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THE UNIVERSITY OF ALBERTA

THE RELATIONSHIP OF LOCUS OF CONTROL
ORIENTATION TO LEADER BEHAVIOR AND JOB SATISFACTION

by

C

WALTER LYLE CURTIS

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
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ABSTRACT

This study was designed to investigate the relationship of locus of control orientation to leader behavior and job satisfaction. Eight background variables, said to contribute to the development of locus of control orientation, were also tested in order to assess their relationship to locus of control orientation. These were age, sex, length and breadth of administrative experience, extent of professional training, school type and size and type of employing authority.

A total of 192 Alberta school principals selected by stratified, random sampling and 1152 systematically selected Alberta teachers were asked to participate in the study. Of this sample, 132 principals and 792 teachers (69 percent) provided usable responses.

The Collins adaptation of the Rotter Internal-External Scale was used to measure the belief of the school principals regarding their ability to control their work environment. The Leader Behavior Questionnaire and the Minnesota Satisfaction Questionnaire-Short Form were used to measure dimensions of leader behavior and aspects of job satisfaction, respectively. Information on the background variables was gathered by way of a personal data questionnaire.

Pearson Product-Moment Correlation coefficients were calculated to test for statistically significant relationships between the continuous variables. One-way analysis of variance (ANOVA) was employed to test for significant differences between groups. A .05 level of probability was deemed indicative of a significant relationship.

Analysis of the data indicated that, rather than being proportionately distributed in terms of internality and externality on a locus of control continuum, school principals were predominantly internal in locus of control orientation. This finding meant that statistical analysis measured only the relationship of degree of locus of control internality to the other variables, since a contrasting group of "externals" was not available for comparison.

The results of the study indicated no significant relationships between locus of control internality and the leader behavior dimensions: directive leader behavior, participative leader behavior and supportive leader behavior. Significant relationships were evident between locus of control internality and two aspects of job satisfaction. Higher locus of control internality was positively associated with greater "intrinsic" and "overall" job satisfaction.

Analysis of the relationship of locus of control orientation to the individual variables indicated that principals with greater length and breadth of administrative experience exhibited lower locus of control internality than did the less experienced principals. No significant relationships were evident between locus of control orientation and the remaining individual variables.

The findings indicated that the locus of control orientation of principals was predominantly internal. From the perspective of the literature reviewed this was seen as a desirable phenomenon for leaders with possible implications for leader selection. Also the negative correlation between internality and greater administrative experience was

viewed as potentially having serious implications for school administration, since it questions the assumptions underlying utility of experience and promotion based on seniority. Herein further research was recommended.

Additional major implications for research noted were: 1) the need for more theoretical and methodological study regarding the utility of the locus of control concept; 2) the need in comparable locus of control studies to generate a broad random sample so that leaders make up but one proportionate group among all the groups in the work force spectrum and; 3) the need for more statistical analysis on the I-E Belief Scale and the Leader Behavior Questionnaire.

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CHAPTER 1
THE RESEARCH PROBLEM
1. INTRODUCTION

Attribution of causality to human behavior is a natural everyday phenomenon which has preoccupied man throughout history. In recent decades, however, it has been the subject of scientific study as a result of intensified attempts by behavior theorists to understand it in a more empirical manner. Noting that psychologists have concluded that the quest for causality is motivated by the need to control, Frasher and Frasher (1980) predict a widespread applicability of attribution theory to educational administration.

Attribution theory and research attempt to find the solution to the question "why?" as individuals try to ascribe causality to their own and others' beliefs, attitudes and behavior (Frasher and Frasher; 1980:1). In the words of Borko and Shavelson (1978:271) attribution theory "deals with the processes by which people integrate information to arrive at causal explanations for events."

Jones et al (1972) list the following as assumptions upon which attribution theory is based.

1. The individual attempts to assign a cause for important instances of his behavior and that of others; when necessary, he seeks information that enables him to do so.
2. His assignment of causes is determined in a systematic manner.

3. The particular cause that he attributes to a given event has important consequences for his subsequent feelings and behavior. The 'meaning' of the event and his subsequent reaction to it are determined to a considerable degree by its assigned cause.

Assigning cause to a particular human behavior is not a simple process. Human beings are complex and their judgment is greatly affected by the interactive and situational context of the event requiring causal explanation. To deal with this complexity people seem to develop sets or patterns of interpreting behavior. Certain of these sets for behavior interpretation "have been observed to vary consistently across individuals and situations" (Frasher and Frasher, 1980:8). Personal conditions such as locus of control orientation, task mastery orientation and competitiveness are viewed as concomitant to these attributional sets. They are thus conceptualized as "those variables that go along with the attributional process and yield predictable results" (Frasher and Frasher, 1980:9).

The locus of control orientation condition in attribution theory is especially noteworthy as the large number of studies it has generated provide strong evidence that locus of control orientation is systematically related to patterns of human behavior. Locus of control refers to the belief that individuals tend to attribute the causes of events in life either to themselves (internal locus of control orientation), or to some outside forces such as powerful others, luck or chance (external locus of control orientation). According to Phares (1973) and Good (1976) the concept of locus of control has proven to be

useful in many different studies because it has consistently accounted for part of the variance.

