishman & Hunt, 1973; Gibb, 1969), the attainment of such goals continuously remains elusive.

This thesis has as its goal the conceptualization and development of an unique and integrative model of leader behavior so as to produce a clearer understanding of the nature of leadership. The model will be partially derived from an interactional psychology framework (Endler & Magnusson, 1976 a, b) and will be operationalized and tested using constructs and measures from specialization theory (Little, 1972, 1976) plus a variety of leadership approaches. This undertaking therefore has relevance for clarifying and integrating the disjointed leadership field coupled with possible practical significance for the selecting and training of prospective leaders.

Leadership Definitions and Approaches

Definitions of leadership are as varied as the personal orientations and theoretical backgrounds of those who have proposed them. For example, Jacobs (1971) defines leadership in terms of social exchange, Hemphill (1949) as behavior directing group activities, and Raven and French (1958) as a differential power relationship. Korman (1971)

describes the leadership phenomenon as a set of social expectations, set of behaviors, as an interactive phenomenon, as an emergent phenomenon and as a set of decisions. Stogdill (1974) lists eleven categorical types of leadership definitions, some being group oriented (group process, power relations, goal achievement, roles) and some behavior oriented (inducing compliance, influence, persuasion or structure). Also included however are the categories of "personality" and "effect of interaction". What is particularly interesting from such a list is that leadership quite rightly is all of these things and researchers often use more than one definition at the same time. But perhaps more important, the majority of definitions specify major components or variables. They suggest there must be a (1) person (role and power of leader) who (2) interacts (interaction) with (3) a group (situation which includes followers) by (4) behaving (leader behavior) so as to (5) influence the group's goal attainment. In an even simpler fashion, Gibb (1969: 273) defines leadership as an interactional phenomenon in which "leadership is a function of personality and of the social situation, and of these two in interaction". At a generalized level leadership definitions therefore suggest at least two major categories of independent variables - the person (leader) and the situation (including the physical and social or group characteristics of the situation), plus some sort of interaction between these categories. The overall effect of these factors has an influence (direct or indirect) on how the leader behaves and on how the group reacts (dependent variables).

Theoretical approaches, like definitions, focus on particular

considerations of the leadership phenomenon. A model emphasizing group processes will possibly concentrate on group roles and influences with the group being the unit of analysis and group performance or satisfaction being the criterion. On the other hand, a model emphasizing leader behavior might use specific behaviors or the leader himself as the unit of analysis and may or may not consider the consequential effects and influences on the group. Some approaches focus on the emergence of leaders, what creates the conditions for leadership and how people become leaders. Other approaches emphasize what happens to a leader and a group once the leadership role is filled - the maintenance and continuances of leadership.

The earliest theoretical formulations for explaining leadership and directing leadership research included the personality or trait theories (often referred to as the "great man" theory) which attempted to explain the leadership phenomenon in terms of heredity, including traits of personality and character (Jennings, 1960; Tead, 1929). At the same time parallel approaches developed sanctioning environmental or situational determinants of leadership behavior (Bogardus, 1918; Murphy, 1941), such behavior being a function of the right "time, place and circumstances" (Stogdill, 1974: 18). Over the years the above approaches have been reshaped into a number of combined Personality-Situational theories. In their most basic form these approaches explain leadership in terms of individual traits (affective, cognitive and behavioral) plus situational conditions (Westburgh, 1931) often even including the nature of the group and its members as separate variables (Case, 1933). A

variety of such models have been developed emphasizing these major factors and even various interactions or relationships between the leader (his traits, motivations and roles) and situational variables (followers, task and group goals), (Mills, 1952; Gibb, 1954, 1969; Cattell, 1951; and Hollander, 1964). The newest approaches which also fit into this general categorization include the motivational and expectation emphasis of Bass (1960), the path-goal approaches by Evans (1970) and House (1970), Fiedler's (1967) contingency theory, the Human Information-Processing Approach by Wynne and Hunsaker (1975) and the Adaptive-Reactive (macro variable) theory of Osborn and Hunt (1975).

There has also been a great deal of emphasis on theories which revolve around specific leader behaviors as empirically derived by Carter (1952), Hemphill (1950), Halpin (1956), and Fleishman (1957). Current interest in these approaches is supported by literature which highlights the "consideration and initiating structure" behavior dimensions (Kerr, Schriesheim, Murphy & Stogdill, 1974; Yukl, 1971). In addition however, there exists a variety of miscellaneous approaches which do not appear to fit the general categories of the Personality-Situational or Leader Behavior approaches (e.g. Social Exchange theory, Homans, 1958 and Jacobs, 1971). Some of these, like the Argyris approach (1961), the managerial grid of Blake and Mouton (1964), Likert's (1961, 1967) System IV and McGregor's Theory X and Y (1960, 1966), are more humanistic, prescriptive and even normative in nature, especially Vroom's Decision-Making Model (1973), rather than being empirically predictive. They are nevertheless important in that they form a large

part of the literature and data that has been generated in an attempt to explain and understand the phenomenon of leadership.

Theoretical and Empirical Considerations

There are few indications that leadership is on the verge of becoming a comprehensive and integrated area of study. This assumption is based on the variety of definitions, theories, models, units of analysis, variables and criteria that abound notwithstanding the fact that a few researchers have suggested more multiple-linkage models (Ashour, 1973 a, b; Yukl, 1971). There is nevertheless considerable current interest in the leadership phenomenon. This interest and the theoretical development it is generating is well demonstrated by the Biennial Southern Illinois University Leadership Symposiums (Fleishman & Hunt, 1973; Hunt & Larson, 1973, 1975, 1977) which have been amplifying current trends and concerns thereby helping provide "new insights into causality and the processes involved in leadership" (Hunt & Larson, 1975: 210). Prior to examining and integrating some of these insights, it is appropriate to first review some initial overriding considerations which will help form the basic assumptions upon which to develop the model proposed by this thesis.

Any conceptual attempt at explaining leadership should start with clearly defined limits which specify the scope and level of analysis of the explanation. There is an extreme difference between explaining leadership as a total all-inclusive phenomenon and explaining only part of the phenomenon. Each extreme will employ a different unit of analy-

sis and possibly different criteria measures. Traditionally leadership theory and research have used criteria of effectiveness (performance, production, etc.) and/or satisfaction. These are generally criteria that focus on the group level, not the individual nor leader level. As stated by Hunt and Larson (1975: 210),

"a clear differentiation of the individual versus group level of analysis --- becomes increasingly important as one broadens the range of contingency variables considered --- either of these units of analysis is appropriate, depending upon the theoretical framework being employed".

Therefore, at the leader or individual level of analysis it may be far more appropriate to use only criteria applicable to this level, i.e. leader effectiveness or satisfaction, not group effectiveness or satisfaction. The level of analysis depends on one's model or framework, whether it is phenomenological in nature encompassing the total system or group within the influence of the leader or, more behaviorally defined with the emphasis being on specific leader behavior and its determinants. One must wonder however, why it is that many models try to relate, even correlate, determinants of leader behavior with criteria far removed from the behavior like group consequences (Fiedler, 1967). The possibility of obtaining higher correlations might result from correlating possible determinants of behavior directly with behavior, and then as a second phase, specific behaviors plus miscellaneous group variables directly with group consequences.

To illustrate the above it is worth considering Fiedler's (1967,

1971) contingency model as an example. Fiedler proposes a model where a leader (person variable identified and quantified by his LPC scale) interacts with a situation (operationalized in terms of situational favorability for the leader on the bases of leader-member relationship, task structure and leader position power) which determines the degree of leadership effectiveness (criterion) with the dependent variable operationalized as the group's performance on its major assigned task (Fiedler, 1971). This contingency model therefore advocates a relationship between leadership style (LPC) and group effectiveness as moderated by situational favorability. There appears to be little doubt that the leader and the situation will have an effect on the group's effectiveness (and satisfaction) but they will probably effect the group in very complicated and indirect ways and the group will also be subject to a variety of other influences and factors. Fiedler's LPC as an abstract measure of leader style is perhaps an attempt to include behavior in his model but actual behavior measures are missing. LPC as a person variable and situational favorability as a situation variable should first have direct consequences on how the leader behaves. The connection with group effectiveness is not directly related to these variables although Fiedler's model suggests this. The group itself acts and behaves (collectively and as individual members) and it is the consequence of their behavior, not the leader's, that is assessed as effective or non effective. How the group behaves will depend on an array of personal (individual) and situational variables all interacting together with the leader's behavior being only one subset of these variables. It is small

wonder that correlations between leader personality/situational factors and group effectiveness, even within a contingency framework, have traditionally been limited and disappointing (Campbell, Dunnette, Lawler & Weick, 1970). Even Fiedler's results are questionable in terms of their level of significance (Graen, Orris & Alvares, 1971 a, b; Ashour, 1973 a, b). The initial determinant variables are just too far removed from the criterion and there may well be an infinite number of contaminating variables completely beyond the leader's perception and area of influence. In other words, "the discretion and behavior of the leader are constrained ... and ... leaders can typically affect only a few of the variables that may impact organizational performance" (Pfeffer, 1977: 106). Kerr (1973: 124) also notes that there may be many factors or contaminating variables that limit relationships between predictors of leadership effectiveness and criterion which he calls "substitutes for leadership". These "may provide a partial explanation for the claims of some researchers that leadership does not account for very much criterion variance".

The major objection being suggested here therefore concerns leadership as a phenomenon. As a phenomenon, leadership might best be explained in phenomenological terms using a phenomenological model. But whether the level of analysis is phenomenological or behavioral, it is doubtful that effectiveness of a group will ever be adequately predicted with only basic person-situation variables, notwithstanding the fact that these variables may include countless characteristics and factors.

What is therefore being proposed is a model which focuses on a

leader's behavior and its determinants, a model which could serve as the first phase of a more comprehensive model which might eventually include the group's behavior and an assessment of its effectiveness. This proposal is partially congruent with the multiple-linkage models of Yukl (1971) and Ashour (1973 a) and includes but extends Vroom's (1973: 198) notion of the "Relationship of Variables Used in Leadership Research". The present concentration considers the leader and his behavior as the level and unit of analysis, not the total group and its overall behavior. The emphasis is therefore to satisfy the statement made by Fleishman (1973: 37):

"what we need are theory and data to develop a conceptualization of situational and personality variance as these might relate to the effective operation of consideration and structure and other dimensions of leadership".

A potentially complete but abstract model of the leadership phenomenon appears in Figure 1. This thesis is only concerned with the first phase, the phase which seeks to explain the determinants of leader behavior, not the determinants of group effectiveness. It is nevertheless important to note the importance of leader behavior within an overall model and the fact that there are possibly multivariate effects involved within the total leadership phenomenon. The model also suggests that to by-pass leader behavior within a phenomenological model would be to seriously limit the total variance to be accounted for.

Insert Figure 1 about here

The above model is a conceptual attempt to integrate a large number of the leadership definitions and approaches referred to earlier. While it suggests that at a generalized level the major components can be simplified in number and general content, the model also allows for multiple and complex relationships or interactions that exist between these components. A preponderance of leadership scientists advocate more multidimensional and multivariate all encompassing research strategies (Stogdill, 1974; Hunt & Larson, 1975; Bass & Valenzi, 1973) while only a few have been more conservative suggesting "progress will best be made using simpler and less multidimensional concepts" (Gibb, 1969: 205). House & Dessler (1973) for example, attempt to identify, manipulate and measure only a few very specific and select variables. An obvious concern is therefore: should researchers concentrate on the infinite variety and number of possible variables in order to explore all possible relationships or should they isolate particular variable constructs and concepts (and if so, which ones) in order to make more generalized statements? Inherent in this multivariate vs simple approach controversy is the more recent support for the former view with its emphasis on more encompassing macro and environmental variables (Taylor, 1973; Osborn and Hunt, 1975; Bowens, 1975). Hunt & Larson (1975: 212) applaud such approaches with the optimistic view that broader more in-

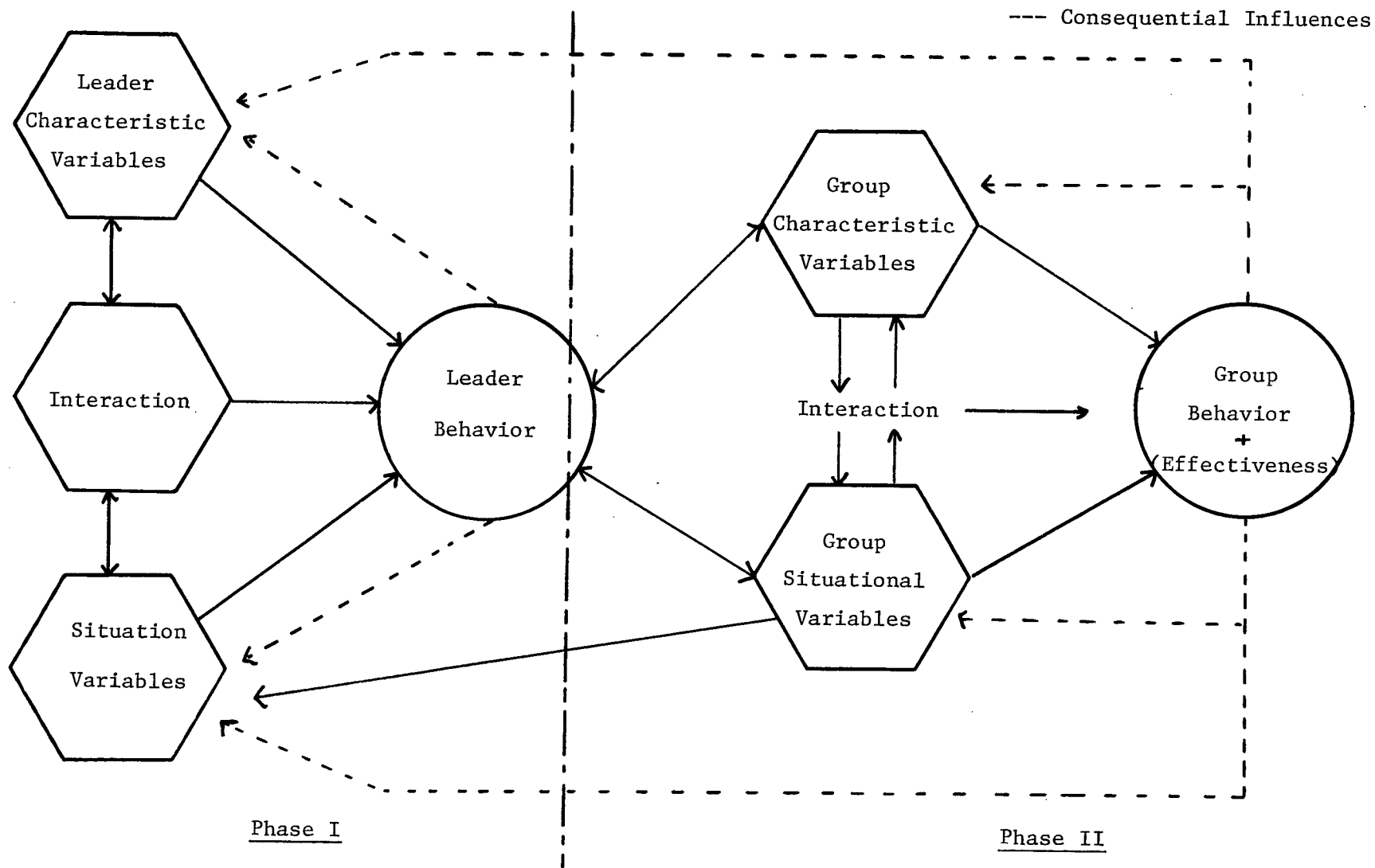


Figure 1. Overall conceptual model of leadership

clusive leadership models might help us account for greater proportions of variance in contrast to "the relatively small proportions of variance typically accounted for by present-day leadership models". But a rebuttal to this point of view may be the possible fact that current leadership models and existing statistical techniques may be totally inadequate for accounting for significant increases in variance. "There is always going to be unexplained variance. It is not possible or desirable to attempt monstrous research designs where all the variance sources are isolated" (Hunt & Larson, 1973: 197). Unfortunately, even with the advent of computers, we still do not have the statistical tools and methodology which would allow us to test for the combined effects of the countless variables we are interested in. We can only examine a limited number of variables at any one time and as a result conceptual explanations and theories of leadership can only be developed and tested in a piece meal fashion. We therefore tend to pick the most important variables while temporarily discarding the others in order to add empirical support to a theory, piece by piece.

Except for the odd isolated attempt (Miner, 1975), few scientists have advocated drastic and innovative changes which might help us get away from these methodological restrictions or the box of 'limited variance'. Perhaps however, we need to pursue new and radically creative concepts, constructs and models. Perhaps an alternative may be to identify the overriding, all encompassing variables (rather than to isolate very specific variables) and then operationalize these within a conceptually simplified model. Everyone appears to be going their own way in

leadership research - some with a micro and some with a macro focus but most emphasizing very specific variables. Perhaps we need a more basic conceptual model, one which would at least hypothetically allow for the testing of micro and macro variables at both a generalized conceptual level and a more specific operational level.

The above has already suggested three major components for a simplified conceptual model of leader behavior: the Person (i.e. the leader plus his characteristics and personality), the Situation (i.e. the environmental factors plus the characteristics of the group and its members), and, the Leader's Behavior. Stogdill (1975) has suggested that future research should always include variables within the main categories of leader, follower, group and criterion. Some recent studies have also strongly suggested the inclusion of a greater portion of the environment (Hunt & Larson, 1973; Osborn & Hunt, 1975) rather than leaving it as a residual variable. Nevertheless, it is still recognized that there is an infinite number of categories or variables conceivable and testable within each of these major components and although some advocate more multivariate-multitrait approaches, such attempts should still be subject to theoretical derivations. An alternative however is to simplify these components so that initially a model is more generalizable while still having the potential for being refined on the bases of later research. The alternatives therefore are to start with every conceivable variable and pick a manageable number which are theoretically sound, or, to start with only very broad generalized components which can later be refined. The thrust and goals of this thesis include uti-

lizing this latter alternative by conceptualizing, developing and testing a simplified and generalizable model of leader behavior.

Interaction and Interactional Psychology

It is one thing to hypothetically identify the major components or factors that in some obtuse manner appear to determine leadership behavior but something else to conceptually explain how this happens. Further scepticism is raised by the fact that leadership models have traditionally only accounted for very limited portions of variance as caused by personality and situational variables (Stogdill, 1974; Vroom, 1973; Gibb, 1969). It is perhaps appropriate therefore to consider a concept which although by no means new, is receiving renewed emphasis in the literature, the concept of interaction.

Interaction between two objects implies a reciprocal action or effect on each other. Within leadership this often implies interpersonal interactions or relationships as between a leader and his followers (Bass, Duntelman, Frye, Vidulich and Wambach, 1963).

"There is a scarcity of research that tests the interaction of leader personality, values, and behavior with follower's personality, values and behaviors and the effect of such interactions upon the group" (Stogdill, 1974: 421).

Many findings "appear to assume a one-way flow of effects from leader to followers --- much of the leader's behavior is determined by what his followers do or fail to do" (p. 417). In other words, a leader's behavior may be subject to continuous interaction (reciprocal) in-

fluences operating between the leader and his group of followers.

At a more theoretical level, the concept of interaction is suggestive of reciprocal relationships and influences that exist between variables. While a lot of lip service is paid to the word interaction, few theorists have attempted to conceptually or empirically explain its meaning within a leadership model. Rather, it is more often than not used as a mysterious all-inclusive explanatory device without being clearly defined in order to explain complex and interrelated relationships between variables. Notwithstanding this somewhat confusing state of affairs, it is a commonly used concept. "Most recent theorists maintain that leader characteristics and situational demands interact to determine the extent to which a given leader will prove successful in a group" (Stogdill, 1974: 422).

Fleishman in his remarks summarizing the first Illinois Leadership Symposium (Fleishman & Hunt, 1973) identified a number of important considerations which included emphasis on interactions as supported by evidence of nonlinear relationships, moderator variables and the causality vs correlation issues. "Interactions may be the rule rather than the exception" (p. 179). Korman (1973) in his overview of the second Symposium criticized the static nature of leadership models, especially contingency approaches, by emphasizing the dynamic process of leadership as reflected by "cognitive, emotional and attitudinal changes in people as a result of their interactions with different types of environments" (p. 193). He also attacked the concept of contingency variables: "any conceptual differences between the contingency variable and the inde-

pendent variable is moot at best" (p. 193). Instead he argues, such a distinction should be eliminated and there should be "more theoretical and empirical concerns with the mechanisms by which the contingency variable is hypothesized to be having its effect" (p. 189). In short, independent variables have their effect on dependent variables as a result of operating through certain mechanisms. These mechanisms involve relationships between variables which are perhaps contingent, interrelated, correlational and interactional with all essentially meaning something similar. The difference may be in how these mechanisms are empirically operationalized. Most current leadership approaches play with variations of person and situation variables and perhaps contingency approaches are one way of operationalizing the concept of interaction between these variables (Hunt & Larson, 1973). In Fiedler's contingency model (1967) for example, interaction is operationalized in terms of a contingent relationship between variables. The concept of contingency implies that a dependent variable is dependent on one or more independent variables which are related to or contingent on another independent variable. The concept of contingency therefore implies a type of interaction such that there is a relationship between specified independent variables. For example, leadership style is a predictor of group effectiveness but its predictability is contingent on the favorability of the situation. Fiedler uses the terms interaction and contingency quite interchangeably and freely but is this operationalization of interaction really intuitively valid? In an attempt to provide an answer to this question and more clearly define interaction it is appropriate to first

consider the study of Interactional Psychology.

The theoretical bases for interactional psychology originated in the 1920's, about the same time some leadership theorists began agreeing that leadership behavior was determined by both the person-leader (and his traits) and situational factors. It has only been since 1960 however that there has been any systematic research within this area and consequently interactional psychology is a relatively newborn approach for explaining behavior.

Endler and Magnusson (1976 a, b; Magnusson & Endler, 1976) have been most influential in integrating the interactional approach. Their publications summarize the conceptual bases for the theory while supporting it empirically. Basically, interactional psychology (although it stems from a personality consideration) seeks to explain the determinants of behavior and the mechanisms under which they operate. It provides a logical explanation of how and why behavioral patterns can be either stable or variable across situations by attacking the trait, psychodynamic and situational models of personality and behavior. It disagrees with the assumption that latent trait predispositions are the primary causal factor for how a person behaves and also takes odds with the assumption that these predispositions will cause people to behave consistently across different situations.

In its simplest form, the theory states that behavior is caused by three main effects or conceptual variables: the person himself (his traits, characteristics, cognitions, affections, past experiences, etc), the situation (and all its variable components), and person X situation

interaction (the effect which develops and exists on the basis of the continuous interdependency of the person and the situation). It is a theory which hypothetically accounts for all the potentially measurable determinants of behavior and therefore attempts to tap, identify and explain that large proportion of variance which is normally left after main effects have been isolated. Analysis of variance methods differentiate types of variance but few attempts have been made at categorizing all the variance using constructs which fit into a theoretical framework. The interactional model attempts to provide such a framework for explaining behavior.