Citing these and similar findings and conclusions, researchers such as Rice (1978), King (1979) and Frasher and Frasher (1980) have suggested a widespread applicability of the locus of control variable to the understanding of leadership as a particular aspect of human behavior.

This study will explore further the nature and extent of this relationship in the case of the behavior of school principals.

2. SIGNIFICANCE OF THE STUDY

Early leader behavior theorists and researchers such as Halpin (1956), Campbell (1956) and Mann (1957), stated that the individual traits of leaders had been shown by research to be significant variables in leader behavior.

In keeping with this view, Dusek (1975) and Cooper (1978) concluded that individual attributional orientations influence superordinate-subordinate interactions over a variety of situations. King (1979) reached a similar conclusion for the behavior of teachers in the classroom.

Most recently, Frasher and Frasher (1980), having reviewed the research relevant to attribution theory stated that the literature generally supports the premise that attribution of causality, which is predictably affected by locus of control orientation, is a significant factor in the determination of leader behavior.

To the present time research has related locus of control orientation to a considerable number of specific personal attitudes and

behaviors. Individuals at the internal end of the locus of control continuum have been found to exhibit assertive (Rotter, 1966), achieving (Hersch and Scheibe, 1967; Runyon, 1973; Phares, 1973; Gordon, 1977), independent (Evans, 1973) and controlling (Julian, Lichtman and Ryckman, 1960; Gemmill and Heisler, 1972) behaviors. Individuals at the external end of the continuum have been shown to have greater feelings of anxiety and tension (Phares, 1973), pessimism, alienation and low interpersonal trust (Rotter, 1966; Phares, 1973; Becker & Lesiak, 1977) and a low degree of self-confidence (Lefcourt, 1966, Roessler & Boone, 1979).

Regarding work attitudes, "internals" have been shown to be more satisfied with their jobs (Gemmill & Heisler, 1972; Runyon, 1973; Organ & Greene, 1974; Rice, 1978), to be more task-oriented (Phares, 1973; Runyon, 1973) and to report less job strain (Organ & Green, 1974; Nowicki, 1978) than "externals".

"Externals", on the other hand, though exhibiting variations in attitudes toward the environment, have been generally found to be more satisfied with directive job supervision (Lawler, 1973; Byrne et al, 1979), to worry less about personal control (Janzen, Becken & Hritzuk, 1973) and to favor extrinsic rewards (Evans, 1973). Externally oriented managers have been found to prefer more coercive power bases than internally oriented managers in their relations with subordinates. (Mitchell, Smyser & Weed, 1975), while exhibiting greater suggestibility, attitude change and conformity in relations with outside agents (Phares, 1973).

As a result of these and other related studies much has become known about the relationship of locus of control orientation to individual behavior.

Very few of the studies, however, have looked specifically at school principals. In view of the key position occupied by principals in the education system, and given the potential relationship of locus of control orientation to leader behavior, research in this specific area appears warranted.

School principals interact with reference groups such as parents, superintendents, school board, staff and students, all of whom are in some way affected by their behavior. Tuttle & Hazel (1974), Hersey & Blanchard (1972) and Rice (1978) portray the school principal as the 'man in the middle'; the one who must come to terms with discomfort and anxiety inherent in the administrative role.

The way that principals deal with the pressures and dilemmas in their job (i.e., their leader behavior) may be affected by their locus of control orientation. Consequently, a study examining this relationship is warranted. As well as leading to improved understanding of the behavior of principals the study could have practical significance for identification, training and placement purposes.

3. PURPOSE OF THE STUDY

The study will examine the relationship between the locus of control orientation of school principals and their leader behavior.

The effects, if any, of job satisfaction and personal, professional and organizational characteristics will also be examined.

4. ORGANIZATION OF THE STUDY

In Chapter 2 the essential features of Internal-External Locus of Control Orientation and Leader Behavior Theory and Research are reviewed. The chapter includes an overview of the literature pertaining to the relationships between locus of control orientation and the variables of concern in this study.

The conceptual design for the study is described in Chapter 3. Herein the theoretical model, relationships selected for study, definitions, problem statement, assumptions, delimitations and limitations are presented.

The instrumentation and research methodology utilized in this study are outlined in Chapter 4.

In Chapter 5 the demographic characteristics of the population sample are discussed.

The results of the analysis of the data are reported in Chapter 6.

In Chapter 7 the discussion of the findings is presented.

The summary, conclusions, implications of the study and recommendations for further research are contained in Chapter 8.

The bibliography is compiled at the end of the final chapter and is followed by appendices which include copies of the instruments used and tables of the raw data and statistical analysis of the data used in this study.

CHAPTER 2

REVIEW OF THE LITERATURE

In this chapter the concept of attribution is explained and the variables selected for study are examined. Locus of control orientation is located within attribution theory and examined in terms of the research relating it to individual behavior, job satisfaction and the selected background variables.

1. ATTRIBUTION THEORY

Process Theory & Research

Attribution theory "deals with the processes by which people integrate information to arrive at causal explanations for events" (Borko and Shavelson, 1978:271). As initially projected from the work on lay psychology by Heider (1958) and further developed by Jones and Davis (1963), Kelley (1967), Weiner et al (1971) and Shaver (1975), the overall attribution process encompasses three phases; the observation of the action; a judgment of intentions; and the formulation of a dispositional attribution either to the person or to the environment. In Shaver's terms, this process makes up the cognitive phase of social perception; the perception of the social behavior of a person.

The need to differentiate between the personal and interpersonal consequences of attribution was stressed by Harvey, Ickes and Kidd (1976). From the research on the above sets of consequences, two related fundamental findings have been reported. First, a significant

body of evidence on the nature of individual attributions and extent to which they are open to distortion, bias and/or defensiveness to fulfill self-protective or self-serving purposes of the perceiver or observer, has been gathered by Jones and Davis (1965), Kelley (1967) and Shaver (1975) and others (King, 1979). Second, studies reported by Weiner (1974), Harvey (1976) and Snyder, Stephan and Rosenfield (King, 1979) report a considerable effort on the part of the stimulus person or actor to maintain a sense of perceived personal control and freedom in his behavior. Snyder, Stephen and Rosenfield refer to this phenomenon as the motive to take credit for success and deny blame for failure in order to preserve self-esteem.

Weiner (1974) is especially notable in this area due to the extent and prominence of his work, and the large number of studies that have extended from it. Weiner's original conception of the consequences of attributing outcomes to particular causes suggest that the locus of control dimension influences affective reactions to success and failure. His attributional model of achievement motivation examines the effects of attribution on student motivation and thereby performance. According to his model, success and failure can be represented along two dimensions. One dimension is the internal-external locus of control continuum of causes, with effort and ability being the properties internal to an individual, and luck and task difficulty being external causes. The second dimension categorizes the same causes according to stability and instability; with ability and task difficulty being stable causes, and effort and luck being unstable causes. Weiner's (1974) conclusion, that effort attributions are a more potent source of affect than attributions to ability, has not been upheld as stated in validation studies.

Subsequent findings suggest that affects often, but not always, are tied directly to the causes (King, 1979).

On the other hand, Bar-Tal (1978) having reviewed the work of Weiner and others in the area of attribution theory and achievement motivation, contends that Weiner's theoretical concepts have been empirically verified in a sufficient number of studies. In applying causal ascriptions to students' and teachers' perceptions and behaviors in the classroom, Bar-Tal (1978) saw linkages not only in students' causal perceptions of their successes and failures as determiners of the achievement related behavior, but also teachers' causal perceptions of their students' successes and failures as determiners of their behavior toward students. As well he saw teacher behavior as an influence on students' causal perceptions of their successes and failures. In lending support for Weiner's attributional model Bar-Tal (1978:262) restated the theory as follows:

In general, it has been observed that individuals differ in their perception of locus of control. Individuals at the internal end of the continuum tend to perceive an outcome of their behavior to be a consequence of their own actions; in contrast, individuals at the external end of the pole tend to perceive behavioral outcomes as a result of luck, fate, and powerful others.

In addition, a large number of studies have been extended from the seminal postulations of Jones and Nisbett (1972:80), who proposed that "there is a pervasive tendency for actors to attribute their actions to situational factors while observers tend to attribute the same actions to stable personal dispositions of the actor." Subsequent studies by Galper (1976) and Hanse and Stonner (King, 1979) have produced evidence supporting the Jones and Nisbett proposal. These studies further suggest

that this tendency to interpret behavior differently stems from differences in available information and differences in the processing of that information (King, 1980).

Administrative Attribution Theory and Research

Perhaps most directly relevant to the theme of this study is the theory building work of Frasher and Frasher (1980). They proposed a theory of attribution aimed specifically at educational administrators. They postulated that professional administrators make different causal attributions with respect to educational concerns than do lay persons. In its present conceptual framework their administrative attribution theory differs from antecedent attribution theory mainly in one basic way. Rather than being primarily concerned with understanding process, it is concerned foremost with product. The rationale is as follows:

Knowledge of the attributional process is necessary but not sufficient for administrative attribution theorists who must expand their understanding to attributional product and behavioral consequences (Frasher and Frasher, 1980:4).

An additionally significant assumption in their formulation is that professionals, being privy to substantial knowledge unique to their field, will alter professional attributions sufficiently so that they will be discernible from naive attributions made by lay persons (1980:5).

Frasher and Frasher delineated five major constructs in their theory; these are asymmetry, concomitance, enhancement, process and reconstruction (1980). The following are some highlights drawn from each of these constructs.