Trait theorists claim that traits are dispositions that account for consistencies in behavior across situations, psychodynamic theorists assume man's behavior in various situations is subject to predispositional forces within his basic personality core, and situationism assumes it is the stimuli within the situation that determines individual behavior. Interactionism challenges these viewpoints, especially the trait model, and argues that empirical results do not support their assumptions but rather lend support to the interactional model with behavior determined by person and situational variables plus continuous and multi-directional interaction between these variables. Interactionism "emphasizes the importance of person-situation interactions --- behavior involves an indispensable, continuous interaction between individuals and the situations they encounter" (Endler & Magnusson, 1976: 958). The model therefore recognizes the important role of cognitive and affective factors (people select the situation they act in and effect the

character of these situations) while also recognizing the importance of social learning processes involved in reciprocal interactions. The development of behavior is

"a social learning process that emphasizes the interaction between psychological situations and social learning variables. The person variables develop ontogenetically in terms of cognitive social learning processes interacting with a given genetic disposition. These social cognitive person variables interact with situations in determining behavior" (p. 961).

The model therefore takes both psychological-biological factors of the person, and, personalistic-physicalistic factors of the situation into account.

The interactional model derives empirical support from "a variance components technique derived from analysis of variance (Endler, 1966 b). In this method of data treatment, the variances due to persons, situations, reactions, and person-situation interactions are determined" (Endler & Magnusson, 1976 b: 962) for a 3-way analysis of variance. Endler and Magnusson (1976 a, b) provide numerous research examples which stress the importance of person-situation interaction variance where generally it accounts for more behavioral variance than persons and situations combined. The results of these studies also suggest that people do not behave exactly the same in different situations, that there is no 'absolute' consistency in their behavior. This does not negate the possibility that some people behave more consistently than others across situations as interactionism suggests "an individual

is characterized by his or her specific pattern of both stable and changing behaviors across situations" (Endler & Magnusson, 1976 b: 962).

The main features of interactionism include the following:

- "1. Actual behavior is a function of a continuous multidirectional interaction (feedback) between the individual and the situation that he or she encounters.
2. The individual is an intentional active agent in the interaction process.
3. On the person side of the interaction, cognitive factors are the essential determinants of behavior, although emotional factors do play a role.
4. On the situation side, the psychological meaning of the situation for the individual is the important determining factor". (Endler & Magnusson, 1976 b: 968).

The concept of interaction may well reflect the real world with the normally accepted linear relationship models of behavior only being a first approximation. To really confirm this however we are either going to have to redefine or create new constructs of the presently used variables, in order to eliminate or reduce interaction variance, or develop theoretical models which account for interaction effects. "It may even be possible to redefine trait (person characteristics) so that it takes situations into account" (Endler & Magnusson, 1976 b: 965).

To summarize, the interactional model says that

"actual behavior is determined by a continuous process in which person and situation factors

interact in a multidirectional (feedback) manner. This interaction provides a multivariate, two-dimensional (Situation X Response reaction) pattern of behavioral variability across situations for each person. This behavior pattern is to some extent idio-graphic, that is, it is characteristic for the individual". (Endler & Magnusson, 1976 b: 969).

It is important to note however, that in view of the goal to develop a simplified conceptual model of leader behavior, it may be possible to describe these behavior patterns at a more generalized level rather than at the idio-graphic individual level.

Interactional psychology therefore provides a rationale for predicting and explaining behavior by suggesting that behavior is not merely a function of the main effects as caused by person and situational variables but rather that in addition "there is a continuous interdependency between persons and situational factors (feedback), and this interaction is a prime determinant of behavior (e.g. Levin, 1935, 1936)" (Endler & Magnusson, 1976 a: 12). This person X situation interaction is akin to and stems from the two way interaction effect within a two factor analysis of variance design of persons and situations. It is not however restricted to analysis of variance designs as regression analysis is also quite capable of handling interaction effects (Kerlinger & Pedhazur, 1973). Regardless of the technique, a variable identified as having a significant interaction or joint effect on another variable suggests a purely additive model may not be adequate as a predictive model. Interaction between two levels of a treatment (independent variable) suggests the criterion measure for treatment combinations cannot

be predicted from the sum of the corresponding main effects -- the total effects are nonadditive (Winer, 1962). When significant interactions occur it is therefore necessary to include them as product values of the interacting variables in order to still have a predictive equation. It is also desirable to "distinguish between ordinal and disordinal interactions. An ordinal interaction is one in which the 'rank order of treatment is constant', whereas a disordinal interaction is one in which the 'rank order of the treatment changes' (Lubin, 1961: 808)" (Kerlinger & Pedhazur, 1973: 245).

Interaction can easily be illustrated graphically. An independent variable with two treatment effects, plotted across another independent variable and the dependent variable, should produce parallel lines if there is no interaction, converging lines if the interaction is ordinal and crossing lines if the interaction is disordinal. Treatment effects that neither cross nor are parallel (ordinal) therefore suggest that one treatment is consistently superior to the other and that the differences in superiority changes for different values of the other independent variable. For treatment effects that cross one another (disordinal), each treatment will be superior to the other at times but for different values of the other independent value. Disordinal interaction is therefore more complex to explain conceptually.

Interactional Psychology suggests that the person and situational independent variables are close to being meaningless as predictors of behavior when they are considered by themselves. It can even be argued that these variables do not even exist independently. They only exist

when considered in relation to one another because of their continuous and reciprocal interacting influences. Situations only exist in that a person perceives them, chooses them and affects them; "situations are as much a function of the person as the person's behavior is a function of the situation" (Bowers, 1973: 327). Both components continuously interact with one another to the point where it only makes sense to consider their real effect as an interaction effect. If the person and situation variables are continuous, it is possible to create a new "interaction" variable which is the product of these two variables for each observation (Anderson, 1970; Cronbach, 1968; Kerlinger & Pedhazur, 1973). A similar procedure could also be used if the variables are categorical with quantifiable values, or, by using a technique like Multiple Classification Analysis (Andrews, Morgan & Sonquist, 1969) where the categorical variables are not quantifiable.

The person and situation variables by themselves may well have their own independent effects but it also appears quite possible that there will be a significant effect which comes from their influence as a joint-interaction-multirelated variable. The ultimate interactional model of behavior would be organismic in nature where causality would be transactional (reciprocal interaction between dependent and independent variables) but because present methodology and technology is not adequate to examine the nature of such dynamic interactions, current interactional models of behavior must be restricted to unidirectional causality and a mechanistic or reactive model. The concept of interaction as it is applied here therefore only refers to the interaction between the

two main independent variables of the person and situation. This interaction can also be called feedback where the person feeds back information to the situation so as to affect or change it and the situation feeds information to the person as he perceives it. There is therefore a continuous interdependency between these two variables. As a result P X S interaction may conceptually become a hybrid variable with an identity of its own as a prime determinant of behavior and as a hybrid variable it may be possible to exceed the sum of the variance attributed to the original main effects so as to help account for significantly more variance than has traditionally been accounted for in the past.

Finally, it is recognized that truly accurate statements concerning the determinants of behavior might have to include all the interactions that occur between all possible predictive variables. The concern here however, is with a highly simplified interactional model of leader behavior where the emphasis is on the first order person X situation interaction. The current objective is only a preliminary attempt to explain why people with certain characteristics behave differently than people with other characteristics in the presence of the same stimuli (McGuigan, 1968).

A Proposed Interactional Model of Leader Behavior

The above discussion forms a background framework for the development of a basic but operational model of leader behavior. Although the utility of this framework is limited in that it cannot initially include the total leadership phenomenon where group consequences are the

important criteria, (i.e. in the proposed model the leader and his behavior comprise the unit of analysis), the interactional framework is suggested as being a most logical and necessary starting point for eventually explaining the total phenomenon (i.e. phase I of a two phase model). As interactional psychology and some person-situation models of leadership might suggest, this framework consists of three major conceptual independent components: the person, the situation, and the interaction between these. The dependent component or criterion is leader behavior itself. In its most basic form, the potential model is presented in Figure 2.

Insert Figure 2 about here

This initial framework implies unidirectional causality of leader behavior but on the basis of reciprocal interaction between the two original categories of person and situation. Most leadership models of behavior attempt to account for causality on the basis of variables selected from the two primary components but the fact that selected variables have never accounted for more than forty percent of the total variance (Endler & Magnusson, 1976 a, b; Vroom, 1973) suggests that causality is neither direct nor possibly even additive. Intuitively, the reason must be one or a combination of the following: (1) the wrong variable (independent and/or dependent) constructs are being used, (2) the variables have yet to be properly operationalized and are therefore in-

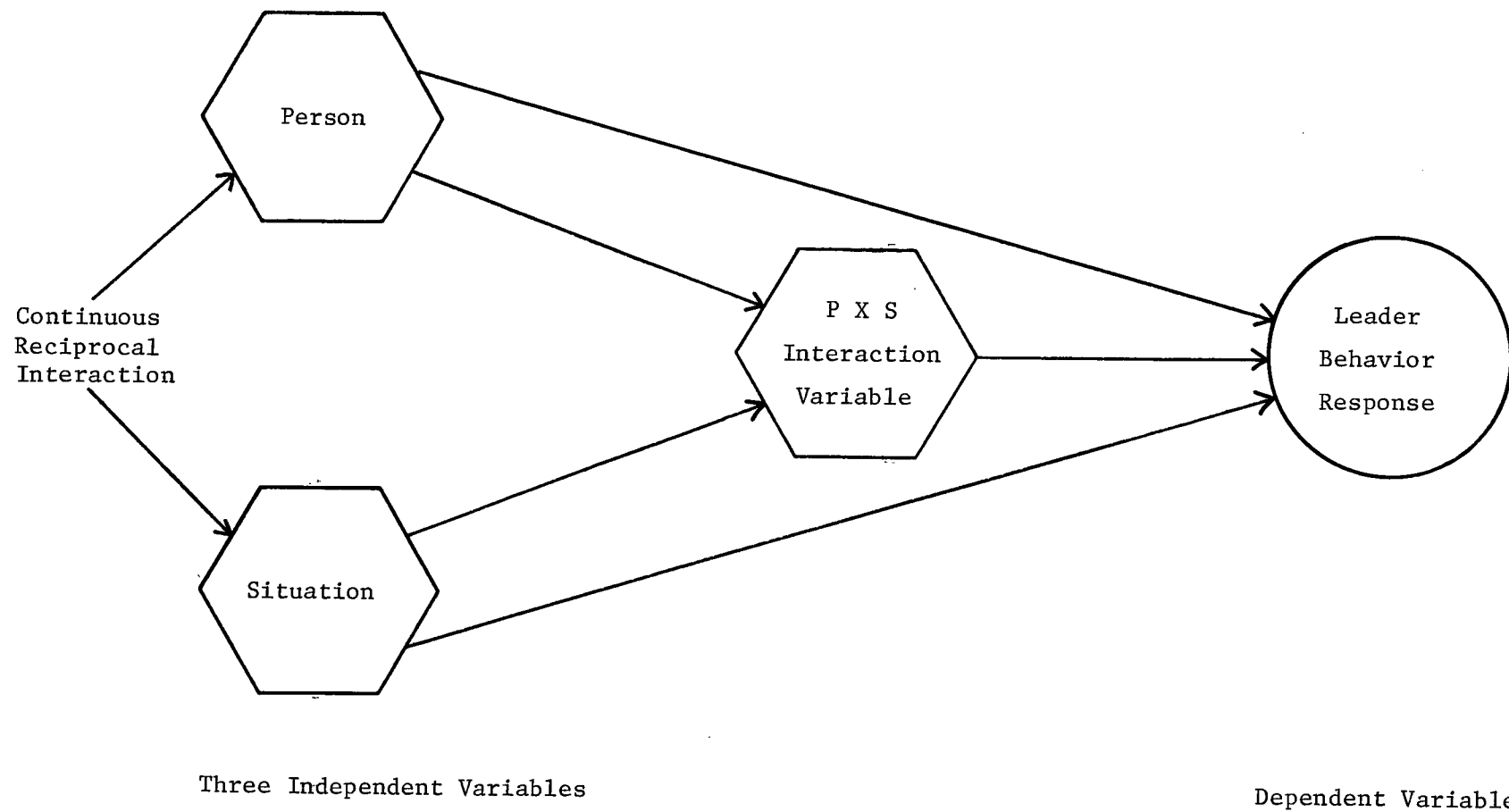


Figure 2. Simplified interactional model of leader behavior

adequately measured, or (3) interaction itself is a causal factor even though it has not been adequately explained theoretically or operationally. The proposed model is suggested as an initial starting point for attacking all of these possibilities. In its simplest form it is suggested as being at least potentially capable of explaining more variance, especially if leader behavior itself is the goal of prediction rather than a more external criterion. Some thing or things cause people to behave and these things or factors must come from within the individual himself, from the situation (at least as he perceives it) or, from a combination of both (i.e. reciprocal interaction). This thesis is an attempt to more clearly operationalize this rationale at a generalized level by building on the assumption that much of the unexplained variance is hidden either in the operationalization of the two original components, or, in person X situation interaction as a conceptual variable. While this conceptualization of interaction is not particularly new, the speculation that such interaction might conceivably be categorized as a variable in its own right, such as to fit into an interactional model of leader behavior and thereby theoretically account for more variance, is new. The most basic assumption of this total approach is therefore that man's behavior is potentially explainable in terms of an interactional theory of behavior.

The above has laid the groundwork for an interactional model of leader behavior and developed the rationale for the possible explanation of P X S interaction as being a hybrid independent variable. Considering the infinite variety of potentially relevant and testable variables

within the original main components, it is now appropriate to direct specific attention to each of these areas: the person, situation and leader behavior.

Person Component

The person or leader component of the model potentially includes every type of variable which is primarily attributed to existing within the leader. This therefore includes a variety of leader characteristics from physical and personality traits (including age, sex, ability, intelligence, orientation, attitudes) through to the more abstract concepts of cognitions, affections, expectations and motivations. Notwithstanding the fact that many leader characteristics have avoided the leadership research lime-light during recent years, especially personality factors, this area has recently been the subject of renewed concern.

Stogdill (1974) reviews over 160 studies done between 1948 and 1970 that attempted to identify and isolate significant characteristics of leaders. Major variable types were categorized under physical characteristics, social background, intelligence and ability, personality, task-related characteristics, and social characteristics. Those specific variables for which there were at least 20 studies suggesting a positive relationship with leadership included activity, energy; intelligence; ascendance, dominance; self-confidence; achievement drive, desire to excel; and sociability, interpersonal skills. Stogdill concluded that most characteristics or traits have very limited predictive significance in isolation while in combination they are subject to complicated

interaction effects. A major conclusion was that personality broadly defined is a factor in leadership differentiation and while this does not provide constructive support for the older leader trait theories, it does reject a totally situational approach. More important though, it strongly supports the Personality-Situation leadership theories and in particular an Interaction theory of leadership.

As previously sighted, Stogdill views the interaction of the leader's and follower's personalities as worthy of investigation, "What range of leader personality traits will be acceptable to a group that is highly homogeneous with respect to a given personality trait?"

(Stogdill, 1974: 424). What will be "the effects of member homogeneity versus heterogeneity on acceptance of a leader with a given pattern of behavior, personality or values" (p. 421)? In other words, how will the personality of a leader affect a group and will the personality structure of the group affect the behavior of a leader and the consequences of his behavior?

Fleishman (1973) has made a very strong case for reconsidering personality as an important variable, especially as it might affect leader-group relations. In particular he questions the construct validity of the Least Preferred Co-worker (LPC) scale and suggests that we need new conceptual frameworks for developing and measuring personality and interpersonal value constructs. The LPC has been the subject of considerable controversy since its development (Kerr, 1973; Mitchell, 1970; Graen, Alvares, Orris & Martella, 1970) and it is still uncertain whether it is a type of personality construct, attitude, motivational

measure or a cognitive-complexity concept (Fleishman, 1971; Chemers & Rice, 1973). The fact that such confusion still exists concerning this concept, its development, meaning and rationale, should deter its continued use in newer models and future research, notwithstanding the fact there are indications it does correlate with group effectiveness and to a lesser extent with leader behaviors (Fiedler, 1973). These correlations have not however been unequivocally replicated nor theoretically explained to everyone's satisfaction (Graem et al, 1970) and in a very large number of cases have not even been significant (Ashour, 1973 a). High LPC scores have generally conveyed the idea of relationship-motivated attitudes, low LPC scores of task-motivated attitudes (Fiedler, 1971) but even Fiedler says this is a misinterpretation. Fiedler appears to interpret LPC in whichever light appears most appropriate for the question being considered. For example, he points out (1971: 58) that low LPC persons describe themselves as more interaction orientated than high LPC's who describe themselves as more self orientated (Bass, Fiedler & Krueger, 1964). To a certain extent this is a contradiction of earlier explanations. Perhaps LPC is only a person interaction preference scale, not a people-task continuum and not a personality variable.

Korman (1973) also feels personality is important, or at least its effect on behavior and group effectiveness, but he points out the limited reliability of personality constructs over time and over situations (Mischel, 1968). Personality variables have traditionally been poor in predicting behavior, generally accounting for less than 10% of

the variance (Endler & Magnusson, 1976 a, b). Korman suggests that the problem with our present personality constructs is either (a) they are the wrong constructs, (b) they are meaningful and significant but we cannot adequately measure them or, (c) we measure them well but personality is just not an important determinant in leadership. Without an answer to the above, personality as a variable will probably continue to have limited predictability. Korman favors an answer in accordance with (a) and/or (b) and feels that personality constructs should be more organizational and work relevant and therefore perhaps more situationally defined. The lack of this has been a serious limitation to Fiedler's model - "the utilization of personality constructs as contingency variables will have to be redirected" (Korman, 1973: 191). More recently however, it appears that at least one new model has attempted to emphasize the possible importance of an original and conceptually different personality construct, namely, the concept of cognitive style in the Human Information Processing Approach (Wynne & Hunsaker, 1975).

The person component of the proposed model could utilize any one of a number of possible constructs. But considering the above criticisms and the limitations of most variables previously operationalized in leadership models, especially the LPC measure, what kind of person or personality construct should be used? Such a construct will perhaps be original but it must also have theoretical relevance, empirical soundness and make intuitive sense within an interactional model of leader behavior. One realistic possibility stems from the theory of 'specialization' as developed by Little (1972, 1976 a, b).

Specialization theory is a newly developing perspective flowing out of a consideration of personality theory within an environmental psychology framework. To a certain extent it is a unification of the opposing points of view advocated by personalists and physicalists. Essentially, it

"is an attempt to integrate information of cognitive, affective and behavioral responses to the environment by focusing upon a typological analysis of different "specialists" --- Integration is also sought by developing the concept of the specialization loop, which predicts relationships between the three components of human action" (Little, 1976 a: 83).

Little utilizes the concept of specialization process as a linking function which links the "specialist" (person) and his "specialty" (the organism in its environment) while implying "the selective channeling of dispositions and abilities" (p. 84).

Specialization theory runs counter to traditional personality approaches that focus on typologies (introversion-extroversion; internal vs external locus of control, field dependence-independence) which fail to make assumptions about the kinds of objects in the environment. Specialization theory is concerned with "the primary objects of environmental encounters" (Little, 1976 a: 86):

"those objects that are selectively attended to by psychological man --- the largest and most substantive division - the provisional assumption that persons and things comprise the primary objects in our environment" (Little, 1976 b: 113).

Little (1972 a) has developed a Person-Thing measurement scale, based on a 24 response questionnaire which has good evidence of reliability (around .80) and convergent validity. This instrument supports the concept of individuals having separate generalized dispositions or orientations towards persons and towards things. There is also growing evidence that these two orientations are independent and orthogonal:

"that some people will focus on one primary object domain to the exclusion of the other; that some will, relative to others manifest interest in both domains; and that still others will express comparatively little interest in either persons or things" (Little, 1976 a: 88).

This orthogonality allows for the construction of a person-thing orientation paradigm of specialist types as shown in Figure 3, (Little, 1976 a: 90). These specialist types, as measured by the Person-Thing Scale, and their characteristics have been described in detail by Little on the basis of a variety of studies which have attempted to determine how they perceive and construe their environment.

"The most consistent finding to emerge has been that person-specialists as assessed by the T-P scale predictably experience their environment personalistically while thing specialists experience it via a more physicalistic mode" (Little, 1976 a: 92).

Insert Figure 3 about here

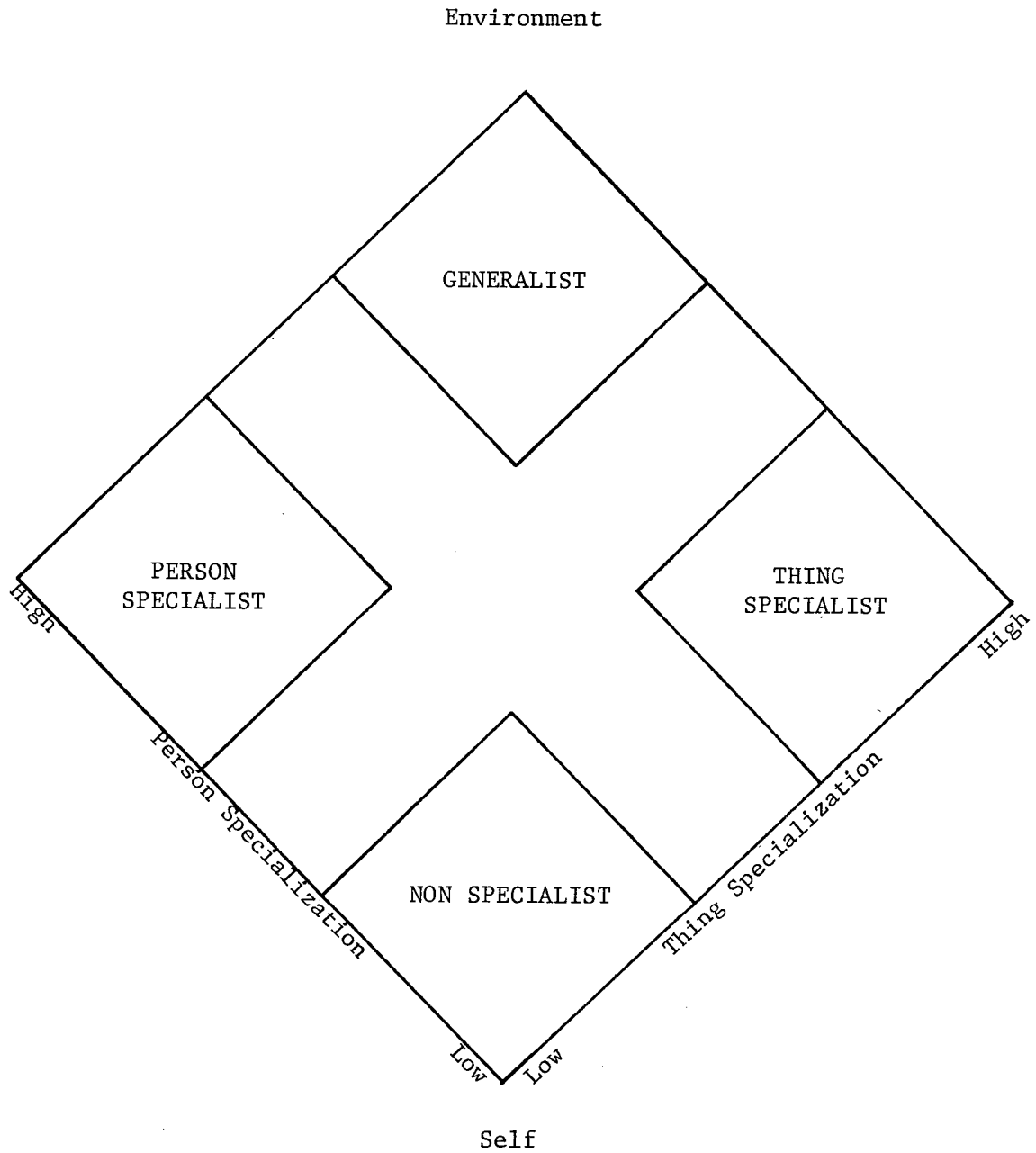


Figure 3. Schematic representation of the four primary specialist groups
(Reproduced from Little, 1976 a: 90)

The above ideas have developed out of environmental psychology where emphasis has been placed on developing measures of environmental dispositions, measures based on the assumption that people respond and relate to their environment in relatively stable ways (Little, 1976 b). If a situation can be considered an immediate subset of the environment, then these stable ways of relating and responding should also hold to a certain extent, for situations as well. Eysenck's (1953, 1970) research on introversion-extroversion suggests one way of looking at environmental dispositions except that it contrasts orientation with one's inner self with orientation to the environment. Person-Thing orientation on the other hand portions the environment into primary objects.