1. Asymetry. Two primary thrusts or tendencies are apparent. First there is the tendency to assume the best, particularly when this is related to self. The concepts underlying this positive thrust are as follows: a) optimism - from past causal attributions people anticipate positive outcomes in a majority of events, and b) idiosyncrasy - in the case of another person's misfortune there is a pervasive tendency to blame the person rather than the environment thus minimizing the possibility of the same event occurring to the attributor. Second, there is the tendency to blame bad experience on external causes.
2. Enhancement. Attribution theory is consistent with the psychological theories that suggest that motivation for human behavior is related to a basic need to enhance one's self-image. Therefore "successful outcomes are taken personally and negatives are rebuffed where possible" (1980:10).
3. Process. This refers to the way in which causal attributions are arrived at. Though the focal point of administrative attribution theory is outcomes not process, it is envisioned that the educational administrator who is familiar with the field of attributional process will have a greater behavioral repertoire from which to select desired goals (1980:12).
4. Reconstruction. This construct deals with the process of changing an individual's existing attributions or controlling the formation of new ones. The authors argue that when an individual is subjected to peer pressure, is forced to integrate new information, or is faced with other environmental conditions that contradict a particular inclination to ascribe cause, he or she can modify that attribution to make it consistent with the prevailing evidence.

5. Concomitance. Assigning cause to a particular human behavior is not a simple process as humans are complex and very much affected by the situational context. However, certain attributions appear to be predictably affected. Conditions such as locus of control, task mastery orientation and competitiveness, peer group pressure and cultural prejudice are viewed as concomitants to attributional process. Thus this construct is conceptualized as being comprised of "those variables that go along with the attributional process and yield predictable results" (1980:9).

2. LOCUS OF CONTROL

Basis of Internal-External Orientation

The internal-external locus of control dimension as derived from social learning theory, posits two generalized expectancies concerning human behavior reinforcement. From past experiences one group of individuals acquires the view that events are products of one's actions, capacities or traits. Another group of individuals acquires the view that the cause of personally relevant events is external. Thus individuals are perceived to vary along the dimensions of a locus of control continuum with the end points labeled internal and external.

Rotter (1966) developed a measure of internal-external orientation comprised of a 29 item, forced choice scale, based on the hypothesis that people have a relatively stable tendency to view events in life as being either under their own control (internal locus of control) or under the control of some outside force (external locus of control).

Researchers using Rotter's scale, typically identified their subjects as "internals" or "externals" and then compared them on some other dimensions to see if significant relationships could be identified. Though the results have varied, the predominant findings in these studies have tended to emphasize the positive nature of internality and the negative nature of externality. Summarizing this research, Rotter (1966:25) describes the "internal" compared to the "external", as more likely to

- a) be more alert to the aspects of the environment which provide useful information for his future behavior,
- b) take steps to improve his environmental condition,
- c) place greater value on skill or achievement reinforcements and be generally more concerned with his ability, particularly his failures,
- d) be resistant to subtle attempts to influence him.

Many subsequent studies have also identified positive aspects associated with internality. Julian, Lichtman and Ryckman (1968) found that "internals" preferred circumstances under which they could exert greater control over outcomes. Penk (1969) reported that children who employed verbally mature abstractions tended to be more internal. Adams-Weber (1969) found that "internals" had more internalized moral sanction, such as a sense of guilt, while "externals" reacted more to external contingencies. Phares, Wilson and Klyver (1971) found that "internals" were less likely to blame themselves or others for failure. Clouser and Hjelle (1970) reported that "internals" were significantly less likely to be dogmatic than "externals". Whyte (1977) found that "internals" did better academic work. Bhatia and Golin (1978) reported

that "internals" exhibited less aggression after frustration than "externals".

Predictor of Personality Differences

A number of studies have shown locus of control orientation to be a predictor of personality differences.

Gore and Rotter (1963) conducted a study on the type and degree of commitment behavior manifested by Negro students toward effecting social change. They found that locus of control orientation could predict Negro students' predisposition to volunteer for social action.

Hersch & Scheibe (1967) studied the effectiveness of students recruited for summer work with chronic mental patients. They found that "internals" had a greater expectation of positive change than "externals", and as a result exerted greater efforts to bring about this change. They concluded that their findings supported the premise that internality is consistently associated with indices of social adjustment and personal achievement. They further suggest that "internals" typically view themselves as independent, assertive, powerful and achieving.

Efran (1963) found that "externals" were less defensive than "internals", as a result of having less need to repress their failures, having already accepted that external factors largely determined their successes and failures. However, Lefcourt (1966), concluded from earlier studies that "externals" lacked self-confidence, and Phares (1973) noted that "externals" generally experienced greater anxiety and tension than "internals".

More recently, Crandall and Lehman (1977) showed that symptoms of emotional maladjustment correlated positively with external locus of control; and Gordon (1977) and Roessler and Boone (1971) found that "externals" exhibited greater lack of self-esteem than "internals".

Environmental Relationships

Gemmill and Heisler (1972) explored the relationship between belief in one's own ability to influence the situation and job satisfaction, job strain and positional mobility with 90 managers in three divisions of a large New York corporation. Their findings were that the greater the belief in internal control the higher the job satisfaction, the less the job strain and the greater the positional mobility.

Phares (1965) found that "internals" concern themselves more with task related activities and are able to produce significantly greater changes in the expressed attitudes of others than are "externals". He thus concluded that the "internal" has a desire to control and will invariably exert effort to deal effectively with his environment (Phares, 1973). Mitchell, Smyser and Weed (1975) found that in dealing with subordinates, internally controlled managers used persuasive power bases such as respect, rewards and expertise. Earlier however, Rotter (1966) had observed that the "internal" himself is likely to be resistant to influence, manipulation and coercion if these are not of benefit to him.

Mitchell, Smyser and Weed (1975) reported that externally controlled managers, when dealing with subordinates, were found to favor more formal and coercive power bases than "internal" managers. "External"

managers appeared to be favorably disposed to suggestibility, flexibility and conformity primarily when dealing with outside agents (Phares, 1973).

Not all the research has shown "externals" to exhibit only negative characteristics, however. A number of studies cite positive aspects in the attitudes of "externals" toward the environment. Hersch and Scheibe (1967) noted that, though "externals" view the world as controlling, they exhibit variations in attitudes toward the environment and do not all conform to the traditional negative perspectives of pessimism, alienation and low interpersonal trust, as reported by Rotter (1966) and Phares (1973). Some "externals" were found to appraise situations very realistically, and to be quite optimistic regarding favorable outcomes (Hersch & Scheibe, 1967).

Janzen, Beeken and Hritzuk (1973) reported findings that support this latter view of the "external". In a study of the internal-external behavior of teachers they found that "external" teachers endorsed student autonomy significantly more frequently than "internal" teachers. They suggested that some "external" teachers, though aware of the power that they hold in the classroom, are less worried about matters of personal control and thus are able to give greater consideration to the basic individuality and freedom of others. Summarizing their support for the positive aspects of external orientation, Janzen et al (1973) stated:

And it certainly is possible to contend that an external locus of control has positive aspects. These would include a more liberating attitude to interpersonal (and other) relationships, greater tolerance of chaotic and unpredictable situations, a more realistic appraisal of the nature of what influences us, and a much less overt desire for power.

Noting these past studies that show externally oriented people as tending to exhibit varying attitudes regarding control, Levenson (1973) reasoned that this was because not all "externals" believe only in chance, luck or fate. Levenson (1973) predicted that "externals" who believe the world is unordered (chance) would consistently behave differently than people who believe that the world is ordered, but controlled by powerful others. On that basis, Levenson (1973) proposed the modification of Rotter's (1966) scale to a tridimensional scale consisting of an 'internal' dimension, a 'powerful others' dimension and a 'chance' dimension. Findings from two studies that she conducted; one with normal adults, and one with mental patients, supported the validity of her tridimensional construct (Levenson, 1973:398).

Subsequently, studies by Walkey (1979) with 156 university undergraduates, and by Munro (1979) with black and white students in Zambia and Zimbabwe-Rhodesia, have served to provide empirical support regarding the validity of Levenson's (1972) tridimensional factor structure.

Collins (1974) on the other hand, suggested that locus of control orientation as determined by measures utilizing the original Rotter Internal-External Scale items was unidimensional. He furthermore determined that within the 'common theme' of the scale there were four discrete subscales.

Zuckerman and Gerbasi (1977) replicated Collins' (1974) study and reported similar findings. They predicted that variables that correlate with the Internal-External Scale would be more highly correlated with the 'difficult world' and 'predictable world' subscales, and that

authoritarianism and low social and political activity would be related to the 'just world' and 'politically responsive' subscales.

3. LEADER BEHAVIOR

Concepts of Leadership

Fiedler (1971) observed that there are nearly as many definitions of leadership as there are leadership theories. According to Pfeffer (1977) a major problem with the concept of leadership is the ambiguity surrounding its definition and measurement. To illustrate the extent of this ambiguity Barrow (1977:234) summarized the many views put forth regarding the meaning of leadership. Leadership is

...a) a focus of group processes; b) a set of personality characteristics; c) the act of inducing compliance; d) the exercise of influence; e) an act or behavior; f) a form of persuasion; g) a power relation; h) an instrument of goal achievement; i) an effect of interaction; j) a differentiated role, and k) the initiation of structure.

According to Hersey and Blanchard (1977:68) however, there is considerable agreement among management writers on the general definition of leadership as "the process of influencing the activities of individuals or groups in efforts toward goal achievement." This 'gist of meaning' is evident in the definitions of a number of theorists. Terry (1960:493) defined leadership as "the activity of influencing people to strive willingly for group objectives." Tannenbaum, Weschler and Massarik (1959) perceived leadership to be the interpersonal influence exercised in a given situation and directed through the communication process toward the attainment of a specialized goal or goals. Similarly, Koontz and

O'Donnell (1968:495) viewed leadership as the "influencing of people to follow in the achievement of a common goal."