The concepts of specialization and specialist imply connotations similar to those associated with occupational specialists: competence, expertise, selectively, etc. While it is a rather novel concept within the study of personality and behavior, a person as a specialist implies

"(a) that he is interested in and positively orientated towards a set of objectives or events (his speciality), (b) that he spends a comparatively large portion of his available time in activities involving his specialty, and (c) that his way of thinking about these objects, ideas, or events is comparatively advanced. The concept of specialist then seems to translate quite readily into affective, behavioral and cognitive terms" (Little, 1972: 111).

The concern then is with specific observable differences between people in terms of how selective people are to objects of the environment.

"It is a major assumption of the specialization model that assessment of an individual's primary orientation toward the environment will facilitate predictions about his encounters with non primary objects --- Phrased differently, we believe that a great range of behavior will be reflected in a person's basic orientation towards persons and things" (Little, 1976 a: 114).

The connection between cognitive, affective and behavioral components of the model is explained in terms of specialization loops (Figure 4) which convey the idea of an individual's personal system (Little, 1976 a: 95). In an abstract sense an individual can be described in terms of his two potential primary specialization loops (as a person, thing, generalist or non specialist). These loops are not isolated domains as there will be interaction between the two primary (person and thing) loops for each individual. The orientation effect of one primary loop may moderate the effect of the other primary loop thereby influencing and moderating one's behavior. While Little (1976 a: 110) only offers limited evidence of this it is interesting to speculate that a leader might require fairly high degrees of both kinds of primary orientation in order to be consistently effective across situations.

Insert Figure 4 about here

The following is quoted directly from Little (1977 a: 94-96) in an attempt to more clearly illustrate the meaning of specialization loops.

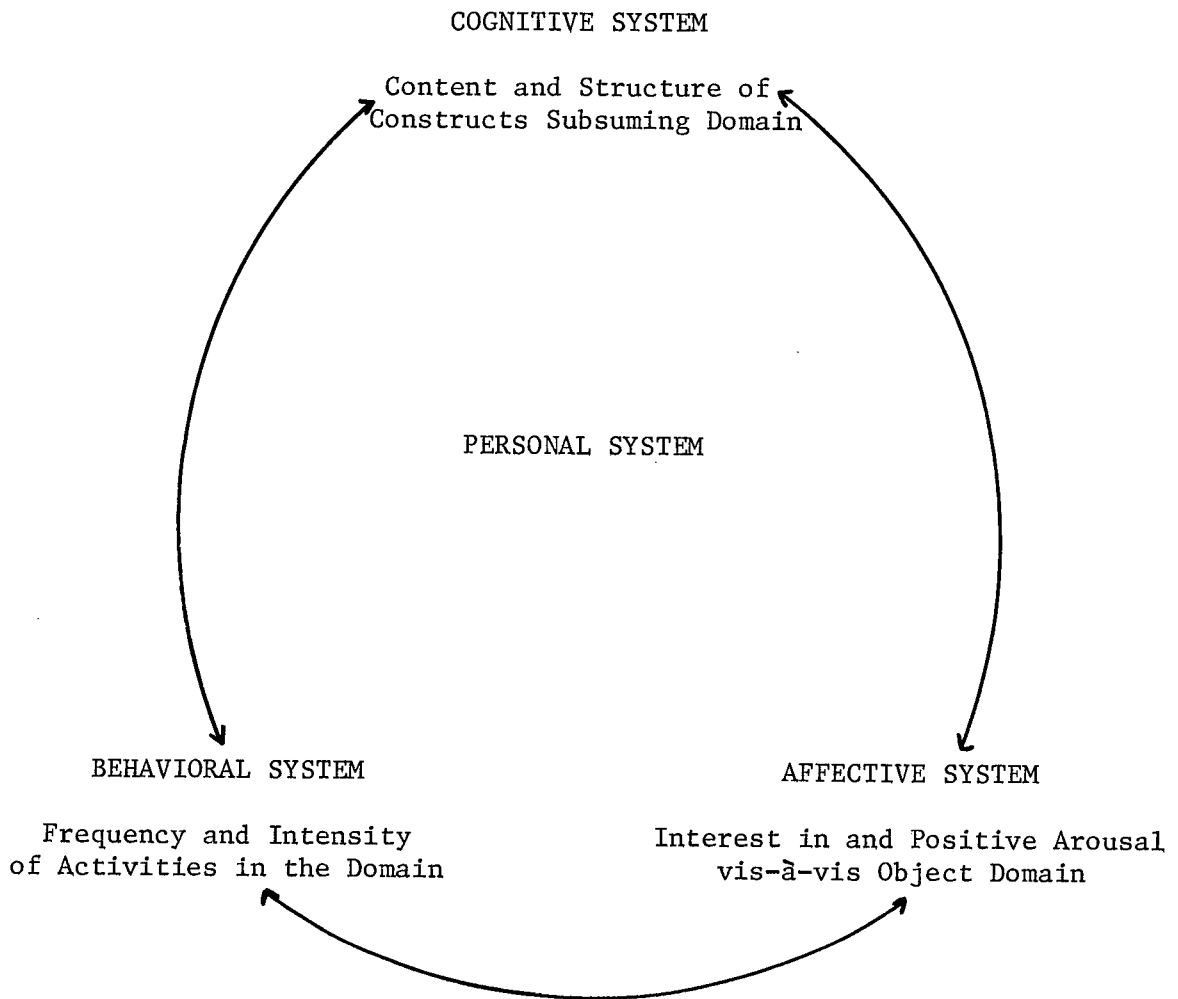


Figure 4. The basic components of a specialization loop
(Reproduced from Little 1976 a: 95)

"...an individual... begins the selective channelization of interest and ability that constitutes specialization. Behaviorally, specialization involves greater frequency and/or intensity of encounters with the speciality; cognitively, it involves the development of highly interrelated constructs subsuming the domain; affectively, specialization is characterized by interest in and pleasure with the specialized domain --- The three components of specialization are reciprocally reinforcing --- an increase in any component, we hypothesize, will increase the probability of adjacent components taking on higher values. We assume that specialization loops are bidirectional. Thus an increase in the affective components of a domain will likely increase the frequency behavioral encounters within that domain (clockwise looping), as well as increase the level of cognitive function in the domain (counter-clockwise looping) --- [although certain] variables can conceivably intervene as barriers to the completion of the loop."

The idea of variables possibly blocking the completion of a loop provides the rationale for explaining how and why correlations between the components may vary considerably. For example, an individual with very personalistic affections and cognitions may on occasion behave in a very physicalistic manner, possibly because of the influence and effect of strong exterior variables (i.e. the demands, norms, etc. of a situation).

The concept of specialization loops, it would appear, has some similarity to what might be described as a continuum of leadership style with the continuum ranging from style as an attitude with cognitive and affective components through style as a more manifest intent to behave (i.e. in a hypothetical situation) to style as an observable and specific pattern of actual behavior. An initial assumption in common with the

concept of specialization loop and concept of leader style continuum is that we should originally expect a strong thread of person and/or thing orientation between the affective, cognitive and behavioral components and styles. Each concept will nevertheless be affected by barriers or moderating variables which will limit orientation relationships. We may also find however that our measuring instruments are inadequate and not directly comparable between different components and between different styles (i.e. correlations between attitudinal style and behavioral style may be insignificant). What is being said here, for example, is that a thing specialist should have an attitudinal leadership style which is connected to and related to his behavioral leadership style, providing we measure these styles properly and account for barrier and moderator effects.

"If the relative importance of the domain to an individual is assessed it is then possible to weigh that response accordingly - the more basic a dimension is to an individual, the more readily should that person's overt behavior be predicted by the attitudinal measures" (Little, 1976 b: 29).

The prediction then is that the T-P scale should be predictive of behavior.

"In general it is expected that the T-P scale person orientation measure will predict the expression of positive affect through both verbal and non verbal channels during social interaction, and the evidence to date is not inconsistent with that expectation. It can also be predicted that thing-orientation measures will correlate with the use of more task-orientated

strategies during social interaction. This area has not been explored with the T-P scale as yet" (Little, 1972: 31).

This clearly is the challenge which might be testable within the proposed interactional model of leader behavior. In addition, it provides an appealing rationale for using Person-Thing orientation in operationalizing the person variable, a construct which appears to be more inclusive and encompassing than most of the personality and characteristic constructs previously used in leadership research. It should be particularly more inclusive and theoretically sound than Fiedler's LPC measure which only seems to tap the interpersonal dimension. Person-thing orientation as a variable is also attractive because of its relationship to other parallel concepts in the leadership literature such as concern for production vs concern for people (Blake & Mouton, 1961), interpersonal vs task (Hill, 1973) and consideration vs initiating structure (Fleishman, 1973). But the most important reason of all for using person-thing orientation as the person component variable is the fact that the construct recognizes an interactional relationship between the person and the primary objects of his environment.

Situation Component

The choice or development of a construct which can serve as the base for a comprehensive and generalizable situation variable and also fit into the interactional model of leader behavior is not initially apparent. While there are countless possible concepts to choose from, some important concerns should first be clarified. Should the construct

have a macro or micro emphasis? Should it be personalistic (group and follower characteristics) or physicalistic (characteristics of the task, structure, organization and environment) or both in focus. A majority of research has focused on the situation in terms of group and/or task characteristics (Stogdill, 1974; Gibb, 1969; House, 1971; Hill, 1973) but few attempts have been made at utilizing more totally inclusive situational characteristics or dimensions. Bass and Valenzi (1973), Yukl (1969) and Wofford (1971) studied and identified a number of specific organizational and work group variables, Rambo (1958) was concerned with organizational level and department differences, Hill and Hughes (1974) with structured vs unstructured tasks, and Larsen (1973) contrasted stress vs non-stress situations. Such studies confirm a concern with specific variables but still leave open the question about more generalized concepts.

Fiedler (1967) provides one good example of a more inclusive situational construct, that of situational favorability. But while this dimension is defined in terms of how the situation gives the leader power and influence it fails to include other variables which can also influence favorability. Examples of such variables include stress, linguistic or cultural heterogeneity, training, experience, leader status and organizational climate (Chemers & Rice, 1973). Nevertheless, Fiedler still uses his variables on the bases that "the leaders potential for influence and control is the most important aspect of the situation" (p. 107). Additional criticisms of this construct concern the post hoc assessment of leader relations after the task via a group at-

mosphere scale (Mitchell, 1970), the confounding incomparability of the group atmosphere scale across studies, the problem of dimensionality and anchoring of the situational favorableness dimension (it is a ranking of eight different combinations rather than a true continuum), plus, the method and rationale for weighting the three variables of the situation favorability dimension (Chemers & Rice, 1973). It appears that a construct more theoretically sound and generalizable than situational favorability should therefore be found.

Cartier (1953) and Gibb (1949, 1969) throw some light on this problem. Factor analyses on the results obtained in their studies has suggested situational-task families which set the stage for generalized leadership demands. Two major families included intellectual task situations and manipulation of objects situations. They also suggest it is possible to arrange task-situations along a categorical continuum. The problem is in deciding on the construct to use for defining the continuum. One way might be to relate the categories to major leader behavior dimensions (e.g. consideration vs initiating structure) while another might be to relate it to major person variable dimensions (e.g. person vs thing). Vroom and Yetton (1973) for example have argued that as we often define leaders in terms of them being autocratic or participative, it makes a lot of sense to describe situations as autocratic and participative. A combination of the above two possibilities may provide a reasonable alternative. A situation could be possibly described in terms of its nature, i.e. how it relates to personal and behavioral factors or dimensions as a leader would actually perceive it. For example,

Heller and Yukl (1969) found significant differences in decision-making behavior depending on the nature of the problem (task problems vs group maintenance problems). In another study, Yukl (1969) identified six situation dimensions of which three could easily be categorized as fitting into task (physiological) or interpersonal (personalistic) categories. Maier (1965), Blake and Mouton (1964) and Vroom (1973) have all identified two similar dimensions which appear applicable for describing and categorizing situations - concern for acceptance (people) and concern for quality (production or task). In addition, Rosenberg (1972) has described situations as behavior units based on their subject matter, context and expression while also incorporating Little's T-P scale as a predictor variable.

The above is therefore suggestive of viewing situations in terms of two dimensions: a people dimension (personalistic) where the concern is with interpersonal relationships and, a non-person or physicalistic dimension where the concern is with things and tasks. These dimensions correspond to the primary objects of the environment as suggested by Little as well as being parallel concepts of the dimensions tapped by the T-P orientation scales. Hypothetically at least, it may also be possible to view these situational dimensions as orthogonal which allows for the creation of at least three generalized situational categories: person orientated; non-person, thing or task orientated and combined-person-thing orientated.

Behavioral Response Component

A variety of empirical techniques have produced a substantial number of possible leader behavior variables or dimensions. Most research in this area has been an attempt to accurately describe what leaders do in behavioral terms. For example, the U.S. Army adopted eleven leadership principles or behaviors for rating performance which were derived through an analysis of the outstanding leadership behaviors displayed by successful leaders (Carter, 1952). In the Canadian Military, junior officers are evaluated during the Basic Officer Training Course on thirteen scales which were originally generated by a variation of the critical incident technique (Otker, 1964). Another technique involved the determination of leader behavior categories on the basis of direct observation and recording of leader's and group member's behavior (Carter, 1953) which when factor analyzed produce specific dimensions including group goal facilitation, individual prominence and group sociability.

"The most notable, and the most complete research directed towards the determination of dimensions of leader behavior has been that of Hemphill and his colleagues in the Ohio State University Leadership Studies (1950 a). These studies began by defining leadership tentatively as 'behavior of an individual when he is directing the activities of a group towards a shared goal' (Halpin & Winer, 1952: 6)" (Gibb, 1969: 230).

These studies produced up to ten a priori dimensions, (Hemphill, 1950; Halpin & Winer, 1952) which when later measured by questionnaires and

correlated, produced the following four major leader behavior dimensions with percentages of variance show in brackets:

- (1) Consideration (49.6%)
- (2) Initiating structure (33.6%)
- (3) Production emphasis (9.8%)
- (4) Sensitivity (social awareness) (7.0%)

The first two dimensions accounted for 83% of the variance while the remaining two dimensions appear to overlap with the first two (3 with 2 and 4 with 1). These results as a generalized finding suggesting the existence of two major behavior dimensions have consistently been supported over the years as perhaps the most prevalent and important (Fleishman, Harris & Burt, 1955; Halpin, 1955; Fleishman, 1971; Stogdill, 1974; Hemphill & Coons, 1957; Halpin & Winer, 1957). Although a variety of definitions exist concerning these two dimensions there is a very high degree of agreement about their nature. Yukl (1971: 415) provides one abbreviated but clear definition:

"Consideration refers to the degree to which a leader acts in a warm and supportive manner and shows concern and respect for his subordinates. Initiating Structure refers to the degree to which a leader defines and structures his own role and those of his subordinates towards goal attainment."

Much of the support for these two dimensions originates from the use of the Supervisory Behavior Description (Fleishman, 1953) which obtains descriptions of a supervisor by his subordinates, and the Leadership Opinion Questionnaire (Fleishman, 1953, 1960, 1969) on which lead-

ers describe their own perceptions of their leadership attitudes and behavior. Of particular importance is the fact that a tremendous amount of research in the leadership field has focused directly on these two dimensions of leader behavior or at least included them as variables (Bass, 1954; Lowin, Hrapchak & Kavanagh, 1969; Sheridan, Downey & Slocum, 1975; Ilgen & Fuji, 1976). This does not mean there are no other important dimensions for there are indeed many and a number of original dimensions have been recently identified (Yukl, 1971). However, the empirical and theoretical grounding upon which these two dimensions are based makes them most appealing for future research endeavours. They are relatively easy to isolate and there is evidence to suggest that although they may interact, depending on situational characteristics (Weissenberg & Kavanage, 1972), they can at least be considered independent in a conceptual/theoretical way (Fleishman, 1971). The congruency of these dimensions with other organizational behavior concepts (Bales' (1953) differentiation of task and social-emotional leadership, Likert's (1961) job-centered vs employee-centered supervision and Blake & Monton's (1964) managerial grid with the concern for people and concern for production scales), plus their relationship to the previously defined concepts for the person and situational components, appears to suggest much potential. Leader behavior will therefore be conceptualized in terms of these two measurable dimensions of consideration and initiating structure.

Hypothesis Formulation

The proposed interactional model of leader behavior stems from the point of view which argues that behavior is neither a function of person characteristics nor situational characteristics alone but rather a function of these factors as they interact. It therefore casts aside the pseudo issue revolving around the question of whether leaders vary their behavior in accordance with situational factors or maintain a consistent pattern or style of behavioral responses across situations. Rather, some people exhibit consistent or rigid behavioral patterns on some behavioral dimensions, some of the time, while other people appear to modify their behavior in accordance with situational factors. Hill (1973) for example obtained results on managerial style as perceived by subordinates indicating that approximately half the managers sampled varied their behavior in accordance with situational factors but that the other half did not, at least for interpersonal and technical types of problems. In addition, the results of a great deal of recent research

"suggest that the traits and abilities required of a leader tend to vary from one situation to another, --- a previously successful leader may fail when placed in a situation that imposes demands incompatible with his personality or stabilized pattern of interaction and performance" (Stogdill, 1974: 411-412).

A particular combination of traits may help a leader be successful in one situation, but not necessarily in another. This clearly suggests some people are more inclined to vary their behavior in accordance with

situational factors (variable or flexible leadership style) while others are less inclined to do so (fixed or rigid leadership style). An important question therefore is, what kind of leaders will have persistent styles and what kinds will have changeable styles? Fiedler 1973: 43) suggests a partial answer as either:

"(a) the tendency to behave in a considerate, employee-centered manner is an attribute of the leader's personality, and therefore properly considered to be his leadership style [trait theory]: or (b) --- the leader's personality and the situation interact, and the person who is considerate under one condition tends to be relatively less considerate under other conditions... [consistency or interaction theory]".¹

He summarizes:

"the problem, then, is to identify the relevant personality attributes as well as the situational factors which determine how individuals in leadership positions will behave."

While Fiedler certainly appears to be in the right ball park, he may be playing the wrong game. It appears quite possible that both of his answers are partially right. He fails to consider however, the possibility that some people may behave consistently over situations while others may not.

The proposed model is concerned with leader behavior plus the variables and mechanisms which determine this behavior. It is concerned

1. Words in brackets added by author.

with how a person behaves when he is placed, appointed, elected or has naturally evolved into a leadership position and role. A major assumption of the model is that consistency and variability of behavioral responses will depend on both personal (leader) and situational factors plus the interaction between them. A prime concern is therefore with identifying and operationalizing the appropriate constructs, including the construct of interaction, which might help improve the predictability of leader behavior styles.

The preceding review of the literature and resulting theoretical development of a simplified interactional model of leader behavior suggest it is possible to make generalized behavior response predictions for leaders of a particular specialty orientation who find themselves in a specified situation. Utilizing the three person-thing orientation groupings of the person specialist, thing specialist and generalist (omitting the less predictable non-specialist category) in combination with three categories of situations (person, thing and combined person-thing), it is possible to predict the relative strength of response for each possible combination for each leader behavior dimension of Consideration and Initiating Structure. It may also be possible to predict differences between the two dependent variables, given specific specialties and/or situations.

Possible combinations of specialty and situation showing the predicted differences for the two leader behavior dimensions are portrayed in Figures 5 and 6. The hypotheses that follow are based on the rationale developed earlier and are associated with the predictions

presented in these figures. To a large extent, these predictions are also derived from the specialization loop concept which suggests there will be continuity across the affective, cognitive and behavioral components of a loop, but the predictions do not take account of the blocking that may occur because of significant barrier or moderator variables. It must be kept in mind that the interactional model of leader behavior is only a generalized conceptual model which may eventually be refined for a variety of more specific predictions which take such possible influences into account. At its current level of development, it is primarily an attempt to validate differences in leader behavior response intensity between different combinations of specialty and situation, plus, an endeavour to provide support for an original conceptualization of an interaction component in the model.

Insert Figures 5 and 6 about here

The requirement for initial validation of the simplified interactional model of leader behavior (Figure 2) as developed and described above suggests hypotheses based upon the a priori assumption that support for the theoretical construct of interaction can be statistically demonstrated by significant effects for both the person and situation variables (each only exists as a result of reciprocal influences on the other and their separate effects must conceptually be viewed together) or, by a statistically significant interaction effect. Further support

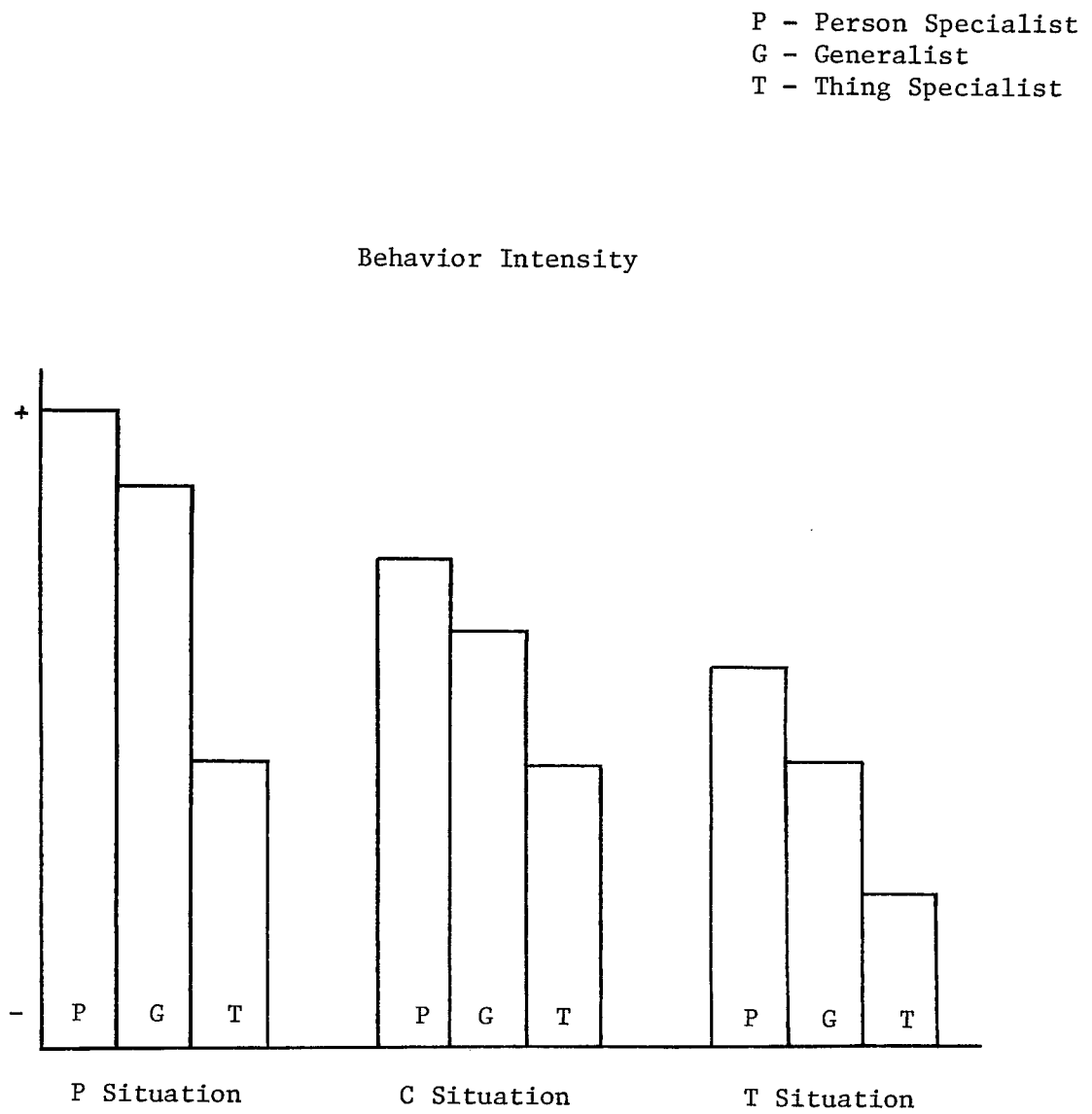


Figure 5. Predicted consideration behavior profile

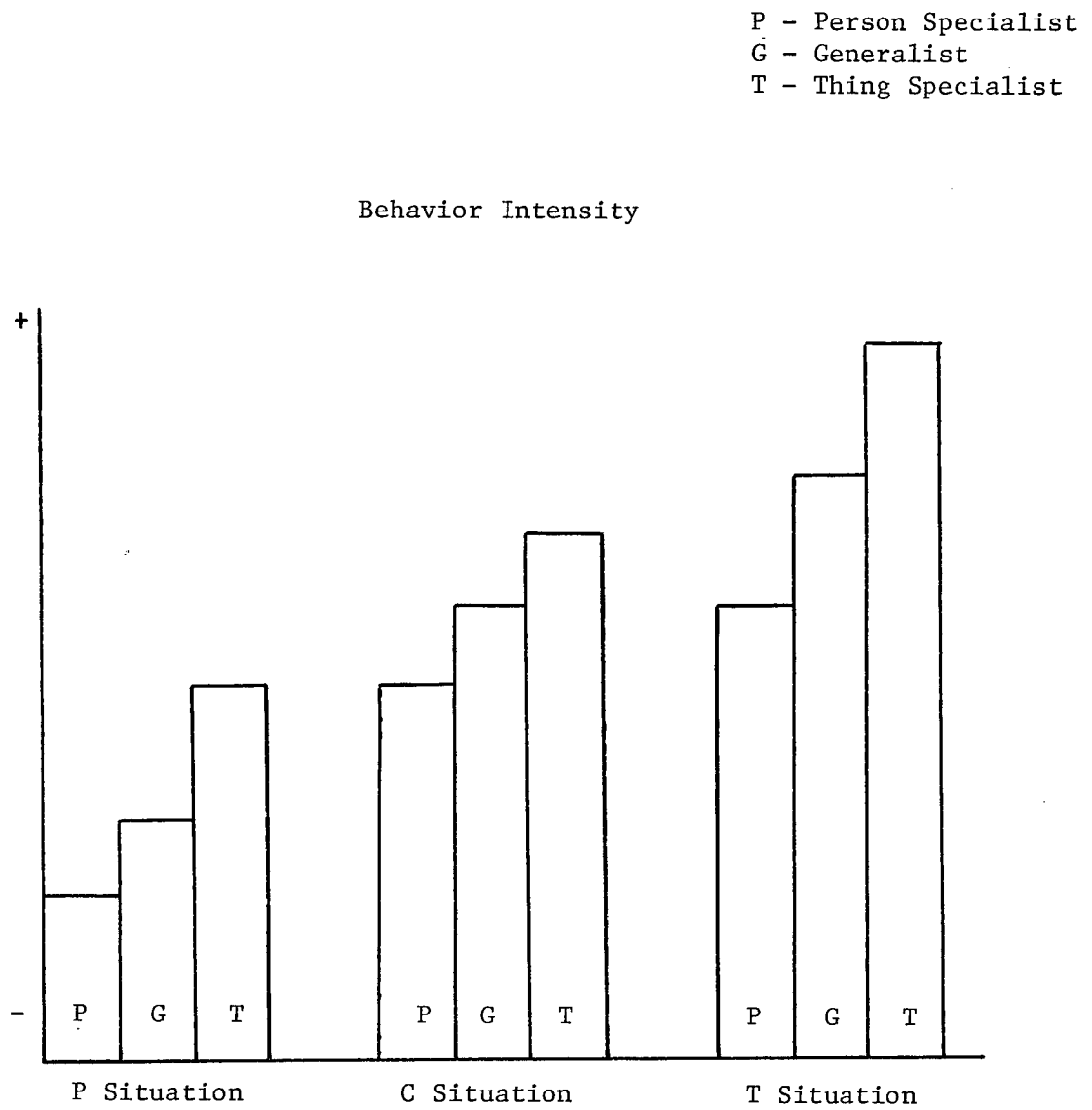


Figure 6. Predicted initiating structure behavior profile

for this concept of interaction would be provided by verifying differences in behavioral response intensity for various combinations of specialty and situation as suggested by the predictions of Figures 5 and 6.

Hypotheses

1. The theoretical construct of interaction will be supported by:
 - a. statistically significant main effects for "both" the independent person and situation variables in predicting Consideration and Initiating Structure responses; or
 - b. a statistically significant interaction effect in predicting Consideration and Initiating Structure responses; or
 - c. both a and b.
2. Person orientation will be predictive of Consideration responses in that high person orientation people (Person specialists and generalists) will emit more Consideration behavior than low person orientation people (Thing specialists and non-specialists) when all situations are considered together.
3. Thing orientation will be predictive of Initiating Structure responses in that high thing orientation people (Thing specialists and generalists) will emit more Initiating Structure behavior than low thing orientation people (People specialists and non-specialists) when all situations are considered together.

4. In accordance with the obvious main differences suggested by Figure 5, there will be significant differences in Consideration response intensity for various specialty-situation combinations.

5. In accordance with the obvious main differences suggested by Figure 6, there will be significant differences in Initiating Structure response intensity for various specialty-situation combinations.

6. There will be significant differences between the two dependent variables of Consideration and Initiating Structure for certain select and obvious specialty-situation combinations as suggested by a comparison of Figures 5 and 6.

METHOD

A survey methodology incorporating predeveloped measures along with hypothetical behavioral responses was used to collect data relevant to the proposed leader behavior model. Two samples of Canadian Armed Forces personnel were used in the study, the first for an exploratory pilot study.

Instrumentation

The three major components of the Simplified Interactional Model of Leader Behavior as amplified in the introduction and diagramed in Figure 2 include the Person and Situation components as independent variables and the Leader Behavior Response as a dependent variable. Operationalization of each of these components, whether as continuous or categorical variables, could be achieved utilizing any number of different instruments. The actual instruments that were selected for use in this study stem from the rationale previously developed in defining these components as constructs.

The Leader Behavior Response component consists of two dependent variable categories: Consideration and Initiating Structure. In an attempt to provide a short and easily administered rating form, a slightly modified Behavioral Checklist (Bass, 1954; Ilgen & Fujii, 1976) was used. The original checklist consisted of fourteen behavioral items. Seven items load the Consideration behavior scale: (1) Engaged in friendly jokes and comments, (2) Helped others, (3) Made others feel at ease, (4) Complimented others, (5) Encouraged others to express their

ideas and opinions, (6) Had others share in making decisions with him, and (7) Helped settle conflicts. The remaining seven items load the Initiating Structure scale: (1) Showed initiative, (2) Was effective in saying what he wanted to say, (3) Clearly defined or outlined problems, (4) Motivated others to participate, (5) Influenced others, (6) Offered good solutions to problems, and (7) Led discussions. Each behavioral item can be scored between 0 and 4 depending on the extent to which the behavior has been observed: (0) not at all, (1) comparatively little, (2) to some degree, (3) fairly much, and (4) a great deal. The Behavior Checklist was used in a manner different from its previous use. Rather than being an assessment of actual observed behavior, it was used for a respondent to record how he felt he would have been rated by an observer had he actually taken steps and carried out actions to deal with a proposed situational problem. Only very slight modifications were made to the original checklist: three items were changed slightly for grammatical reasons and three assessment categories were reworded for clarity and simplicity. The items were also rearranged in a random order. The modified Checklist as used throughout the study is shown in the study questionnaire (Appendix A).

The Person component of the model was operationalized utilizing Little's (1972a) construct of Person-Thing orientation. Two separate preference inventories were administered, each consisting of twelve "person" orientation and twelve "thing" orientation items. Each item on Little's (1972a) T-P Interest Questionnaire asks respondents to show how much they would like to be in a situation or involved in an activity by

rating each item as: (0) Not at all, (1) Slightly, (2) Moderately so, (3) Quite a lot, or (4) Extremely so. The other inventory, as developed by Barnowe, Frost and Jamal (1977), utilizes 24 items drawn from the Strong-Campbell Interest Inventory. This newer T-P inventory asks the respondent to indicate the extent to which he would like or dislike each item (a particular job/occupation, activity or amusement) with ratings of: (5) Strongly Like, (4) Somewhat Like, (3) Indifferent, (2) Somewhat Dislike, and (1) Strongly Dislike. Recent research (Barnowe, Frost & Jamal, 1977; Frost & Barnowe, 1977) reports that the person and thing orientation scales on each of these inventories correlate well with one another. In addition, there is strong evidence to support the notion that the P and T scales are relatively orthogonal and independent within each inventory. This evidence will be reported and compared later in the Results section. The initial rationale for administering both inventories was simply to provide the option of using either or even both for obtaining a measure of Person-Thing orientation and dividing the subjects into specialist categories. Both inventories are included in Appendix A.

The Situation component of the model was also operationalized in accordance with the rationale developed in the introduction. Eighteen possible situations (Appendix B) were produced; seven were refined from examples used in Vroom's Decision Making Model (1972, 1973, 1974) with the remaining eleven being created primarily from the experimenter's own creativity and experience, plus his exposure to role play situations used in learning exercises. The objective was to select three hypo-

thetical situations which would be most parallel or equivalent, in terms of their nature and composition, to the Person Component categories of Person Specialist, Generalist and Thing Specialist. The final goal was to have a "People" situation where the nature of the situation was primarily with people and not things, a "Combined" situation where the nature of the situation was mixed - both people and non-people (things), and a "Non-people" situation primarily concerned with non-people or things. As will be explained in the administration sub-section, the three situations categorized as L, M and P in Appendix B were selected. These situations also appear in Appendix A.

One additional rating form was also included in the administered instrumentation. This form was primarily included for future analysis not directly related to the hypotheses by serving as a mechanism for checking the categorizing of the three situations in accordance with their nature or orientation. This form asked each respondent to rate each of the three situations on two 10 point scales, one scale being the dimension of People Orientation and the other Non-people Orientation. This form and the instructions for its use are reproduced in Appendix A.

Pilot Study

A preliminary study was first carried out using a sample of 56 Officer Cadets who were in their fifth week of basic officer training at the Canadian Forces Officer Candidate School at Canadian Forces Base

Chilliwack. This pilot study had as objectives the testing of the instructions, the determining of the time required to complete the questionnaire and the detection of any significant problems in terms of format or content. In addition, although the N was relatively small, a mini-analysis was carried out on the obtained responses to help get a feel for the data and its relationship to the hypotheses.

The subjects in the pilot sample were all Anglophone males who had just joined the Forces. 96% of the sample was being allocated to operational classifications (Armour, Artillery, Infantry, Maritime Surface, Navigator or Pilot); approximately three quarters of them joined under the terms of the Officer Candidate Training Plan which requires a minimum of Junior Matriculation while the other quarter were Direct Entry Officers having completed a university degree or technical institute diploma. 55% of the sample had at least completed Senior Matriculation, 45% had completed one or more years of university. Only seven of the 56 were married and although their age ranged from 18 to 29, the mean age was 21.2.

The sample was administered the above described instrumentation in accordance with the instructions included in Appendix C. Only Part 1 of the questionnaire was given at the first meeting. This included the initial instructions, biographic information form and the two Person-Thing preference inventories. It was planned to administer Part 2 some days later but a change in the availability of the subjects necessitated that Part 2 be given the day after Part 1. Part 2 instructions requested that the respondent place themselves in each of

the three randomly presented situations (one at a time) and then describe in a separate blank booklet what he would do, what steps or actions he would take, in order to resolve or deal with the described problem. After describing how he would have acted in each situation, the respondent went on to Section 2 of Part 2 where he had to rate himself as he felt an observer would have rated him on each situation using the 14 behavior dimensions on the Behavior Checklist. On completion, the final page of the questionnaire required the respondent to rate each situation on the 10 point People and Non-People orientation (nature of situation) dimensions.

Although a detailed analysis was not carried out on the pilot sample data, some very minor analytical checks were made. The results of these are reported in Appendix D and amplified in the Results section. The resulting changes that were carried out for the main study are specified later in this section under Administration.

Sample

The main study was carried out with a sample somewhat similar to the one used in the pilot study. All 244 subjects were in the Canadian Armed Forces undergoing the Basic Officer Training Course but at the Canadian Forces Officer Candidate School Detachment at Canadian Forces Base Borden (Ontario). The subjects were all male, 98% were Anglophones and 89% were single. A main difference from the pilot sample was that 90% of them were enrolled in academic subsidized plans in which the Department of National Defence fully subsidizes their

university education. 78% of the total sample consisted of Officer Cadets from the three Canadian Military Colleges and 87% of the total sample had completed either Senior Matriculation or first year university when sampled. Their mean age was a little lower than the pilot sample: 20.2 with 81% of the sample being under 21. Only 9% of the sample had more than a year of service, but approximately 90% had enrolled close to nine months earlier prior to attending Military College or university. In contrast to the pilot sample, only 62% were allocated to operational classification groups with the remaining 38% allocated to engineering or support classifications, generally in accordance with their academic programs and personal preferences. 85% of the respondents were in their 4th week of the course while 15% (37) had only completed the first training day.

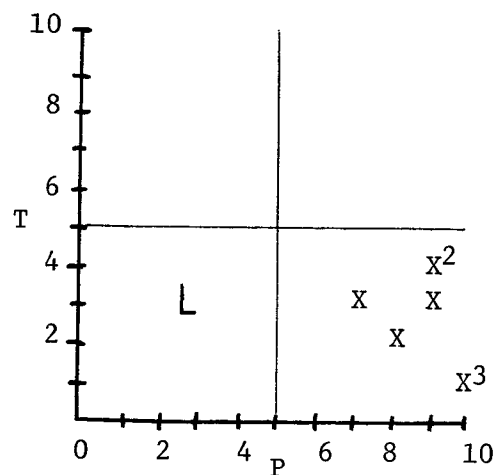
Administration

Situation Selection. The data used for the selection of the three situations which would represent the Situation Component of the model was obtained by requesting eight faculty members from three separate divisions of the University of British Columbia Commerce and Business Administration Faculty to complete Appendix E. Basically, this required each respondent to read each situation in Appendix B (presented in a different random order for each rater) and then rate it on two 10 point scales representing People and Non-people Orientation. Selection of the three most appropriate situations, one for each desired type (People, Thing and Combined), was then made on the basis

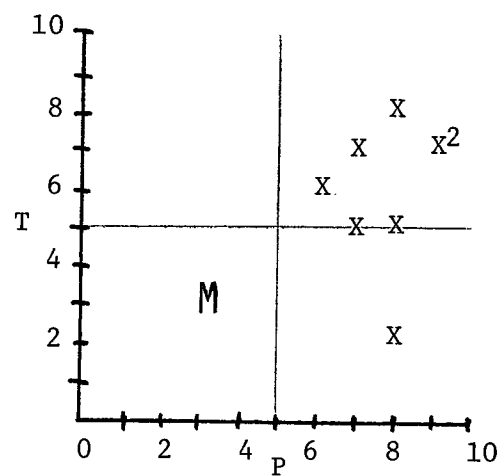
of goodness of fit. Each two-dimensional response was plotted on a graph for each situation. The horizontal axis represented People Orientation, the vertical axis Non-people or Thing Orientation. The initial selection criterion was that not more than one of the eight two-dimensional responses could be outside the desired areas: for the People situation, the desired area included a People Orientation score of 5 or better and a Non-people Orientation score of 5 or less; for the Thing situation, the opposite; and for the Combined situation, a P and T score each of 5 or more. Only five of the situations met this initial criterion. These situations are plotted in Figure 7. M was selected as the Combined situation as it was the only one out of the five for which the plots filled the desired area. L was selected over N for the People situation as all plots for L were in the desired area whereas N had one outside. P was selected over E for the Thing situation on the basis of a higher T score and lower standard deviations. The three selected situations were later presented to every subject sampled in the pilot and main study.

Insert Figure 7 about here

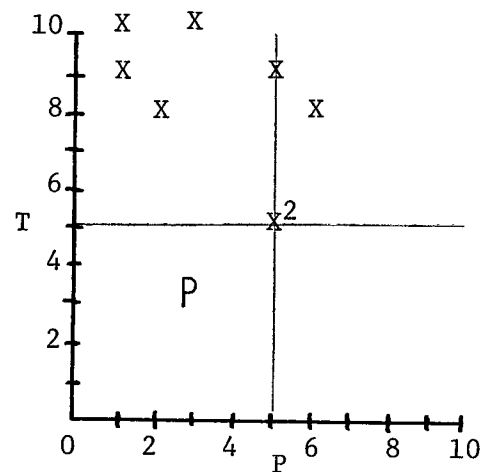
Questionnaire. Administration of all the instructions and instruments making up the questionnaire (Appendix A) was carried out at Canadian Forces Base Borden over a four-day period. The complete questionnaire was administered to the subjects by platoon. Four companies



People Situation



Combined Situation



Thing Situation

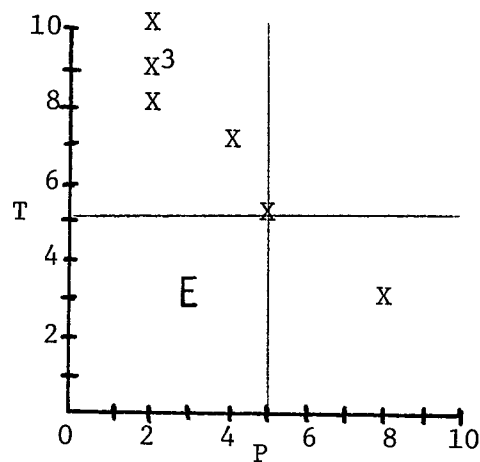
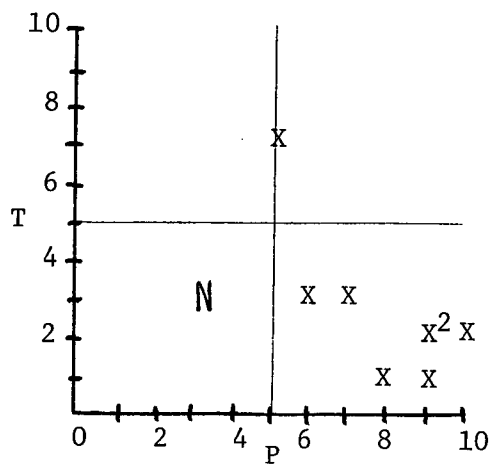


Figure 7. Plots for final five situations as rated by faculty sample

were represented, two with three platoons each and two (mixed anglo-franco companies) with one platoon each. The number of subjects in each platoon ranged from 27 to 37 and they took from 28 to 65 minutes to complete the questionnaire. The experimenter re-emphasized the points made on the first page of the questionnaire and clarified instructions whenever they were questioned.

Actual administration of the questionnaire was similar to that described for the pilot sample except that all parts were given together as one questionnaire at one sitting and subjects were instructed to write out their written responses to the situations right on the pages describing the situations. The two Person-Thing inventories and the final rating form for the orientation (nature) of each situation remained virtually the same as in the pilot study. Three of the Behavior Checklist items were changed very slightly for grammatical and clarifying reasons as explained earlier. The final paragraph at the conclusion of each situation was also slightly changed from the pilot study in an attempt to get respondents more involved in the situation by first expressing their feelings and thoughts about it, followed by how they would act or behave in order to deal with the problem posed in the situation. The major change to the questionnaire involved the complete re-writing of the questionnaire instructions from those shown in Appendix C to those shown in Appendix A. This was done in an attempt to streamline and simplify the soliciting of responses from the respondents, par-

tially as a result of comments made by the pilot sample¹ and partially because of organizational factors which might have limited the time the subjects had available for responding. In addition, the newer instructions were trying to ensure that both of the leader behavior dimensions (Consideration and Initiating Structure) were being adequately tapped without overly influencing one over the other as appeared to happen during the pilot study. (See Appendix D and the Results section). The instructions therefore tried to ensure that both the people and the task in the situations would be dealt with in terms of how the respondent would behave. Instructions for rating the items on the Behavior Checklist also tried to emphasize that the ratings were not evaluative in order to reduce the possibility of a desirability effect in the responses.