Personality Trait Approach

A common concept of leaders, supported by much theoretical literature and research effort, is that they are individuals who are uniquely endowed with certain traits or characteristics that especially suit them for leadership roles (Creed, 1978). This concept suggests that those who possess these traits should be sought out for their leadership potential. In keeping with this view, it is implied that if means to identify and measure these leadership qualities could be developed, we should then be able to screen leaders from non-leaders. Leadership training could then be applied in order to improve the interpersonal skills of such people.

Typically, studies utilizing the 'trait' approach attempt to identify the personality traits that contribute to leadership ability and to define ways of measuring them. The end point of these studies is usually the identification of several traits that a good leader possesses.

Unfortunately the results of the numerous earlier 'trait' studies only tended to show that there were many traits to be considered so that a neat, simple relationship could not be found. Consequently, many writers tended to discount and discard this approach.

Gouldner (1965:23-25) concluded that the 'trait' approach was inadequate because "the lists of traits do not suggest which are most important or least important." Jennings (1961), having reviewed the earlier research, stated that fifty years of study had failed to produce

one personality trait or a set of traits that could be used to discriminate between leaders and non-leaders. Earlier, Stogdill (1948) stated that the usefulness of the personality traits approach for selecting individuals for leadership, or as a basis for a theory of leadership, was extremely limited due to low correlations obtained between lists of traits and group or individual performance. Gouldner (1965), Porter et al. (1975), Barrow (1977) and Hersey and Blanchard (1977) echoed this conclusion and suggested that a situational approach to the study of leadership was more appropriate (Owens, 1981).

On the other hand, however, other reviewers of the leadership literature such as Mann (1959) and Fiedler and Chemers (1974) concluded that individual personality attributes have been shown to be related to leadership. Stogdill (1974) concluded that in the face of situational change, the personal characteristics of the leader are highly stable.

Most recently, researchers such as King (1979), Weiner (1980) and Frasher and Frasher (1980), having had the benefit of another decade of situational leader behavior research, are once again emphasizing the need to look at the personality traits and characteristics of the leaders involved.

Group Dynamics Approach

A contrasting approach to the concept of leadership is that put forth by the group theorists. According to Cartwright and Zander (1953),

Leadership in a group incorporates two key ideas; 1) any member of a group may be a leader in the sense that his actions serve group functions and, 2) a given function may be served by many different behaviors so that the same person need not be the leader for all tasks.

A differentiation between formal and emergent leaders is made in group theory. The formal leader is appointed or elected, while the emergent or informal leader is the most influential person in the group regardless of his position in the organization. Homans (1959:188) stated that the man coming closest to conforming to group norms has "influence which implies the right to assume control of the group." Bavelas (1970:119) described leadership in a group in terms of "those acts which help the group to achieve its objectives and satisfy its needs." The members of the group who performed these acts were seen to emerge as the leaders.

The group theorists approach to leadership presents some problems, however. Olmsted (1959) stated that various group members perform many different functions, thus allowing the leader to attend only to crucial functions. But, according to Cartwright and Zander (1953), a fully satisfactory designation of those group functions peculiar to leadership has not been developed. Olmsted (1959) consequently suggested that rather than continuing to emphasize leadership it might be possible and advantageous to refocus on the concept of group organization and treat leadership as a general phenomenon of role differentiation.

Employee-Centered Studies

Utilizing the earlier Michigan studies as a starting point, Likert (1958) researched the general pattern of management evidenced by high producing managers in contrast to other managers. He found that the supervisors with the best records focussed primarily on the human aspects of their subordinates and endeavored to build effective work groups with high performance goals. He concluded that the ideal and most productive leader behavior for industry is employee-centered behavior. Yet according to Hersey and Blanchard (1977), Likert's (1958) findings raise questions as to whether an ideal or single good style of leadership can apply in all management situations, as in almost 35 percent of the low producing sections in his study the suggested ideal type of leader behavior produced undesirable results.

The Behavioral Approach

Whereas psychological studies of leadership have tended to look at personal traits associated with leadership, sociological studies focussed on aspects of the situation in which leadership is attempted. This led to what Owens (1981) describes as a trait-situation conflict reminiscent of the nature-nurture conflict that raged in psychological academia for a number of years. According to Owens (1981) this conflict has been superseded by behavioral approaches that focus on the actual performance of individual leaders in the organizational environment. Most notable of these is the seminal work done at the Ohio State University.

Behavioral studies initiated by the Bureau of Business Research at Ohio State University produced one of the earliest typologies of leader

behavior. Researchers Hemphill and Coons (1957) reduced a list of approximately 1800 items describing leader behavior to 150 items, and sorted them into nine hypothetical subscales to form the basis of the first Leader Behavior Description Questionnaire (LBDQ). After several factor analytic studies of the items, the description of leader behavior was narrowed down to the two orthogonal dimensions which accounted for most of the variance: 'Initiating Structure' and 'Consideration'. Halpin and Winer (1957:42) defined 'Initiating Structure' as behavior relating to the definition of relationships and roles, and the establishment of well defined patterns of organization within a group by a leader."