To reiterate, each respondent completed two P-T inventories, made written responses to each of the three situations, rated himself on each situation using the Behavior Checklist, and rated each situation in terms of its People and Non-people orientation. Only some of the questionnaires followed this particular order however, as the order for all questionnaires was altered in a random manner. The P-T inventories always appeared together but with one or the other being first, either at

1. A number of pilot study respondents experienced difficulty relating the Behavior Checklist items to the situations with confusion stemming from how this related to what they wrote concerning a situation. Some were also too concerned with solving the situational problem and not with how they would behave in the situation. The new instructions tried to emphasize the use of action verbs/words.

the beginning of the questionnaire before the situations or at the end just prior to the orientation ratings of the situations, for a total of $2 \times 2 = 4$ variations. The situations themselves were also varied in order with $3 \times 2 \times 1 = 6$ different combinations. In total, the randomization of these factors created $6 \times 4 = 24$ different orders of the questionnaire and the questionnaires were randomly distributed to the subjects at the time of administration.

Analyses

The development of a Simplified Interactional Model of Leader Behavior and the derived hypotheses, plus the resulting operationalization of the major components, dictated that the analysis and hypothesis testing would be carried out by correlational analysis, analysis of variance, and the comparison of means by t tests. Correlational analysis was used to select the Person-Thing measure used for dividing the sample into specialist groups. It was also used to examine and explain trends and relationships between variables. A majority of the hypotheses were testable by carrying out t tests to determine significant differences between means. The Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975) was used for processing all the data with particular emphasis being given to the subprograms BREAK-DOWN, ANOVA and T-TEST.

The overall research design can be described as a repeated measures two factor 4×3 design. One factor, specialist group, consists of the four person-thing orientation groupings. The other, situation, con-

sists of the three situations. Keeping in mind that the study included two dependent variables, there were actually two identical designs, one for each dependent variable. Figure 8 shows the specified design for one dependent variable with X_1 to X_4 all indicating different but stable N's. Therefore, within each specialist category, each subject responded to all three situations. The cell frequencies were not equal across specialist categories and hence a within group analysis of variance was employed. Although the majority of hypotheses were only concerned with the three specialist groups of primary interest, the initial analysis of variance included the Non specialist category so that the overall significance of main and interaction effects could be more accurately determined and Hypothesis 1 tested. This analysis used the UBC ANOVAR (Greig, 1976) program with the following model:

$$\text{CON, IST} = A + B + AB + C(A) + E$$

where CON and IST represent the two dependent variables, A represents the specialty main effect, B represents the situation main effect, AB represents the specialty X situation interaction effect, C(A) represents the effect of subjects (individual differences) nested within A, and E represents the error. The model assumes mixed effects: A and B are assumed to be fixed with C(A) being a random effect.

Insert Figure 8 about here

Specialist Group

		G	P	N	T
Situation	P	x_1 65	x_2 59	x_3 57	x_4 58
	C	x_1 65	x_2 59	x_3 57	x_4 58
	T	x_1 65	x_2 59	x_3 57	x_4 58

Figure 8. Repeated measures research design used for each dependent variable. (Actual N indicated for each cell).

RESULTS

Pilot Study

For the pilot study sample (N = 56) each subject's Person and Thing orientation score was calculated using Little's (1972 a) T-P Inventory. These scores were plotted on a graph and the subjects were assigned to specialist groups by cutting each dimension at the mean/median point (29 for the person dimension, 28 for the thing dimension). After eliminating four subjects who scored at these points, the sample was left with 18 Generalists, 8 People Specialists, 7 Thing Specialists and 19 Non Specialists. These results suggested that a fairly large N might be required to get enough Person and Thing Specialists for the main study. They also suggested that Officer Cadets as a group appear to score significantly higher on both dimensions than did Little's normative group (P = 24.7 and T = 22.9) with the result that 35% of the sample is categorized as Generalist. It is interesting to note that had Little's norms been used, 35 subjects (67%) would have been categorized as Generalists.

Mean Consideration and Initiating Structure scores for each situation for the three specialist groups of primary interest are reported in Appendix D. These means, although calculated on a very small, disproportionate and therefore unreliable sample, suggested that the Person Specialist and Generalist groups were exhibiting more Consideration behavior than the Thing Specialist group as expected, but that they were also giving off much more Initiating Structure behavior than was ex-

pected, especially the Person Specialists. The results also suggested that the People situation, regardless of specialist group, tended to receive more Consideration behavior as expected but that this same situation also tended to receive more Initiating Structure behavior than the other situations, again, contrary to expectations. As a result of these undesirable effects for the Initiating Structure dimension, the questionnaire instructions were changed to try to counteract this.

A very basic two factor 3 X 3 analysis of variance was also carried out to determine whether or not it appeared that the main effects and/or their interaction would be significant. For this analysis six subjects were chosen at random from each specialist group in order to have equal cell N's. Results of this analysis of variance for each dependent variable are included in Appendix D. Although the main and interaction effects are not significant for this limited sample, it appeared that given a large enough N, they might be.

Situations

The procedure used to select the three situations for use in the study was explained in the Method section. Additional data was however collected during the administration of the questionnaire to verify whether or not the sample perceived the situations as being of the same nature (combination of person and thing orientation) as intended by the experimenter. The final page of the questionnaire therefore asked each respondent to rate each of the three situations on the 10 point People and Non people dimensions. Table I shows how the total sample perceived

each situation and compares these overall perceptions with the ratings obtained by the faculty sample (used to initially select and categorize the three situations) and the pilot study sample. The three situations were chosen on the bases of the original faculty sample ratings as those three situations out of the original 18 that best represented the three kinds of desired situations. Statistics obtained from the subjects in the sample generally compare favorably to the original statistics. Nevertheless, some ratings and their range (each dimension for each situation had a range of 10 except for the People dimension in the People situation where the range was 8) are not completely in the desired quadrant, especially the Non-people dimension scores in the People and Combined situations and the People dimension score in the Thing situation.

Insert Table I about here

Specialist Groups

Correlations between the Little and Frost-Barnowe Person-Thing orientation measures were obtained for the sample and are compared with those obtained in other studies in Tables II and III. Split half (odd-even) reliabilities were also calculated for the data. This is compared with reliabilities obtained for each instrument with other samples in Table IV.

Table I

People and Non-People Ratings of Situations

Situation	Dimension	Research Sample (N = 240)			Faculty Sample (N = 8)		Pilot Sample (N = 30)
		Median	Mean	S.D.	Mean	S.D.	Mean
People	People	9.09	8.84	1.31	9.00	1.00	9.30
	Non-People (Things)	2.34	3.17	2.65	2.38	1.22	3.43
Combined	People	7.83	7.47	2.04	7.75	0.97	7.73
	Non-People (Things)	5.35	5.37	2.44	5.88	1.76	5.70
Thing	People	3.70	4.03	2.24	3.50	1.87	3.56
	Non-People (Things)	7.81	7.41	1.91	8.00	1.87	8.23

Insert Tables II, III and IV about here

For the military sample, the person and thing scales appeared to be more independent and orthogonal for the Frost-Barnowe measure (.05) than for the Little measure (.17). The P scales from both measures overlap or correlate well (.69) but the T scales less well (.50). Nevertheless these coefficients compare favorably with previous findings (Tables II and III). There is also some indication that the Frost-Barnowe measures for each scale are more reliable (Table IV) than the Little measures, at least for the military sample. Because of this, and the more orthogonal nature of the Frost-Barnowe measure, it was decided to use this measure to allocate the sample to the four specialist groups. Table V shows the means, medians, standard deviations and cut-off points for each scale on both the Little and Frost-Barnowe measures along with previously developed norms.

Insert Table V about here

The Cut-off Points specified in Table V mark the point on each dimension where the sample would be split into specialized groups, a point which very closely approximates both the mean and median of each dimension. Both Little and Frost-Barnowe have used such a procedure

Table II
Correlations between Person and Thing Orientation Scales

Sample	Frost-Barnowe Scales	Little Scales
Present Study (N = 244)	.05	.17
Canadian Business School Students (N = 444)	.16 males .00 males & females	.16 males .11 males & females
Other Misc Studies	.05 to .13	-.10 to .11
Little's Norm Groups Males (N = 284) Females (N = 224)		.02 .07

Table III
Intercorrelations of Person-Thing Orientation Measures

Measure	1	2	3
1. People (Little)	--		
2. Things (Little)	.17 (.10)	--	
3. People (Frost-Barnowe)	.69 (.64)	-.02 (-.02)	--
4. Things (Frost-Barnowe)	.02 (-.02)	.50 (.52)	.05 (.01)

Note. Correlations in brackets from a Frost & Barnowe (1977) sample with N = 396.

Table IV

Reliabilities of Frost-Barnowe and Little Measures
of Person-Thing Orientation (Split Half, odd-even)

Sample	N	Frost-Barnowe		Little	
		P	T	P	T
Canadian Military Officer Cadets	244	.71	.68	.59	.59
Canadian Business School Students	480	.64	.69	.56	.57
Misc. British and Canadian Samples	120	--	--	.77	.83

Table V

Person-Thing Orientation Statistics for Little and Frost-Barnowe Measures

Measure		Military Officer Sample				Sample Cut-off Point	Normative Sample		
		N	\bar{X}	Median	SD		N	\bar{X}	SD
Little	P	244	25.6	25.9	6.5	25/26	284	24.7	7.3
	T	244	28.3	28.2	6.8	28/29	284	22.9	7.6
Frost-Barnowe	P	239	37.4	37.8	7.9	37/38	485	38.0	-
	T	239	39.7	40.1	6.8	39/40	485	36.7	-

Note. The Frost-Barnowe Normative sample includes males and females. The other samples are all male.

for allocating subjects to specialties. Figure 9 shows the percentage of the sample that fell within each specialty using the Frost-Barnowe measure with the actual number of subjects allocated to each specialty indicated in the center of the paradigm. The bracketed F-B and L figures show how the Frost and Barnowe (1977) sample compared in distribution. Had Little's T-P measure been used with the present sample, the specialist allocations would have been: Generalists 26%, Thing Specialists 22%, Non Specialists 25% and People Specialist 27%, an allocation which would have been fairly consistent with previously reported breakdowns.

Insert Figure 9 about here

Dependent Variables

Correlations between the two dependent variables of Consideration and Initiating Structure, as measured by responses to the Behavior Checklist, are presented in Table VI. Correlations within each of the three situations range from .45 to .60 with an overall correlation for all situations of .62. These findings are therefore contrary to one of the basic assumptions of the model: that the two leader behavior dimensions are relatively independent. The correlations actually suggest the opposite; the two dimensions are highly related and therefore overlap considerably. Because of this high degree of relationship the results obtained by testing for differences between the two dimensions may be of limited utility. The dependent variables are just too interdependent.

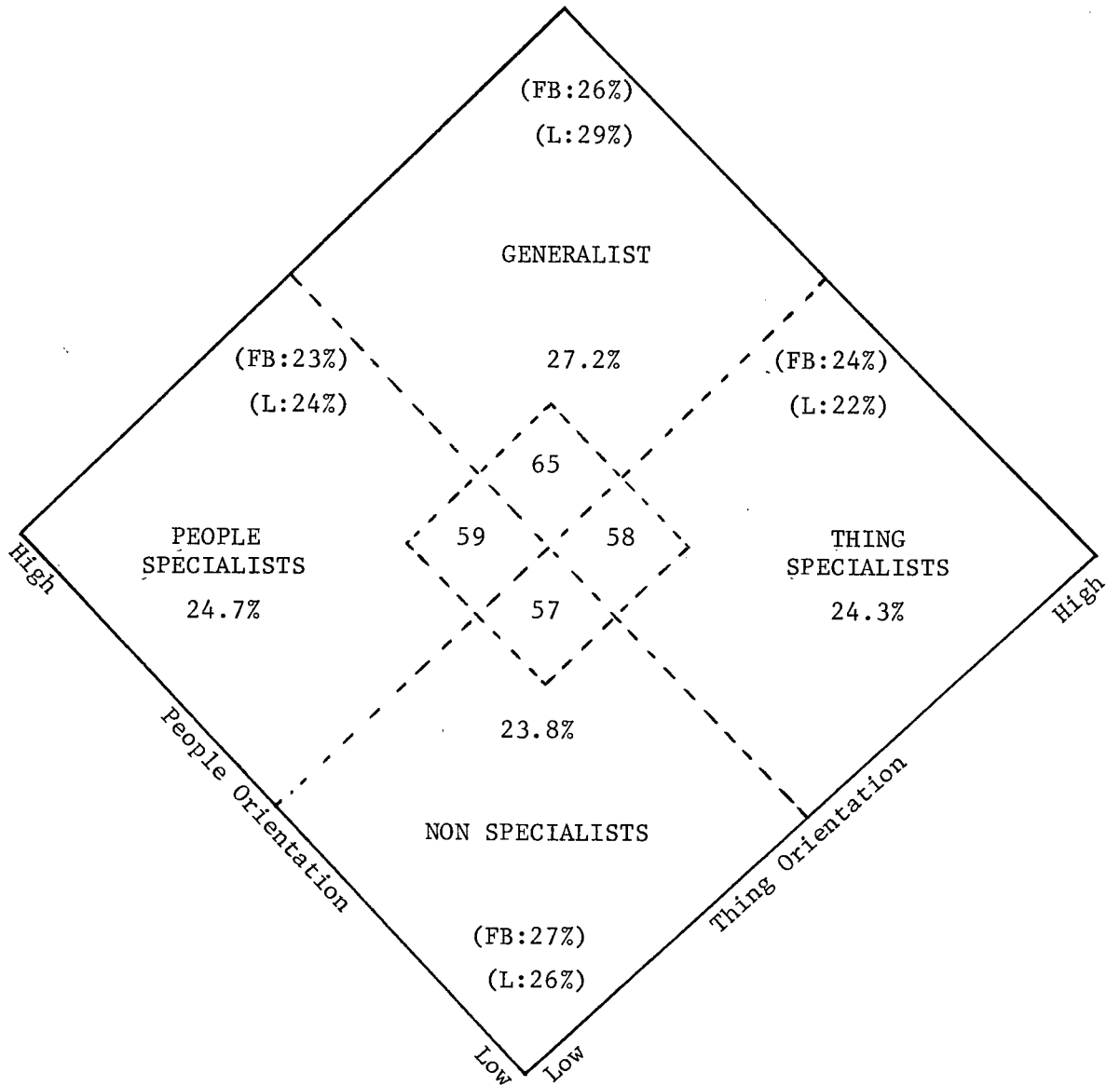


Figure 9. Allocation of sample to specialist groups (N=239)

This should not however detract from testing for differences within each dimension, providing one keeps in mind that the dimensions are related.

Insert Table VI about here

Correlations between each of the dependent variables and the independent variable dimensions of Person-thing orientation are also of particular interest. Table VII shows these correlations for each dependent variable. Little's P-T measure was not used for placing subjects in specialties but correlations for his measure are also shown. Both person scales indicate some correlation with Consideration with Little's people scale having slightly higher coefficients. However, both thing scales show very little correlation with the Initiating Structure dimension. Little's thing scale even correlates better with Consideration than with Initiating Structure. In addition, both people scales correlate better with Initiating Structure than do the thing scales. The data at this point therefore suggests that people orientation might be a better predictor than thing orientation, albeit a poor predictor, for Initiating Structure.

Insert Table VII about here

Table VI

Correlation Matrix for Consideration and Initiating Structure

Dependent Variable	Situations	1	2	3	4	5	6	7	8
Consideration	1. People Situation	1							
	2. Combined Situation	.38	1						
	3. Thing Situation	.19	.38	1					
	4. Total Situations	.69	.79	.73	1				
Initiating Structure	5. People Situation	.51	.28	.26	.47	1			
	6. Combined Situation	.33	.60	.30	.55	.53	1		
	7. Thing Situation	.32	.30	.45	.49	.48	.48	1	
	8. Total Situations	.47	.49	.42	.62	.80	.83	.81	1

Table VII

Correlations between Consideration-Initiating Structure and Person-Thing Orientation

Measure		Consideration				Initiating Structure			
		P Sit	C Sit	T Sit	Total Sit	P Sit	C Sit	T Sit	Total Sit
Little	P	.24	.24	.22	.32	.16	.21	.18	.22
	T	.05	.16	.14	.16	.07	.04	.08	.08
Frost-Barnowe	P	.21	.15	.15	.23	.15	.14	.15	.18
	T	.07	.04	.004	.05	.12	.01	.06	.07

Table VIII arranges the data obtained from the responses to the Behavior Checklist for both dependent variables in accordance with the Repeated Measures Design previously presented in Figure 8. Each cell shows the mean obtained by analysis of variance. Figure 10 is a

Insert Table VIII about here

graphical presentation of the above data for comparison purposes. For the Consideration dimension, there are some definite trends: the Generalist group consistently gave off more Consideration behavior for each situation followed by the Person specialists, and, all groups consistently gave off more Consideration behavior in the People situation than in the other two situations. For the Initiating Structure dimen-

Insert Figure 10 about here

sion, the Generalists followed by the Person specialists gave off more Initiating Structure behavior for all situations but the variations between situations are less extreme than for the Consideration dimension. Although most Initiating Structure differences are relatively minor between situations, the suggested trend is that the People and Thing situations obtained slightly more responses than the Combined situation. In addition, for each behavior dimension, the Non special-

Table VIII

Mean Leader Behavior Responses by Specialty and Situation

Situation	Consideration					Initiating Structure				
	Specialty				Average All Specialties	Specialty				Average All Specialties
	G	P	N	T		G	P	N	T	
People	17.015	15.932	14.930	15.500	15.883	19.215	17.746	17.421	17.379	17.979
Combined	14.200	13.136	12.316	12.086	12.975	17.831	16.983	17.105	15.793	16.954
Thing	13.754	13.034	12.509	11.224	12.665	19.108	17.729	16.386	16.690	17.531
Average All Situations	14.990	14.034	13.251	12.937	13.841	18.718	17.486	16.971	16.621	17.488

G - Generalist

P - Person Specialist

N - Non Specialist

T - Thing Specialist

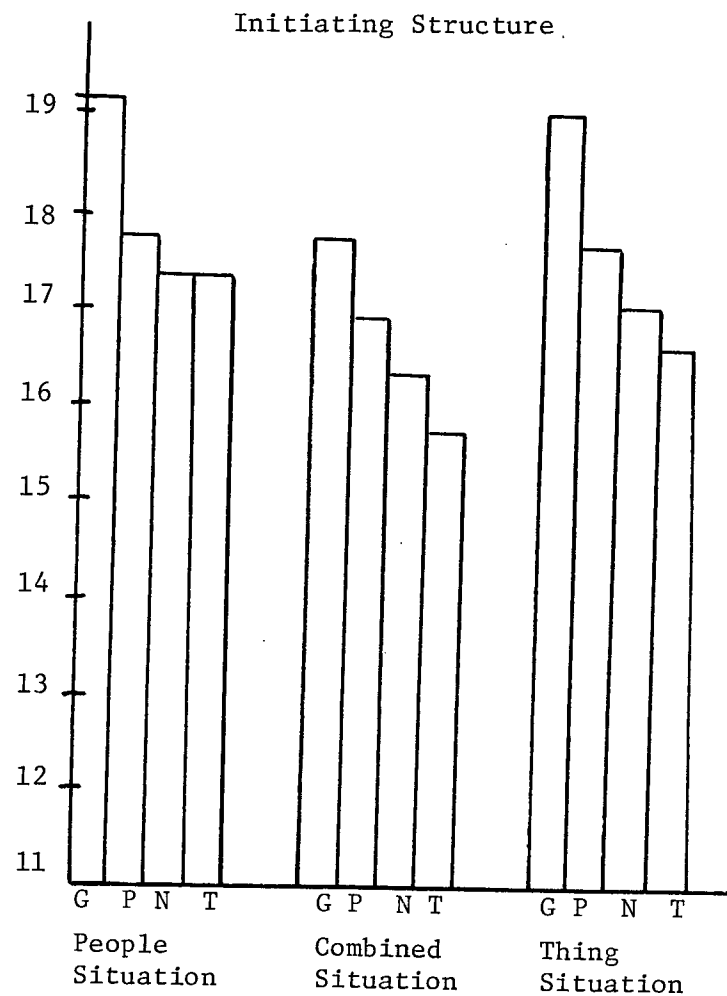
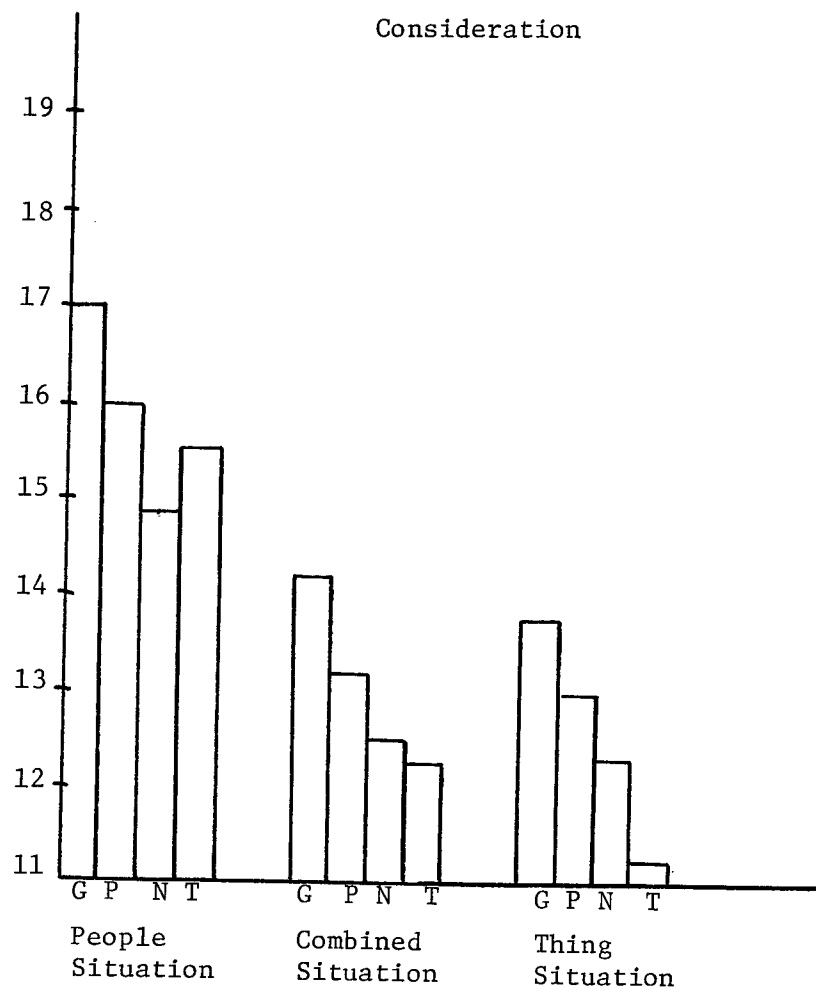


Figure 10. Graphical presentation of mean consideration and initiating structure responses by specialty and situation (Source - Table VIII)

ists score even higher than the Thing specialists in the Combined and Thing situations, the only difference being in the People situation.

Hypothesis Testing

The results of the within groups' analysis of variance are reported in Table IX. Because of the nature of the Repeated Measures Experimental Design, a third factor, subjects (individual differences) was included in the model and the effect of this factor is also reported in Table IX. Only the interaction term for specialist X situation interaction is reported, this being the only interaction of current concern.

Insert Table IX about here

Table IX shows that the main effects for Specialist and Situation, for both dependent variables, are significant. These findings, along with the data presented in Table VIII and Figure 10 support the notion that there are significant differences across specialties and situations for the Consideration and Initiating Structure responses. For the Consideration variable, there are very obvious visual differences between situations. The differences between situations for the Initiating structure variable, although much less obvious, are also statistically significant, as are the differences between specialties for each situation. Hypothesis 1 is therefore supported by the data in that the main effects for each dependent variable are significant thus supporting the notion

Table IX
Analysis of Variance

Consideration

Source	SS	Df	Mean Square	F	Prob
Specialist	465.607	3	155.202	4.666	.004
Situation	1506.084	2	753.042	49.715	.000
S X S Interaction	54.726	6	9.121	0.602	.731
Subjects	7816.268	235	33.261	2.196	.000
Error	7119.191	470	15.147		
Total	16961.875	716			

Initiating Structure

Source	SS	Df	Mean Square	F	Prob
Specialist	471.628	3	157.209	5.553	.001
Situation	126.246	2	63.123	7.929	.001
S X S Interaction	78.718	6	13.120	1.648	.131
Subjects	6652.855	235	28.310	3.556	.000
Error	3741.703	470	7.961		
Total	11071.149	716			

of theoretical interaction. There were however no statistically significant Specialty X Situation interaction effects and therefore the support for Hypothesis 1 is not as strong as had been hoped for.

Two t-tests were carried out for each of Hypotheses 2 and 3 with the results presented in Table X. These hypotheses basically stated

Insert Table X about here

high Person orientation people would give off more Consideration behavior for all situations summed together than would low Person orientation people (Hypothesis 2) and high Thing orientation people would give off more Initiating Structure behavior for all situations summed together than low Thing orientation people (Hypothesis 3). Hypothesis 2 was supported by the two tests - high Person orientation did predict significantly more Consideration behavior. Hypothesis 3 however, was not supported - high Thing orientation did not predict more Initiating Structure behavior.

Hypotheses 4 and 5 are parallel hypotheses like Hypotheses 2 and 3. Each is concerned with the expected differences in behavior responses for each dependent variable for various specialty-situation combinations. Hypothesis 4 includes predicted differences in Consideration behavior as suggested by Figure 5. Hypothesis 5 includes predicted differences in Initiating Structure behavior as suggested by Figure 6. Each hypothesis was tested by predicting differences for 13 different

Table X

T-Tests for Hypotheses 2 and 3

The Predictability of Behavior Response Intensity by Orientation, Across all Situations

	Test	Predicted Relationship	Difference (Mean)	T-Value	Probability 1-Tailed	Support
Hypothesis 2 Consideration	#1	High P Orientation Greater than Low P Orientation (P + G) > (T + N)	4.23	3.26	.001	Yes
	#2	P Spec > T Spec	3.10	1.77	.04	Yes
Hypothesis 3 Initiating Structure	#1	High T Orientation Greater than Low T Orientation (G + T) > (P + N)	1.49	1.23	.11	No
	#2	T Spec > P Spec	-2.60	-1.66	.05	No (wrong direction)

combinations of specialty and situation and subjecting these differences to t-tests. The results as presented in Tables XI and XII provide strong support for the Consideration predictions (11 out of 13 tests were significant at the $>.05$ level with the other two being in the right direction) but no real support for the Initiating Structure predictions (only one of the 13 tests was significant and 11 of the 13 are not even in the right direction). Consequently, the Consideration hypotheses (2 and 4) are supported; the Initiating Structure hypotheses (3 and 5) are not supported. Person orientation and the nature of the situation play roles in soliciting Consideration responses. On the other hand, Thing orientation does not have a relationship with Initiating Structure responses.

Insert Tables XI and XII about here

Notwithstanding that the two dependent variables are neither independent nor equivalent, it was decided to test a few major predicted differences between them based on obvious visual differences between Figures 5 and 6. To make each variable comparable - it is obvious from Table VIII and Figure 10 that all specialties consistently gave off more Initiating Structure responses than Consideration responses but this is not different from previous findings (Bass, 1954) - both variables were first standardized and then t-tests were carried out for the four most expected differences. From the results shown in Table XIII, it can be

Table XI

Hypothesis 4 T-Tests

Consideration Predictions
for Various Combinations of Specialty and Situations (Source: Figure 5)

Type of Combination	Predicted Relationship		Mean Difference	T Value	.05 Significant 1 Tailed Test
Same Situation & Different Specialty	P Situation	P > T	0.432	0.56	No
		G > T	1.515	1.95	Yes
	C Situation	P > T	0.837	1.26	No
		G > T	1.902	2.25	Yes
	T Situation	P > T	1.810	2.14	Yes
		G > T	2.530	2.77	Yes
Different Situation & Same Specialty	P Sit > T Sit (P Specialist)		2.898	4.28	Yes
	P Sit > C Sit (P Specialist)		2.797	4.65	Yes
	P Sit > T Sit (Generalist)		3.262	4.43	Yes
	P Sit > T Sit (Thing Specialist)		4.276	5.17	Yes
Different Situation & Different Specialty	P Sp (P Sit) > T Sp (T Sit)		4.708	5.56	Yes
	P Sp (P Sit) > G (T Sit)		2.178	2.58	Yes
	G (P Sit) > T Sp (T Sit)		5.791	6.80	Yes

Table XII

Hypothesis 5 T-Tests

Initiating Structure Predictions
for Various Combinations of Specialty and Situation (Source: Figure 6)

Type of Combination	Predicted Relationship	Mean Difference	T Value	.05 Significant 1 Tailed Test
Same Situation & Different Specialty	P Situation T > P	-0.367	-0.63	No
	T > G	-1.836	-2.85	No
	C Situation T > P	-1.190	-1.69	No
	T > G	-2.04	-2.54	No
	T Situation T > P	-1.039	-1.46	No
	T > G	-2.418	-3.11	No
Different Situation & Same Specialty	T Sit > P Sit (P Specialist)	-0.017	-0.03	No
	T Sit > P Sit (Generalist)	-0.108	-0.20	No
	T Sit > C Sit (T Specialist)	0.897	1.51	No
	T Sit > P Sit (T Specialist)	-0.690	-1.46	No
Different Situation & Different Specialty	T Sp (T Sit) > P Sp (P Sit)	-1.056	-1.58	No
	T Sp (T Sit) > G (P Sit)	-2.526	-3.50	No
	G (T Sit) > P Sp (P Sit)	1.362	1.89	Yes

concluded that Hypothesis 6 is supported.

Insert Table XIII about here

Post Hoc Analysis

The results presented thus far have provided support for the dimension of Person orientation as it is influenced by the situation variable in determining Consideration responses within an interactional model of behavior. The predictions made by Figure 5 have been verified. The relationship between Thing orientation and Initiating Structure responses as predicted by Figure 6 however, has not been supported (Hypotheses 3 and 5). One obvious explanation for this is the lack of orthogonality and independence of the two dependent variables as indicated by the correlation coefficients of Table VI. Another explanation involves the very marginal correlations between Thing orientation and Initiating Structure (Table VII). In order to more fully understand why the Thing orientation-Initiating Structure part of the model has failed it was necessary to carry out further analysis.

The possibility existed that specialist groups might perceive the same situations differently and that this could have an effect on how they rated their behavioral responses. From the data collected on the situation rating form (Appendix A) it was possible to compare and test for differences between specialist groups on how they assessed each situation on the two dimensions. 18 tests were carried out with the result

Table XIII

Hypothesis 6 T-Tests

Main Predicted Differences between Consideration and Initiating Structure
for Select Specialty-Situation Combinations (Source: Figures 5 and 6)

Specialty-Situation Combination	Predicted Relationship	Mean Difference (Standard- ized)	T-Value	Probability	Support
Pers Specialist in Person Situation	Consideration > Initiating Structure	.3645	3.21	.001	Yes
Thing Specialist in Thing Situation	Initiating Structure > Consideration	.3335	2.54	.007	Yes
Generalist in Person Situation	Consideration > Initiating Structure	.2130	2.05	.023	Yes
Generalist in Thing Situation	Initiating Structure > Consideration	.4293	3.22	.001	Yes

that there were no significant differences. Consequently, this alternative was not a viable explanation for the lack of a relationship between Thing orientation and Initiating Structure.

Factor analysis and a comparison of correlations between factors was then carried out for both the Frost-Barnowe Person-Thing inventory and the Behavior Checklist. Forcing a two factor orthogonal solution for the P-T instrument (Your Interests, Appendix A), all 12 person items loaded at greater than .44 on the first factor and all 12 thing items loaded the second factor, although three had loadings below .40 (items 1, 9 and 18). Correlation between the two factors was .05, the same as reported in Table II.

When a second factor analysis was carried out on the same items where the number of factors extracted was dependent on a minimum eigen value of 1.0, six clear factors emerged. Three factors were completely made up of the original 12 person items and three factors from 10 of the original 12 person items (items 1 and 18 did not load). The results of both factor analyses are highly congruent with those obtained by Frost and Barnowe (1977) except for two additional items not loading and slightly different combinations of items on the three Thing factors.

Insert Table XIV about here

A forced two factor analysis was also carried out for the 14 items making up the Behavior Checklist (Appendix A). As the correlation coef-

Table XIV

P-T Items Loading (>.4) on Significant (Eigenvalue >1.0) Factors
(Frost-Barnowe Instrument)

	Factor & Orientation (a)					
	I (P)	II (T)	III (T)	IV (T)	V (P)	VI (P)
P-T Items (b)	13	4	11	3	5	2
	14	9	12	6	7	22
	17	15	23	21	8	
	19	16			10	
	20					

- a. Factors I, V and VI are completely People-orientated. Factors II, III and IV are completely Thing-orientated.
- b. Items 1 and 18 failed to load.

ficients reported earlier might have suggested, there were some distinct relationships between the two factors for some items. Five I S items (2, 4, 5, 10, 11) clearly loaded the first factor and four C items (1, 6, 9, 13) loaded the second factor. However, three C items (3, 7, 8) loaded on both factors, item 12 failed to load at the .4 level on either factor, and, item 14, an I S item, loaded on the second factor. The two behavioral dimensions are clearly neither independent nor orthogonal with a correlation of .67 between the two factors.

Insert Table XV about here

An additional factor analysis was carried out to extract factors on the bases of a minimum eigen value of 1.0. Three factors emerged. The first included six of the original I S items plus one of the C items (# 3 - Helped Others). The second factor consisted of four of the original C items. The third factor included two C items plus one of the I S items (# 14 - Motivated others to participate). Factor 1 is, except for one changed item (# 3), the same as the original I S dimension. Factors 2 and 3, except for the loss of item # 3 and additional item 14, includes all the C dimension items. Factor 2 appears to be a Consideration "being friendly" dimension while Factor 3 is a Consideration "enhancing participation" dimension.

The above factor analyses along with the correlations previously reported between Thing orientation and Initiating Structure (approx-

Table XV

Dependent Variable Behavior Checklist Items - Factor Analysis Results (a)

Intended Dimension	Item No.	Forced Two Factors		Three Factor Solution (b)			Major (c) Dimension Loaded
		Factor I	Factor II	Factor I	Factor II	Factor III	
C	1	.094	.643	.108	.219	.644	C
IS	2	.709	.074	.668	.215	.001	IS
C	3	.478	.455	.429	.387	.307	IS (C)
IS	4	.658	.229	.602	.317	.111	IS
IS	5	.628	.131	.560	.328	-.023	IS
C	6	.260	.523	.072	.752	.200	C
C	7	.427	.511	.302	.635	.223	C
C	8	.448	.426	.381	.423	.250	C (IS)
C	9	-.012	.645	.006	.174	.684	C
IS	10	.441	.308	.476	.120	.314	IS
IS	11	.637	.168	.716	.030	.210	IS
IS	12	.392	.372	.430	.117	.398	IS (C)
C	13	.392	.521	.283	.576	.268	C
IS	14	.353	.550	.358	.270	.498	C

a. Orthogonal (Varimax) Rotated.

b. Minimum Eigenvalue 1.0.

c. Three items were split loaded. Item 3, an original C item, loaded higher on IS.
Item 14, an original IS item, loaded higher on C.

mately .06), plus, Consideration and Initiating Structure (.62), help explain why Thing orientation does not predict Initiating Structure behavior as suggested by Figure 6. The correlation coefficients between the different factors also help explain this. The three Person orientation factors correlate reasonably well between one another (.37, .42, .53) as do the three Thing orientation factors (.19, .24, .46). In addition, the two Consideration factors correlate well with one another (.50) but they also correlate highly with the Initiating Structure factor (.59, .47). From this finding alone it is hard to consider the behavior dimensions as being separate identities - they all overlap. If all behavior responses are totalled together and the three behavior factors are correlated with this total, the correlation coefficients are .89 (Factor 1), .84 (Factor 2), .74 (Factor 3). But also of interest is the fact that correlations between the Person orientation factors and Consideration factors range from .13 to .17 but between the Thing orientation factors and Initiating Structure factor are only .01 to .05. The most important confirmation however, was that Person orientation factors appear to predict Initiating Structure with coefficients between the different factors of .06 to .19. Or put another way, all three behavior factors totalled together correlate with People orientation at .23, but with Thing orientation at only .07.

The above analyses invalidate the predictions made by Figure 6 (Hypotheses 3 and 5 could not be supported because the predictions were based on an invalid assumption) and provide strong evidence that Thing orientation has no relationship with Initiating Structure behavior. On

the contrary, Person orientation appears to have predictive power for Initiating Structure behavior. To test this revised assumption, a number of t-tests were run using Figure 5 in lieu of Figure 6 as a predictive profile for the Initiating Structure dimension. The new predicted relationships and the testing of these are presented in Table XVI.

Insert Table XVI about here

The above results provide support for the revised assumption and the resulting predictions. High Person orientation predicts more Initiating Structure behavior than does low Person orientation, across all situations (Tests 1 and 2). The predictions made for "different specialists" within the same situation are also generally supported with the two non-significant tests being in the right direction (Tests 3 to 8). The remaining predicted differences are mainly not supported (Tests 9 to 15) which indicates that differences for Initiating Structure between situations for specialists groups are not significant for specific tests. This lack of significance was suggested by Figure 10, even though the analysis of variance produced a significant effect for Situations (Table IX).

Summary of Results

The results reported in this section provide evidence that the two P-T instruments measure the same construct and that Person and Thing

Table XVI

Revised Initiating Structure Predictions and T-Tests,
Based on P Orientation as the Predictor

Combination	Test No.	Predicted Relationship	Mean Difference	T-Value	.05 Significance 1 Tailed
Total IS Across all Situations	1	High P orientation > Low P orientation (G + P) (T + N)	4.013	3.36	Yes
	2	P Spec > T Spec	2.596	1.66	Yes
Same Situation & Different Specialty	3	P Situation P > T	0.367	0.63	No
	4	P Situation G > T	1.836	2.85	Yes
	5	C Situation P > T	1.190	1.69	Yes
	6	C Situation G > T	2.04	2.54	Yes
	7	T Situation P > T	1.039	1.46	No
	8	T Situation G > T	2.418	3.11	Yes
Different Situation & Same Specialty	9	P Sit > T Sit (P Specialists)	0.017	0.03	No
	10	P Sit > T Sit (Generalists)	0.108	0.20	No
	11	C Sit > T Sit (T Specialists)	-0.897	-1.51	No
	12	P Sit > T Sit (T Specialists)	0.690	1.46	No
Different Situation & Different Specialty	13	P Sp (P Sit) > T Sp (T Sit)	1.056	1.58	No
	14	G (P Sit) > T Sp (T Sit)	2.526	3.50	Yes
	15	P Sp (P Sit) > G (T Sit)	-1.362	-1.89	No

orientation are relatively independent dimensions. The two leader behavior dimensions of Consideration and Initiating Structure were not found to be independent but rather were highly interrelated. There were significant person and situation main effects for both dependent variables. Person orientation and the nature of the situation were predictive of Consideration responses but Thing orientation and the nature of the situation were not predictive of Initiating Structure responses. A post hoc analysis found that contrary to expectations, Person orientation predicted Initiating Structure behavior.

DISCUSSION

The results presented in the preceding section allow for a number of interpretations, especially considering that two hypotheses were originally not supported. In order to discuss these results in a logical order, each variable will first be discussed independently with special emphasis to their effect and limitations. This will then be followed by an overall interpretive conclusion so that the limitations of the present study can be more clearly understood in terms of their implications for future research.

Specialist Group

The correlations in Table III compare very favorably with earlier research and support both P-T instruments as tapping the same constructs. The construct of Person orientation is the best supported ($r = .69$) and it also appears to have better internal reliability (Table IV) within the present study. Nevertheless, the correlation coefficient for the Thing orientation scales is at least high enough to conclude that there is a distinct element of commonality between the two instruments. Additionally, and what makes the P-T instruments most appealing, there is confirming evidence that person and thing orientation are orthogonal and independent (Tables II and XIV). Because of this, it intuitively makes sense to categorize subjects on the basis of their P-T orientation scores and place them into the four specialist groups. The problem is the selection of a criterion for determining how subjects will be placed in specialist groups. While the Little and

Frost-Barnowe studies have traditionally used a combination of the sample mean and median (which have always been very close together) for determining the cut-off points on each dimension and this criterion was used with the present sample, there are other criteria which might be even more valid. For example, one might assign the Generalist category to subjects who scored between the 60 and 90 percentile (even using a smaller random sample of such subjects) on both dimensions. Such a procedure would eliminate subjects at the high and low extremes on each scale and also ensure that there is a definite distinction between individuals who score very close to the mean and median thereby creating more purely distinct categories. By using a mean/median cut-off score, a subject is either on one side or the other of each dimension - there is no in between area. Consequently, the subject may be assigned to a category but be very close in terms of his scores to another category. For example, had the norms established by either Little or Frost-Barnowe been used instead of the sample combination of mean/median, a large number of person specialists would have become generalists and a large number of non-specialists would have become thing specialists. It is possible however, that even if this procedure was carried out, the dependent variable responses may not be significantly different in that the Generalist and Person specialists are the two highest, and the Non and Thing specialists the two lowest, response intensity groups (Figure 10).

As the present study was carried out using a very select sample, it is worth comparing the mean P-T scores with other samples. For

Little's measure, the present sample was only slightly higher than Little's normative group on the Person orientation scale (25.6 vs 24.7) while for the Thing orientation scale, there is a larger difference (28.3 vs 22.9) (Table V). It should be noted however that these norms were developed over eight years ago and possibly with a culturally different group (British). The Frost-Barnowe normative sample compares much more favorably with the present sample. For Little's P-T measure, their means were $P = 25.4$ and $T = 24.3$ but this was for a mixed male and female sample. Previous evidence (Little 1972a) suggests that by adding the effect of females to a sample one can expect the mean for P to increase and the mean for T to decrease. This would also appear to be true for the Frost-Barnowe sample on their own measure where the means are even closer to the military sample ($P = 37.4$ vs 38.0 and $T = 39.7$ vs 36.7). Nevertheless, it is not surprising that the present sample is higher on T orientation when one recognizes that the majority of subjects are enrolled in engineering or science courses. It is also interesting to note that on the Little T scale, the three items with the highest means were adventurous items highly associated with military type activities (Items 4, 7 and 21).

In keeping with the goal of developing and testing a very basic and simplified model of leader behavior, it appeared convenient to utilize categorical variables such as specialist groups. One alternative would have been to convert the P-T scores into composite or proportion scores (e.g. $\frac{P-T}{P+T}$) thereby making P-T orientation a continuous

variable so that the criterion problem of assigning subjects to categories would have been avoided. While such a procedure would not have changed the original model, it would have changed the format of the hypotheses and perhaps streamlined the analysis. This might have also avoided possible contamination caused by the criterion problem of allocating subjects to groups.

One final comment should be made concerning specialist categories and the overall results. As the numbers in Table VIII and the profiles in Figure 10 show, the Generalist group consistently emitted more behavior responses on both dimensions than any other group, regardless of the situation. The Generalists were consistently followed by the Person specialists, and, except for the Consideration variable in the Person situation, they were in turn always followed by the Non-specialists and then the Thing specialists. These results suggest that P orientation is particularly critical for predicting high leader behavior response rates, but the question which has not been answered is why are the Generalists consistently the highest. The Generalists load high on both Person and Thing orientation but there is no obvious indication that Thing orientation is a causal factor or if it interacts with Person orientation. The findings therefore suggest that a leader may exhibit a higher intensity of Consideration and Initiating Structure responses if he is high on both person and thing orientation. If he lacks thing orientation (i.e. is a person specialist), the intensity can be expected to decrease, but only slightly. However, if he lacks person orientation (i.e. a thing specialist), the response intensity

might decrease substantially. High P orientation appears to be much more critically related to all leader behavior dimensions than does high T orientation which is only possibly important by merit of the fact that Generalists have high T orientation.

Situations

The situation component of the Leader Behavior Model was operationalized using constructs which parallel the person component of specialization - people and non-people (thing) orientation. This parallelism also required that the situation variable be categorical and like the specialist categories, resulted in a similar criterion problem. What cut-off scores should one use on each dimension in order to assign a situation to a category?

The method used for classifying and selecting the three situations was explained earlier. Table I shows that neither the study sample nor the criterion (faculty) sample perceived each situation as falling perfectly into an assigned category. The study sample rated each dimension for each situation over a range of 0 to 10 except for the people dimension of the people situation which was 2 to 10. The P dimensions for the P and C situations and the Non-P dimension for the T situation have the most agreement in terms of how the experimenter wanted the respondents to perceive them. However, the means and standard deviations for the Non-P dimensions (P situation and C situation) and for the P dimension (T situation) indicate that a fair proportion of the sample did not perceive each situation exactly the way

the experimenter expected they would. This means that for a number of subjects, all three situations were clearly not representative of the respective categories as perceived by the subjects. The research methodology simply failed to take this into account. Nevertheless, it is interesting that there were no significant differences between specialists group in terms of how they rated the situations. But regardless of how an experimenter sees a situation or categorizes it, this may not have the same effect on an individual subject unless he also perceives the situation the exact same way. Any revised model of leader behavior which intends to come to grips with this point should therefore ensure that the categorizing of a situation depends on how each subject individually perceives it.