'Consideration' referred to the behavior indicative of respect, warmth, mutual trust and friendship. Though the two dimensions were separate and distinct, being rated highly on one of them did not necessarily mean a low rating on the other. The behavior of a leader could be any mix of both dimensions. Consequently, during the later studies leader behavior began to be plotted on two separate axes rather than on a single continuum. Four quadrants were developed to show various combinations of the two dimensions. Of the four quadrants the 'High Structure and High Consideration' quadrant was seen to be most indicative of effective leadership while the 'Low Structure and Low Consideration' quadrant indicated least effective leadership.

Using the LBDQ to measure the relationship between aircraft commander leadership patterns and the proficiency ratings of their crews, Halpin and Winer (1952) found that eight of ten commanders with high proficiency ratings were described as using above average 'Consideration' and 'Initiating Structure'. Halpin (1966) also studied the leader behavior of school superintendents and principals and reported a

remarkable similarity in the concepts of leader behavior to those he had found in his earlier Air Force studies.

According to Kerr et al (1974:63), Leader Behavior Description Questionnaire research has been worthwhile for the following reasons: a) the leadership scales are descriptive of behaviors which are readily identifiable and raters can agree on what behaviors were observed, b) the scales have a common sense look about them which is appealing to the practising manager, c) much normative data has been generated from the numerous studies that have used LBDQ and d) the scales have the advantage of having been factor analytically determined.

The most serious criticisms of LBDQ research, according to Korman (1966), stem from the failure of the studies to take into account situational variables and the lack of a conceptual base. Kerr et al (1974) responded to the first of these criticisms by reviewing the LBDQ literature which related behavior to situational variables and then developing situational propositions about leader behavior.

Criticism with respect to the lack of a conceptual base focussed on the factor analytic techniques employed to describe leader behavior dimensions. Stogdill (1974) stated that although factor analysis suggests two dimensions of leader behavior, it is erroneous to regard leader behavior within each cluster as indicative only of these unique patterns of behavior. Pfeffer (1977:105) stated that the "factor analytic procedure utilized tends to produce as many factors as the analyst decides to find."

The Managerial Grid

A normative approach to leadership that incorporates the findings of the Ohio State studies is the Managerial Grid approach developed by Blake and Mouton (1964). In the Managerial Grid four different types of leadership based on concern for production (task), and concern for people (relationships) are located in the four quadrants identified by the Ohio State studies. The Managerial Grid is an attitudinal model while the Ohio State framework is a behavioral model that examines actions as perceived by others. The result of the combination of the two, implies that the most desirable leader behavior embodies maximum concern for production with maximum concern for people.

Blake and Mouton (1964) later developed a training program to direct managers toward this latter desirable leader behavior style.

Tri-dimensional Approach

Having concluded that it was an oversimplification to claim that effective leadership is merely a matter of behaving in a highly considerate and structuring manner, Redden (1970) added an effectiveness dimension to Blake and Mouton's model; and Hersey and Blanchard (1977) produced a similar tri-dimensional model based on the behavioral dimensions of the earlier Ohio State model. However, in criticism of these effectiveness theories, Barrow (1977) and Pfeffer (1977) pointed out that the models leave little room for the leader's behavioral style to affect the work situation, and that there is surprisingly little evidence as to the magnitude of the effects of the leader behavior.

Leadership and Group Characteristics

Fiedler's (1967) Contingency Model and House's (1971) Path-Goal Theory of Leadership Effectiveness focus on a leadership process involving the interaction of leader, follower and situational variables.

The Contingency Model

The Contingency Model "leads to the major hypothesis that leadership effectiveness depends on the leader's style of interacting with his group members and the favorableness of the group-task situation" (Fiedler & Chemers, 1974:81). Fiedler (1967) found that leaders have more influence if leadership styles are matched to particular situations. Thus his Contingency Model directs leaders to modify their work situations rather than their leadership styles.

In the Contingency Model, situations are classified in terms of high, moderate, or low control depending on the favorability of the situation. The favorability of the situation is determined by:

- a) leader-member relations - the degree to which the group accepts and supports the leader;
- b) task structure - the extent to which the jobs are defined and specified;
- and c) position power - the degree to which the leader has the legitimate right to reward or punish.

In general a situation becomes more favorable as leader-member relations improve, the task becomes more structured and the leader's position power increases. Task oriented leaders perform best in very

favorable or unfavorable situations, while human relations-oriented leaders are most effective in moderately favorable situations.

Badcock (1980) utilized Fiedler's model in a study of Victoria high schools in Australia. His results indicated that principal-deputy principal partnerships, in which at least one of the two leaders was oriented toward task accomplishment, were more effective than combinations in which neither was oriented toward tasks. Conversely, combinations in which relationship orientation was absent were seen as more effective than combinations in which relationship orientation was present. Badcock (1980) concluded that further research concerning Fiedler's model was required.

Earlier, Graen et al (1971:205-210) had criticized the Contingency Model stating that; a) it is not clear regarding interpretation of scoring, b) non-significant directional findings have been used to support the theory, and c) support for the theory was gained by careful post hoc ordering of favorable data. Notwithstanding these criticisms, the Contingency Model continues to generate considerable interest and research.