The fact that only three situations (which attempted to represent the three categories) were used in the present research was the result of the developed constructs and experimental design as opposed to any assumption that these are the only kinds of situational categories that exist. As is evident by the varied, although limited, research in this area (Carter, 1953; Gibb, 1969; Osborn & Hunt, 1975; Yukl, 1969; Rosenberg, 1972), there are many methods for categorizing situations. Within the proposed model however, it is still suggested that the dimensions used to develop the three categories have strong empirical support. But it must also be noted that within each category, situations can vary on each dimension considerably. All thing situations are not equivalent. There will still be relative differences between any number of situations assigned to any one category. For this reason,

it may be more empirically sound to make the situation variable a continuous one so as to reflect these differences, at least in terms of the people and non-people dimensions. This step, along with a methodology which incorporates the subjects' individual perceptions of each situation into the model, would modify but strengthen the empirical results of any future research endeavour.

Although there were significant effects for the situation variable for both dependent variables, Table VIII and Figure 10 indicate that the situation variable only predicted differences for Consideration behavior. For initiating structure, the subjects hardly varied their total response rate between situations.

Dependent Variables

From correlations obtained between Consideration and Initiating Structure and the results obtained by factor analysis, it is clear that these two behavior dimensions, based on the Behavior Checklist, cannot be considered orthogonal nor independent. Each dimension consisted of seven items but the dimensions are also neither equivalent nor directly comparable. Although the evidence concerning the independence of Consideration and Initiating Structure is vague (Stogdill, 1974; Lowin, Hrapchak and Kavanagh, 1969), real independence for these variables only appears to have been obtained in isolated cases. Interdependence is perhaps more the rule with the degree of correlation depending on many intervening variables, especially the instrument being used, the situation and the sample. The results obtained in the current study

support such a statement. In addition, it has to be noted that the original Behavior Checklist was intended as a rating form of actual behavior, to be used by independent observers. The current study used it for subjects to rate how they felt they would have been observed had they actually reacted to a particular situation. The dependent variables were therefore much more attitudinal than behavioral in nature. They were indications of how a subject "felt" he would have been rated on the behavior he "felt" he would have exhibited. Had the study provided for independent observation of actual behavior using the Behavior Checklist, correlations between the dependent variables may have been much lower. In addition, real behavior may have produced more significant effects, including possibly significant interaction effects.

A most important result was the discovery of the three leader behavior dimensions: Initiating Structure, Consideration (Being Friendly), and Consideration (Enhancing Participation) which the Behavior Checklist produced. The fact that these dimensions were also highly interrelated helped reject the assumption that Thing orientation has a direct relationship with Initiating Structure behavior. This rejection was further supported by a definite lack of predictive power and correlation between Thing orientation and Initiating Structure and the failure to obtain results which would support Hypotheses 3 and 5. The most striking result of the study was therefore that both Person orientation and the nature of the situation have an influence on the intensity of leader behavior responses, whether the dimension is a Consideration one, Initiating Structure, or even total leader behavior.

Intuitively, this finding makes sense. Leadership actions, behaviors, and involvements imply by definition a social interaction with people and therefore Person orientation and the person component of a situation should be important for all leader behavior dimensions. This is not to say that Thing orientation will not have an effect on behavior as suggested by Little (1972, 1976a), but rather that Thing orientation does not appear to be a factor in determining "leadership" behaviors. An examination of the Thing scale items lends further support to this - none of the items imply any sort of social-interpersonal involvement.

Finally, as previously pointed out, it is important to note that Generalists consistently had the highest response rates (Figure 10). The possibility therefore exists that high Thing orientation may have a hidden or indirect effect when coupled with high Person orientation. It may be, for example, that Generalists are more active and socially responsive just because they have a greater diversity of interests than do the other specialist groups. This possibility was not addressed in the present study but could be the subject of future research.

Conclusion

This thesis had as its goal the development of a simplified interactional model of leader behavior so as to help integrate the study of leadership. Some degree of support has been obtained for the developed model but it is subject to a number of limitations and therefore ripe for further development and refinements. The concept of interaction as a hybrid variable still lacks adequate operationalization

but the data does support the theoretical concept of interaction as previously defined, i.e. the existence of significant effects for reciprocally influencing variables. Refinement of the main variables and the use of more sophisticated analytic techniques may eventually help clarify this interaction process. For example, analysis of variance did not produce significant interaction effects. It may be however that statistical interaction as detected by analysis of variance is not appropriate for the conceptual interaction of interest - theoretical and statistical interaction are not necessarily the same. Nevertheless, this does not rule out the possibility that analysis of variance might help identify interaction, especially if real behavior is being studied.

Person-Thing orientation as a construct does play a role in an interactional leader behavior model but it appears that only the person dimension is directly important. Contrary to what was expected, the Person dimension might have some similarities with Fiedler's LPC scale and this might be one interesting area for future investigation. In addition, the situation component of the model was found to have a significant influence. In terms of the rigid vs flexible leadership style question it appears that subjects varied their behavior in accordance with the situation for the Consideration dimension but not for the Initiating Structure dimension. These findings in themselves provide support for an interactional model of behavior (Hypotheses 2 and 4) and equally important is the fact that Person orientation did not correlate too highly with behavior (Table VII) - if it accounted for most of

the variance and the situation was not a predictor, there would probably be no conceptual interaction.

The rejection of Hypotheses 3 and 5 was also an important finding in that it showed Thing orientation has no significant place in the model. Thing orientation might be related to certain kinds of behaviors (for example, individual task behaviors which have nothing to do with other people), but, within the present study, it has nothing to do with leadership behavior. Thing orientation is not related to the concepts of Initiating Structure, Concern for Production, Task Orientation, etc.

An important additional finding was the emergence of the three leader behavior dimensions, as discovered by factor analysis, and their high interdependency. It was also noted that two items loaded dimensions which were opposite to the Key used to mark the Behavior Checklist. Notwithstanding this, the results obtained in testing the hypotheses using the original item loadings are still considered valid. The reversing of a pair of items should not have significant effects and this was verified by running a series of new tests using the revised dimensions - Factor I for Initiating Structure and Factors II plus III for Consideration.

It must be kept in mind that there were many limitations in the present study. Future attempts should focus on measuring real behavior, in real situations which take into account the subjects' perceptions of the situations. Because of other problems referred to earlier, attempts should also be made to measure the person and situation components of the model using continuous variables. In addition, dependent variable

measures should be of a composite nature or have valid evidence of independence. A multi-variate design, possibly incorporating the technique of path analysis, might also be more appropriate than an analysis of variance design for testing a refined interactional model of leader behavior.

In conclusion, this study provides some support for an interactional model of leader behavior and validates that there are differences in leader behavior response intensity between different combinations of specialty and situation. It also provides information that will be extremely valuable for reoperationalizing the main components of the model for eventual use in actual behavior situations. Although leader behavior effectiveness and actual behavior were not tapped in this study, there is a suggestion that supports the use of Specialization theory in leadership research - Generalists and Person Specialists might be more active and therefore more effective in actual leadership situations. Thing specialists may on the other hand be much more inhibited and withdrawn socially. This prediction must however be treated with caution as it would first have to be unequivocally proven by pure behavioral research before it could be supported.

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APPENDIX A

Study Questionnaire Contents

CFOCS SURVEY OF INTERESTS AND BEHAVIOR

This questionnaire is part of a study being carried out for the completion of my M.Sc. thesis in Organizational Behavior at the University of British Columbia. The study is an attempt to validate specific hypotheses concerning behavior and your responses are therefore particularly important for the completion of the thesis and the future applicability of the results for managerial training in the Forces.

The questionnaire consists of two parts. One part includes two short personal preference inventories, each with separate instructions. They are not intelligence or personality tests and there are no right or wrong answers. You should however answer as accurately as possible in terms of how the statements apply to you.

The other part of the questionnaire includes three described situations with three sets of instructions for your responses. Please follow the instructions in the order they appear throughout the questionnaire and complete each section very carefully before proceeding to the next one. If you have any questions concerning the instructions, please raise your hand at any time.

You are also requested to fill in the biographical information below. Your name and SIN will only be used to match this questionnaire with other available information. Once all the relevant data has been compiled your name and SIN will be removed. All information will be treated with the strictest confidence and no one from this school or in the Canadian Forces, apart from myself, will have access to your identifiable responses.

I would be pleased to answer any questions concerning the study after you have completed the questionnaire or, if you are interested in the results, you could contact me at the Management Development School at CMR in the fall. Thank you for your time and cooperation!

Major G.W. Mains

PLAN: ROTP	_____	CLASSIFICATION:	_____
DEO	_____	OCCUP. GROUPING: LAND OPS	_____
OCTP	_____	SEA OPS	_____
DOTP	_____	AIR OPS	_____
RETP	_____	ENGINEER	_____
OTHER	_____ Specify _____	SUPPORT	_____

MARITAL STATUS: S _____ M _____

PRIMARY LANGUAGE: E _____ F _____

SEX: M _____ F _____

COMPLETED EDUCATION:

SCHOOL: JR. MATRIC _____ SR. MATRIC _____

CMC _____ or UNIVERSITY _____

YEAR: 1 _____ 2 _____ 3 _____ 4 _____

COMPLETED YEARS OF REGULAR FORCE SERVICE: _____

AGE: _____

SIN: _____

COY & PLATOON: _____

NAME: _____
Last Initials

TP INTEREST QUESTIONNAIRE

In this questionnaire, show how much you like to be in situations where you might be doing the things listed. Use the following scale, and place the appropriate number in the space next to the sentence. Try, if possible, to use the full range of the scale, from 0 - 4.

0	1	2	3	4
Not at all	Slightly	Moderately So	Quite a Lot	Extremely So

- ___ 1. Join in and help out a disorganized children's game at a public park.
- ___ 2. Take upon yourself the building of a stereo set or a ham radio.
- ___ 3. Interview people for employment in a large hospital.
- ___ 4. Explore the ocean floor in a one-man sub.
- ___ 5. Process computer cards in a large industrial centre.
- ___ 6. Breed rare forms of tropical fish.
- ___ 7. Climb a mountain on your own.
- ___ 8. Stop to watch a piece of machinery at work on the street.
- ___ 9. Listen in on a conversation between two people in a crowd.
- ___ 10. Become proficient in the art of glass-blowing.
- ___ 11. Interview people for a newspaper column.
- ___ 12. Remove the back of a mechanical toy to see how it worked.
- ___ 13. Strike up a conversation with a beggar on a street corner.
- ___ 14. Attempt to fix your own watch, toaster, etc.
- ___ 15. Observe the path of a comet through a telescope.
- ___ 16. Listen with empathic interest to an old-timer who sits next to you on a bus.
- ___ 17. Note the idiosyncracies of people about you.
- ___ 18. Make first attempts to get to know a new neighbour.
- ___ 19. Attend an address given by a person whose character you admire, without being aware of the topic of the address.
- ___ 20. Attempt to comfort a total stranger who has just met with tragedy.
- ___ 21. Do sky-diving.
- ___ 22. Gain a reputation for giving good advice for personal problems.
- ___ 23. Make a hobby of photographing nature scenes and developing and printing the pictures yourself.
- ___ 24. Help a group of children plan a Halloween (or Guy Fawkes) party.

YOUR INTERESTS

The first part of this questionnaire is concerned with people's interests across a number of areas. A number of job titles, activities, and amusements are listed below. For each, show how you would feel about doing that kind of work, or taking part in that activity or way of having fun.

Indicate the extent to which you would LIKE or DISLIKE carrying out each kind of work, activity or amusement by placing a mark (X) in the appropriate box to the right of each item.

For example, if Editor was listed as a job occupation and you felt it was an occupation you liked very strongly, you would place a mark (X) in the "Strongly Like" column to the right of the item Editor. Respond in the same way to items describing activities and amusements.

	Strongly Like 5	Somewhat Like 4	Indif- ferent 3	Somewhat Dislike 2	Strongly Dislike 1
Editor	—	—	—	—	—

For jobs, don't worry about whether you would be good at the job or about not being trained for it. Forget about how much money you could make or whether you could get ahead. Think only about whether you would like to do the work done on that job.

For activities and amusements, give the first answer that comes to mind. Do not think over various possibilities. Think only about whether you would like to do what is stated.

Work fast and answer every question.

<u>JOBS/OCCUPATIONS</u>	Strongly Like 5	Somewhat Like 4	Indif- ferent 3	Somewhat Dislike 2	Strongly Dislike 1
1. Astronomer	—	—	—	—	—
2. Church worker	—	—	—	—	—
3. Civil engineer	—	—	—	—	—
4. Computer operator	—	—	—	—	—
5. Elementary school teacher	—	—	—	—	—
6. Mechanical engi- neer	—	—	—	—	—
7. Receptionist	—	—	—	—	—

	Strongly Like 5	Somewhat Like 4	Indif- ferent 3	Somewhat Dislike 2	Strongly Dislike 1
8. Social worker	—	—	—	—	—
9. Statistician	—	—	—	—	—
10. YMCA/YWCA staff member	—	—	—	—	—

ACTIVITIES

11. Operating machin- ery	—	—	—	—	—
12. Adjusting a car- buretor	—	—	—	—	—
13. Interviewing job applicants	—	—	—	—	—
14. Meeting and di- recting people	—	—	—	—	—
15. Making statisti- cal charts	—	—	—	—	—
16. Operating office machines	—	—	—	—	—
17. Interviewing prospects in selling	—	—	—	—	—
18. Organizing cabi- nets and closets	—	—	—	—	—
19. Starting a con- versation with a stranger	—	—	—	—	—
20. Interviewing clients	—	—	—	—	—

AMUSEMENTS

21. Solving mechani- cal puzzles	—	—	—	—	—
22. Being active in a church young peo- ple's group	—	—	—	—	—
23. Building a radio or stereo set	—	—	—	—	—
24. Entertaining others	—	—	—	—	—

SITUATIONS

Section 1

On each of the next three pages there is a description of a possible situation in which you as an officer or manager could find yourself. Please read the first description very carefully and then consider yourself as being in the situation and having to deal with the described problem. After thinking about this situation write out what you would do to resolve it. Please use the bottom and back of the page which describes the situation for your response, using additional pages if necessary.

In other words, describe your feelings, thoughts and behaviors as if you were actually faced with the described situation. Do not be concerned with actually working out the expected or ideal solution but rather describe how you would tackle and deal with both the people involved and the problems. Try to be as inclusive as possible. Do not concern yourself with writing style or grammar - feel free to use point form. Your major concern should be with describing your feelings, thoughts and behaviors in dealing with both the people (communications, relationships, etc.) and the problems (solutions, tasks, etc.) in the situation.

Once you have completed the first situation, please carry out the same procedure for the next two situations. You should spend between 10 and 15 minutes on each situation. When you have finished all three situations please carry on with the remainder of the questionnaire.

Consultant Problem

You are regional manager of a management consulting company. You have a staff of six consultants reporting to you, each of whom enjoys a considerable amount of autonomy in the field with clients.

Yesterday you received a complaint from one of your major clients to the effect that the consultant whom you assigned to work on the contract with them was not doing his job effectively. They were not very explicit as to the nature of the problem but it was clear that they were dissatisfied and that something would have to be done if you were to restore the client's faith in your company.

The consultant assigned to work on that contract has been with the company for six years. For the first four or five years his performance was superb and he was a model for the other more junior consultants. However, recently he has seemed to have a "chip on his shoulder" and his previous identification with the company and its objectives has been replaced with indifference. His negative attitude has been noticed by other consultants as well as clients. This is not the first such complaint about his performance that you have had from a client this year. A previous client even reported to you that he reported to work several times obviously suffering from a hangover and that he had been seen around town in the company of "fast" women.

It is important to get to the root of this problem quickly if that client is to be retained. The consultant obviously has the skill necessary to work with the clients effectively. If only he would use it!

Please specify below your feelings and thoughts about this situation and then describe your behaviors in dealing with it.

Work Schedule

As part of your managerial training program you were required to work as the assistant manager of a small unit for the past six months. Although it was planned to keep you there for another two months, you have just been appointed acting manager of a very similar unit on a temporary basis in order to replace the normal manager who must attend a two month course. As it is close to the end of June you are immediately faced with the problem of scheduling summer holidays for the 24 people in your unit. They had all been promised two weeks holidays over the July-August months. Company policy prohibits more than one quarter of a unit's personnel on holidays during any specific period. Unfortunately 20 of your people have requested their two weeks for July because of the pending Olympic Games. You have also just received a memo from head office which stipulates that two of your personnel must attend an up-grading course running from 25 July to 7 August in addition to a warning that there may be excessive commitments for your unit's services for the last two weeks of July.

Considering the complications of the pending work and holiday schedules, please specify below your feelings and thoughts about this situation and then describe your behaviors in dealing with it.

Memorial Service

Each year a junior officer is selected to make all the preparations for an annual memorial religious service for all military personnel in the area. This year you have been designated as that officer. Your responsibilities include making sure the building for the service is clean and ready for the service. This also includes having 1000 folding chairs and 50 soft V.I.P. chairs set up, a podium in place with appropriate decorations and flags, and a functioning PA system. You have been allocated up to 25 men plus a truck to assist you in carrying out these responsibilities.

Please specify below your feelings and thoughts about this situation and then describe your behaviors in dealing with it.

SITUATIONS

Section 2

Now that you have indicated how you would respond to each of the three situations, think of how an outside observer (a superior or co-worker) might have rated your behavior for each situation. This section therefore requires that you rate the listed dimensions on the following pages in terms of how you think an observer who witnessed your actions might have rated you. You may refer back to the described situations but please do not be concerned with the written responses you have given - this is not a check on what you included or did not include. The rating scales may have little in common with the dimensions of behavior you have described. This is however an attempt to determine how you think an unbiased observer would rate your behavior on specific dimensions for each situation.

Please write the title of the first situation on the top of the next page. Now rate each of the 14 dimensions for that situation in accordance with how you think you would have been rated by an observer. Repeat this procedure for the second situation using the next page and then in turn, for the third situation. Do not let the ratings for one situation influence the ratings of another. Please take your time, think of exactly how you would have been rated, and then rate each dimension separately.

Title of Situation _____

(Please indicate how an unbiased observer would have rated your behavior in this situation)

For this situation indicate the <u>degree</u> to which he:	Not At All 0	Slight 1	Moderate 2	Quite A Lot 3	A great Deal 4
1. Encouraged others to express their ideas and opinions					
2. Effectively said what he wanted to say					
3. Helped others					
4. Clearly defined or outlined problem(s)					
5. Offered good solutions to problem(s)					
6. Engaged in friendly jokes or comments					
7. Made others feel at ease					
8. Helped settle conflicts					
9. Had others share in making decisions with himself					
10. Influenced others					
11. Showed initiative					
12. Led discussions					
13. Complimented others					
14. Motivated others to participate					

I apologize for taking up your valuable time but most sincerely thank you for your contribution. The very best of luck to you on this course and in your future career.

APPENDIX B

Eighteen Initial Situations

A - Bomb Scare

You are visiting a local high school in order to show a movie and make a presentation for their "Careers Day". Just after lunch the principal's office received a bomb scare telephone call. After evacuating the school and making sure the students were all safe, he assembled the teachers in an attempt to organize a bomb search prior to the arrival of the bomb squad. As there was some hesitation as to who would volunteer to carry out the search, you stepped forward stating you would lead it on the basis of your previous military experience. Six teachers finally volunteered to assist you. You all agree that the search should be as thorough as possible but also very rapid. Evidently the time limit specified by the telephone caller suggests there are only 20 more minutes left before everyone should be well clear of the school building. Unfortunately the bomb squad will probably not arrive for another 20 minutes.

What steps or actions would you carry out in an attempt to resolve this problem?

B - Stock Portfolio

You are the head of a staff unit reporting to the vice-president of finance. He has asked you to provide a report on the firm's current portfolio to include recommendations for changes in the selection criteria currently employed. Doubts have been raised about the efficiency of the existing system in the current market conditions, and there is considerable dissatisfaction with prevailing rates of return.

You plan to write the report, but at the moment you are quite perplexed about the approach to take. Your own specialty is the bond market and it is clear to you that a detailed knowledge of the equity market, which you lack, would greatly enhance the value of the report. Fortunately, four members of your staff are specialists in different segments of the equity market. Together, they possess a vast amount of knowledge about the intricacies of investment. However, they seldom agree on the best way to achieve anything when it comes to the stock market. While they are obviously conscientious as well as knowledgeable, they have major differences when it comes to investment philosophy and strategy.

You have six weeks before the report is due. You have already begun to familiarize yourself with the firm's current portfolio and have been provided by management with a specific set of constraints that any portfolio must satisfy. Your immediate problem is to come up with some alternatives to the firm's present practices and select the most promising for detailed analysis in your report.

How would you attempt to resolve this problem? What steps or actions would you take?

C - Retail Exchange Order

You have just completed the first two months of a two year tour at a semi-isolated military station. Although small, the station has its own retail exchange (store). Close to 300 families depend on this exchange as their primary source for groceries, clothing and miscellaneous purchases. Unfortunately the civilian manager of the exchange died a week ago. You have been relieved of your present duties and told by the station commander that you will be the acting exchange manager until a permanent replacement can be hired. It is expected this will take from 3 to 6 months. Your knowledge of retailing is extremely limited but you welcome this opportunity as a personal challenge. At least you have five department managers (Groceries; Clothing; Audio-Photo; Hardware-Sporting Goods; and Miscellaneous Giftware) and although they are not real professionals (hired through local resources mainly for their interests) they are familiar with the exchange's operations.

You have just spent the past two days familiarizing yourself with the exchange operation and paperwork. You have found out it is imperative a very large semi-annual order be placed within the next three days so that delivery is guaranteed before winter sets in. The order would be subject to 10% discount if placed within three days and there is a risk of substantial increases in transportation costs if the order is sent in late. The previous manager has left most of the information required to place the order, including quantities of specified items, but you are skeptical about some of the information. You know the department managers have had some input in determining the order but you don't know how much.

What steps or actions would you take to resolve this immediate problem situation?

D - Fictitious Accounts

You are the Sales Manager for the Colonial Furniture Manufacturing Company and have just completed a one week trip auditing customer accounts and prospective accounts in one of your four major regions. Your primary intention was to do follow-up work on prospective accounts contacted by sales staff members during the past six months. Prospective clients were usually furniture dealers or large department stores with furniture departments.

To your amazement you discovered that almost all the so-called prospective accounts were fictitious. The salesmen had obviously turned in falsely documented field reports and expense statements. Company salesman had actually called upon only 3 of 22 reported furniture stores or department stores. Thus you surmised that salesmen had falsely claimed approximately 85 percent of the good will contacts. Further study showed that all salesman had followed this general practice and that no one had a clean record.

You have decided that immediate action is mandatory, although the salesmen are experienced senior men. Angry as you are, with a preference for firing them all, you remember you are responsible for sales and realize that replacing the staff would seriously cripple the total sales program for the coming year.

What steps or actions would you take in order to resolve this situation?

E - Oil Pipeline

You are general foreman in charge of a large gang laying an oil pipeline. It is now necessary to estimate your expected rate of progress in order to schedule material deliveries to the next field site.

You know the nature of the terrain you will be travelling and have the historical data needed to compute the mean and variance in the rate of speed over that type of terrain. Given these two variables it is a simple matter to calculate the earliest and latest times at which materials and support facilities will be needed at the next site. It is important that your estimate be reasonably accurate. Underestimates result in idle foremen and workers, and an overestimate results in tying up materials for a period of time before they are to be used.

Progress has been good and your five foremen and other members of the gang stand to receive substantial bonuses if the project is completed ahead of schedule.

What steps or action would you take to satisfy the demands of this situation?

F - Sea Rescue

You are a junior officer aboard a naval destroyer which has anchored for the night in a sheltered bay. Just before midnight the Communications department receives a Mayday from a yacht (with a family of six on board) which is floating helplessly off an island less than 10 miles away. Although the yacht skipper is not sure of his exact position he is fearful of sinking by grounding. The destroyer Captain informs the Rescue-Coordination Center and the yacht that he will send assistance. He delegates you to take a seaman, electrician and mechanic in the motor sea boat in order to provide assistance. The night is clear and the weather good but the air is chilly and it is still very dark. You realize the yacht is not sure of its position but you believe it must be in the vicinity of the island that has been mentioned.

What steps or action would you follow in carrying out this rescue mission?

G - Parking Spaces

You have recently been appointed manager of a new plant which is presently under construction. Your team of five department heads has been selected and they are now working with you in selecting their own staff, purchasing equipment and generally anticipating the problems that are likely to arise when you move into the plant in three months.

Yesterday you received from the architect a final set of plans for the building, and for the first time you examined the parking facilities that are available. There is a large lot across the road from the plant intended primarily for hourly workers and lower level supervisory personnel. In addition, there are seven spaces immediately adjacent to the administrative offices, intended for visitor and reserved parking. Company policy requires that a minimum of three spaces be made available for visitor parking, leaving you only four spaces to allocate among yourself and your five department heads. There is no way of increasing the total number of such spaces without changing the structure of the building.

Up to now, there have been no obvious status differences among your team, who have worked together very well in the planning phase of the operation. To be sure, there are salary differences, with your Administrative, Manufacturing and Engineering Managers receiving slightly more than the Quality Control and Industrial Relations Managers. Each has recently been promoted to his new position, and expects reserved parking privileges as a consequence of his new status. From past experience you know that people feel strongly about things which would be indicative of their status. So you and your subordinates have been working together as a team and you are reluctant to do anything which might jeopardize these relationships.

How would you resolve this problem? What steps or action would you take?

H - Executive Cars

You are one of the administration officers of a newly formed organizational division. The divisional manager has just given you the responsibility for choosing a fleet of four chauffeured passenger cars which will be used by senior management personnel for official business purposes on as required basis. Throughout the organization there are currently three types of cars in use and your choice is limited to these but all four cars must be of the same type. Drivers of the proposed cars have not yet been hired so you cannot obtain their preferences. The executives who will use them also appear to be evenly split between the three types. The divisional manager has stated that it is strictly up to you to make the final decision based upon whatever information there is available.

What steps or action would you take in order to determine your final decision concerning this situation?

I - Work Hours

You are one of the administration officers in a large organization. Recently several managers have expressed concern over the attitude of office employees in all departments toward getting to work on time, taking extended coffee breaks, stretching out their lunch hours, and leaving several minutes early. The managers agreed that the problem was due to failure to administer a clear-cut policy consistently in all departments.

You have been appointed to make a study of certain employee work practices. On reviewing the problem, you realize that something more would have to be done than just posting on the bulletin board a statement citing requirements and regulations for working hours. This had been done before, with little noticeable change in the habits of office employees. Some dramatic action should be taken, or threatened, that would awaken the office force.

One possibility would be to post the policy regarding working hours along with a warning that those guilty of violating the policy would be discharged immediately. A second possibility would be to dock the pay of those who habitually failed to conform to the working schedule and to reprimand them personally. A third possibility would be the installation and use of time clocks to determine accurately the amount of working time each employee put in. Their pay would then be based on actual hours worked. Perhaps other steps could be taken.

You are aware that each possible action has advantages and disadvantages. However, with approximately 500 office employees involved, something has to be done that would permanently establish managerial policy regarding work hours and that would change present widespread and deeply ingrained, employee attitudes toward wasted time.

What steps would you take or what action would you propose in order to resolve this situation?

J - Defence Contract

You are executive vice-president for a small pharmaceutical manufacturer. You have the opportunity to bid on a contract for the Defence Department pertaining to biological warfare. It is outside the mainstream of your business but it could make economic sense since you do have unused capacity in one of your plants and the manufacturing processes are not dissimilar.

You have written the document to accompany the bid and now have the problem of determining the dollar value of the quotation which you think will win the job for the company. If the bid is too high you will undoubtedly lose to one of your competitors; if it is too low you would stand to lose money on the program.

There are many factors to be considered in making this decision including the cost of the new raw materials, the additional administrative burden of relationships with a new client, not to speak of factors which are likely to influence the bids of your competitors such as how much they need this particular contract. You have been busy assembling the necessary data to make this decision but there remain several "unknowns" one of which involves the manager of the plant in which the new products will be manufactured. Of all your subordinates he is in the position to estimate the costs of adapting the present equipment to their new purpose and his cooperation and support will be necessary in ensuring that the specifications of the contract will be met. However, in an initial discussion with him when you first learned of the possibility of the contract he seemed adamantly opposed to the idea. His previous experience has not particularly equipped him with the ability to evaluate projects like this one so that you were not overly influenced by his opinions. From the nature of his arguments, you inferred that his opposition was ideological rather than economic. You recall that he was actively involved in a local "peace organization" and was one of the most vocal opponents within the company to the war in Vietnam.

What steps or action would you take in an attempt to resolve this problem?

K - Oil Spill

You are employed as an instructor at a military training establishment. Last night an oil tanker went aground in a storm not far from your establishment. While a certain amount of oil pollution is unavoidable, the extent of damage to the surrounding shores and the threat to fowl in the area is still undeterminable. In an attempt to assess the situation and forestall further damage to the environment, personnel from your establishment have been tasked to provide immediate assistance. You have been designated as officer-in-charge of a 4 mile stretch of shoreline which includes a number of beaches in small coves separated by rocky but passable sections of shoreline. You have also been assigned a class of 30 men whom you know well, having instructed them now for a number of weeks. They are cooperative, industrious and work very well as a team.

On departure to the oil spill area you have been informed that your responsibilities include the following:

- Assess and describe the extent of damage to the physical shore and to fowl in the area.
- Assist in the survival of fowl and wildlife threatened by the oil spill.
- Make recommendations for the manpower and equipment required to clean up the oil spill.
- Do what ever is possible to prevent further damage while waiting for additional support.

What immediate steps would you take in carrying out your responsibilities? What specific acts would you include to ensure successful completion of your mission?

L - Consultant Problem

You are regional manager of a management consulting company. You have a staff of six consultants reporting to you, each of whom enjoys a considerable amount of autonomy in the field with clients.

Yesterday you received a complaint from one of your major clients to the effect that the consultant whom you assigned to work on the contract with them was not doing his job effectively. They were not very explicit as to the nature of the problem but it was clear that they were dissatisfied and that something would have to be done if you were to restore the client's faith in your company.

The consultant assigned to work on that contract has been with the company for six years. For the first four or five years his performance was superb and he was a model for the other more junior consultants. However, recently he has seemed to have a "chip on his shoulder" and his previous identification with the company and its objectives has been replaced with indifference. His negative attitude has been noticed by other consultants as well as clients. This is not the first such complaint about his performance that you have had from a client this year. A previous client even reported to you that he reported to work several times obviously suffering from a hangover and that he had been seen around town in the company of "fast" women.

It is important to get to the root of this problem quickly if that client is to be retained. The consultant obviously has the skill necessary to work with the clients effectively.

How would you attempt to resolve this problem? What action or steps would you take?

M - Work Schedule

As part of your managerial training program you were required to work as the assistant manager of a small unit for the past six months. Although it was planned to keep you there for another two months, you have just been appointed acting manager of a very similar unit on a temporary basis in order to replace the normal manager who must attend a two month course. As it is close to the end of June you are immediately faced with the problem of scheduling summer holidays for the 24 people in your unit. They had all been promised two weeks holiday over the July-August months. Company policy prohibits more than one quarter of a unit's personnel on holidays during any specific period. Unfortunately 20 of your people have requested their two weeks for July because of the pending Olympic Games. You have also just received a memo from head office which stipulates that two of your personnel must attend an upgrading course running from 25 July to 7 August in addition to a warning that there may be excessive commitments for your unit's services for the last two weeks of July.

Considering the complications of the pending work and holiday schedules, what steps or actions would you take to resolve your current predicament?

N - Fired Employee

You are the Personnel Director of an organization in which individual departments have complete autonomy concerning the hiring and firing of employees. Consequently your role is more that of a consultant, resolving difficulties and problems and formulating policy.

It is Friday afternoon and you are having an interview with an employee from the accounting department who urgently requested to see you. He has explained to you that he was elected by the other 75 employees of the accounting department to speak on their behalf about company practices which they wished modified or eliminated. Last Friday this employee had a private meeting with his Department Head where he expressed concern about the merit rating system which the employees thought was unfair, poorly used, and utilized as a reason for not paying higher salaries. A second practice not well accepted by the employees was the arbitrary way in which management determined vacation time for employees. Evidently one employee was given two days notice before he received his first week of vacation in October and five days notice before he was told he could take off another week in April.

You were also told that the Department Head listened attentively to these concerns but because it was late in the day he stated he would consider them next week. The following week the employee noticed however that his Department Head was out of town and no action was taken concerning his remarks. However, his fellow employees tended to treat him much like a hero for representing them in front of the Department Head.

This employee just picked up his pay check this morning but was shocked to find his discharge notice and two weeks of additional pay in his envelope. He was so upset he immediately requested this interview with you.

What steps or action would you take in an attempt to resolve this situation?

0 - Data Information System

You are on the division manager's staff and work on a wide variety of problems of both an administrative and technical nature. You have been given the assignment of developing a universal method to be used in each of the five plants in the division for manually reading equipment registers, recording the readings and transmitting the scorings to a centralized information system. All plants are located in a relatively small geographical region.

Until now there has been a high error rate in the reading and/or transmittal of the data. Some locations have considerably higher error rates than others, and the methods used to record and transmit the data vary between plants. It is probable, therefore, that part of the error variance is a function of specific local conditions rather than anything else, and this will complicate the establishment of any system common to all plants. You have the information on errors or on the local conditions which necessitate the different practices.

Everyone would benefit from an improvement in the quality of the data as it is used in a number of important decisions. Your contacts with the plants are through the quality-control supervisors who are responsible for collecting the data. They are a conscientious group committed to doing their jobs well but are highly sensitive to interference on the part of higher management in their own operations. Any solution which does not receive the active support of the various plant supervisors is unlikely to reduce the error rate significantly.

What steps or actions would you take in obtaining a solution to this situation?

P - Memorial Service

Each year a junior officer is selected to make all the preparations for an annual memorial religious service for all military personnel in the area. This year you have been designated as that officer. Your responsibilities include making sure the building for the service is clean and ready for the service. This also includes having 1000 folding chairs and 50 soft V.I.P. chairs set up, a podium in place with appropriate decorations and flags, and a functioning PA system. You have been allocated up to 50 men plus a truck to assist you in carrying all these responsibilities.

What steps or action would you take to ensure the above is carried out to everyone's satisfaction?

Q - Office Space

You are on the staff of a Regional Headquarters Office (unit) and one of your secondary responsibilities includes being the Special Projects Officer. You have just been given a project which will require you to carry out a detailed study developing recommendations for the most efficient allocation of office space within the headquarters building. The HQ building consists of two floors and some 50 separate rooms. The majority of rooms are utilized as separate executive offices or clerical support offices but there are also eight large rooms which are used as typing pools, staff lounges, conference rooms, etc. The Regional staff had plans to increase its personnel component utilizing additional accommodations in an adjacent building but these plans were reversed by National Headquarters with directives that the Regional staff would maintain its personnel compliment but give up one quarter of its office and supporting space for a new department (unit) which will be moving in within the next 6 weeks. All Regional Headquarters personnel are aware of this unrealistic cutback and it is expected that individuals will resist attempts directed towards placing them in smaller offices, sharing offices and losing other valuable space. You only have a week to do a detailed survey of this situation and make very definite recommendation which will ensure one quarter of the building is available for the new unit. You have 5 clerical workers who can assist you in this task.

What steps or actions would you take (in outline form) in solving this problem so you are sure your recommendations will be both valid and acceptable?

R - Engineer Transfer

You are supervising the work of twelve engineers. Their formal training and work experience are very similar, permitting you to use them interchangeably on projects. Yesterday, your manager informed you that a request had been received from an overseas affiliate for four engineers to go abroad on extended loan for a period of six to eight months. For a number of reasons, he argued and you agreed that this request should be met from your group.

All your engineers are capable of handling this assignment and, from the standpoint of present and future projects, there is no particular reason why any one should be retained over any other. The problem is somewhat complicated by the fact that the overseas assignment is in what is generally regarded in the company as an undesirable location.

What steps or action would you take to resolve this problem situation?

APPENDIX C

Pilot Study Questionnaire Instructions

CFOCS SURVEY OF INTERESTS AND BEHAVIORS

PART I

This questionnaire is part of a study being carried out for the completion of a M.Sc. thesis at the University of British Columbia. The study is partially concerned with individual preferences and interests and should provide valuable information for officer and managerial training.

Two different types of short interest inventories, both with separate sets of instructions, are attached. Please read and follow the instructions carefully. Each should only take a few minutes of your time to complete.

You are also requested to fill in the biographic information below. Your name and SIN will only be used to match this questionnaire with other information. Once all the relevant data has been completed your name and SIN will be totally removed. All information will be treated with the strictest confidence and no one from this school or in the Canadian Forces will have access to your responses.

Please note that these inventories have neither right nor wrong answers. They only concern your personal preferences - they are not a personality or intelligence test. Therefore please answer as accurately as you can.

Thank you for your time and cooperation!

RANK:	0 Cadet	_____	OCCUPATIONAL	Land Ops	_____	MARITAL	M	_____
	A 2 LT	_____	GROUPING:	Sea Ops	_____	STATUS:	S	_____
	2 LT	_____		Air Ops	_____	PRIMARY	E	_____
	LT	_____		Engineer	_____	LANGUAGE:	F	_____
	CAPT	_____		Support	_____	SEX:	M	_____
							F	_____
PLAN:	ROTP	_____	COMPLETED	Jr. Matr.	_____			
	DEO	_____	EDUCATION:	Sr. Matr.	_____			
	OCTP	_____						
	DOTP	_____		1st year	_____			
	RETP	_____	UNIVERSITY:	2nd year	_____	Civilian U.		_____
	Other	_____ (Specify)		3rd year	_____	CMC		_____
		_____		4th year	_____			
COMPLETED YEARS OF SERVICE	_____		PLATOON	_____				
COMPANY	_____		SIN	_____				
AGE	_____		NAME	_____				
CLASSIFICATION	_____			Last	_____	Initials	_____	

Name: _____

CFOCS SURVEY OF INTERESTS AND BEHAVIORS

PART II

This questionnaire is an additional part of the study being carried out for my M.Sc. thesis at U.B.C. I would be pleased to answer any questions concerning the study after you have completed this part. Before we start would you please write your name on the top of this page and on the front of the blank booklet provided. Again, your name will only be used for identification purposes. All information obtained in this study will be held in strictest confidence; apart from myself no one from this school or in the Canadian Forces will have access to any identifiable information.

On each of the next three pages there is a description of a possible situation in which you could hypothetically find yourself. Please read the first description very carefully and then consider yourself as being in the situation and having to deal with the described problem. Using the booklet provided state the situation title and then describe in as much detail as possible exactly what you would do in order to resolve the problem. In other words, describe the steps or action you would take if you were actually faced with this problem. Do not concern yourself with writing style or grammar but try to be as inclusive as possible in terms of all the different things you might do. Feel free to use point form. Your major concern should be with identifying your actions and behaviors so try to make extensive use of action words and verbs to describe your behavior.

Once you have completed the first situation and are satisfied you have included everything you would do, please carry out the same procedure for the next two situations. You should spend between 5 and 10 minutes on each situation. When you have finished all three situations please carry on with the remainder of the questionnaire.

Section 2

Now that you have stated how you would respond to each of the three situations, try to put yourself in the position of an outside observer. Without turning back to your written narratives, rate the following dimensions as if you were an observer assessing yourself in each of the described situations. You may refer back to the described situations but please do not go back to what you have written in the booklet. Do not be concerned if you have not commented in your narrative on any of these behaviors - this is not a check on what you included or did not include. It is however an attempt to determine how you think you would have behaved in each situation in terms of specific dimensions.

Please write the title of the first situation you did on the top of the next page. Now rate each of the 14 dimensions for the situation in accordance with how you think you would have responded to that situation. Then repeat this procedure for the second situation using the next page and then the third situation. Do not let the ratings for one situation influence the ratings of another. Please take your time and rate each dimension carefully.

Title of Situation

For this situation indicate the <u>degree</u> to which you:	Not At All 0	Slight 1	Moderate 2	Quite A Lot 3	A Great Deal 4
1. Encouraged others to express their ideas and opinions					
2. Effectively said what I wanted to say					
3. Helped others					
4. Clearly defined or outlined problem(s)					
5. Offered good solutions to problems					
6. Engaged in friendly jokes and comments					
7. Made others feel at ease					
8. Helped settle conflicts					
9. Had others share in making decisions with me					
10. Influenced others					
11. Showed initiative					
12. Led discussions					
13. Complimented others					
14. Motivated others to participate					

APPENDIX D

Pilot Study Results

Table I

Mean Consideration & Initiating Structure
Scores by Specialty & Situation

Specialty	Situation		
	P	C	T
P (N - 8)	16.6	14.6	12.5
G (N - 18)	16.7	14.1	14.4
T (N - 7)	15.7	10.0	10.2

Consideration

Specialty	Situation		
	P	C	T
P (N - 8)	18.3	17.9	20.4
G (N - 18)	18.7	17.1	18.1
T (N - 7)	18.2	15.0	15.7

Initiating Structure

Table II
2-Way Analysis of Variance for Dependent Variables

Source	SS	df	MS	F
Situation	70.78	2	35.39	1.26
Specialty	125.78	2	62.89	2.24
Interaction	21.11	4	5.28	0.19
Error	1265.33	45	28.12	
<u>Total</u>	1483			

Consideration

Source	SS	df	MS	F
Situation	60.04	2	30.02	2.00
Specialty	90.70	2	45.35	3.02
Interaction	68.02	4	17.00	1.13
Error	674	45	14.98	
Total	892			

Initiating Structure

APPENDIX E

Situation Selection - Ranking Instructions

ASSESSING SITUATIONS

This is a request for your professional assistance in an attempt to further develop my on-going MSc thesis.

Some of you are already aware of the "Specialization" personality construct as developed and refined by Brian Little, Peter Frost and Thad Barnowe, in particular, the two dimensions labelled People and Thing Orientation. My current concern is with problem situations as faced by decision makers (leaders and managers) in terms of how such situations can be categorized in relation to the two primary objects of the environment - people and non-people or things.

It is hypothesized that any specific problem situation can be rated and quantified on the two dimensions of People Orientation and Thing or Non People Orientation. These dimensions are described as follows:

People Orientation - the personal or interpersonal element of the problem situation. This implies degree of consideration for people and their feelings as exhibited by the demands and/or nature of the problem situation. It also includes the degree of interpersonal involvement of the actors plus their interpersonal behavior and activities.

Thing (Non-people) Orientation - The non-personal, thing or task element of the problem situation. This implies the degree of concern with non personal factors, whether they be classifiable as things or as tasks, as exhibited by the demands and/or nature of the problem situation.

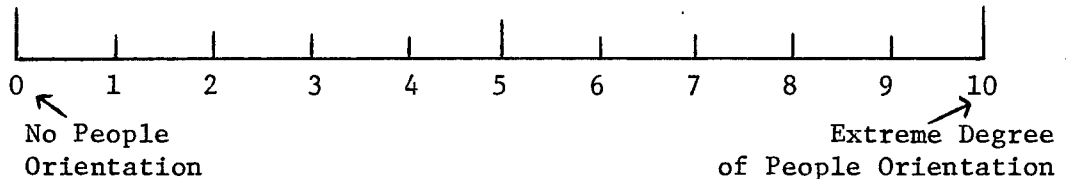
A situation may well include both physical objects and people (in fact, most situations are probably a combination) but the primary concern here is with the relative nature of the problem in terms of the two dimensions. The subject matter and content of the situation are important but I am more interested in how you perceive the actual nature of the problem situation in terms of two separate and independent dimensions. The two dimensions can be further amplified as follows:

	<u>Person Orientation</u>	<u>Thing Orientation</u>
Subject Matter & Content primarily:	People/feelings	Things/tasks (including numbers, data, figures, etc.)
Nature of problem	Personalistic	Physicalistic
Managerial Grid	Concern for People	Concern for Production
Related Behaviors	Consideration	Initiating structure
Decision-Making	More participative	More autocratic

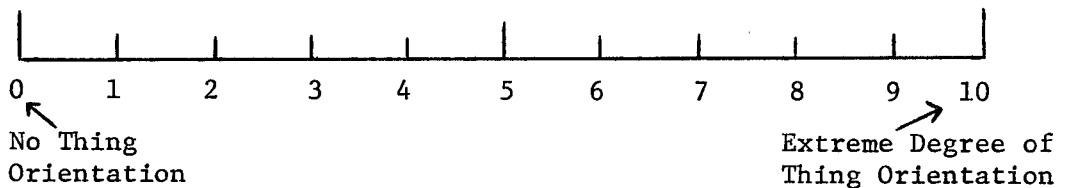
Please note that as these dimensions are hypothetically independent and orthogonal, the score on one should have nothing to do with the score on the other for a specified problem situation. In other words, a situation may be high on one or the other dimension, high on both, or even conceivably low on both. Please ensure your rating on one dimension does not affect your rating on the other.

Could you please read each of the following 18 problem situations. Each time you read a situation, please assign scores between 0 and 10 for the People dimension and for the Thing-Task dimension for that problem situation. This procedure should be comparable to placing an (X) at the point on each dimension (on the scales portrayed below) which represents your judgement of the degree to which both orientations (People and Things) are present within each situation.

People
Orientation



Thing/Task
Orientation



A Situation Rating Form is attached for your convenience. Situations should be given to you in random order. When you complete a situation, please rate it against the "letter" on the Rating Form which corresponds with the "letter" at the top of page identifying the situation.

Your assistance and time in this endeavour is most sincerely appreciated. Thank you.

Gordon Mains

P.S. Please ignore the last sentence
at the bottom of each situation.