Path-Goal Theory and Research

Path-Goal Theory differs from Contingency Theory in that it is concerned with specific leader behaviors rather than leadership style. According to Landy and Trembo (1976:367) leader behavior refers to "particular acts on the part of the leader; whereas leadership style refers to the underlying need structure of an individual that motivates behavior." Path-Goal Theory (House and Dessler, 1974) would confine

hypothesis testing to individual psychological states whereas Contingency Theory purports to measure leader effectiveness in terms of group performance.

In reviewing the Path-Goal Theory of Leadership, Creed (1978) stated that it makes a considerable contribution to the field of leadership effectiveness by adding to it in two significant ways. First, Path-Goal Theory takes into account specific situational factors. Second, it provides a conceptual base from which to explain why specific leader behaviors are most effective in given situations (Creed, 1978).

Initially, Path-Goal Theory studies were based on the two leader behavior dimensions 'Initiating Structure' and 'Consideration' as operationalized by the Hemphill and Coons (1957) LBDQ, or on the revised Stogdill (1963) instruments; LBDQ-XII and SBDQ (Supervisory Leader Behavior Questionnaire). However, Schriesheim and Von Glinow (1977) criticised the use of these instruments as tests of predictions of Path-Goal Theory because they felt that the instruments did not accurately operationalize the Theory's leadership constructs. Schriesheim and Kerr (1974) had previously examined the psychometric properties of the LBDQ, the SBQ and the LBDQ-XII and found that all but the LBDQ-XII had items that measured extraneous leader behavior dimensions.

Taking into account these criticisms, House and Dessler (1974:43) developed a three dimensional instrument called the "Instrumental Leadership Scale" for their test of leader behavior. Items selected to operationalize their dimensions--Instrumental, Supportive and Participative Leader Behavior were taken primarily from the LBDQ-XII questionnaire. The Instrumental Leader Behavior dimension was similar to

the 'Initiating Structure' scale of the LBDQ-XII but did not include items reflecting autocratic and punitive behavior. The Supportive Leader Behavior dimension, unlike in the LBDQ-XII, did not include participative items. The Participative Leader Behavior Dimension was specifically developed to reflect participative leader behavior.

4. LOCUS OF CONTROL AND JOB SATISFACTION

Locke (1969) stated that feelings of pleasure and displeasure, which are man's most basic emotions, are the result of perceived achievement or negation of man's individual values.

Locke (1969:316) defined a value as "that which one acts to gain and/or keep." For the individual the achievement of his values results in his experiencing satisfaction as a human being (Rice, 1978:15).

According to Herzberg (1976) and Goble (1976) the greatest feelings of satisfaction and fulfilment arise from an individual's work experiences. Goble (1976:30) stated that work could either enhance "human dignity and satisfaction of the soul" or could be a "burdensome imposition." Levinson (1970) maintained that work satisfaction was a major contributor to the growth and maintenance of an individual's psychological well-being. Similarly, Schoonmaker (1969) viewed work as a means by which man would satisfy his inner needs and maintain his security, identity and sense of relatedness. Thus according to Rice (1978:15), job satisfaction is "the reflection of the fulfilment of man's needs and the achievement of his goals".

Lawler (1973) presented a theoretical framework for job satisfaction based on the concept of satisfaction as need fulfilment. In his model, satisfaction is determined by the discrepancy between perceived rewards and perceived equitable rewards. Lawler (1973) stated that discomfort would arise if the level of reward was incongruent with what the individual felt he should receive. According to Lawler (1973) though overall job satisfaction was the sum of all aspects of the job, each aspect of the job would contribute differentially, with those aspects perceived to be most important contributing most to overall job satisfaction.

Studies by Evans (1973), Gemmill and Heisler (1972) and other researchers have shown that job satisfaction is related to locus of control orientation.

Evans (1973) found that the variable, Locus of Control, moderated feelings of job satisfaction. According to Evans (1973) "internals" derive more motivation from work rewards that are related to performance.

Gemmill and Heisler (1972) also examined the relationship of locus of control orientation to job attitudes. They found that the degree of job satisfaction reported by managers in a large corporation was related to belief in the degree of ability to control the work situation.

Organ and Greene (1974) conducted a survey involving scientists and engineers in an electronics firm. They too obtained results that showed that locus of control orientation was significantly related to job satisfaction as well as to job strain, with internals being more satisfied in their work and reporting less job strain. Runyon (1973) measured the locus of control orientation of 110 hourly employees of a large chemical

plant in order to determine whether job involvement and satisfaction were directly related to employee internality. He found that "internals" consistently showed greater work involvement than "externals" and were more satisfied with a participatory style of management (Runyon, 1973). Evans (1973) measured the relationship between internality-externality and job satisfaction. He found that "internals" expressed satisfaction with their jobs significantly more frequently than "externals".

More recently, Rice (1978) investigated the relationship between the locus of control orientation of school principals and their level of job satisfaction. His findings were that the "internal" group of principals scored significantly higher on overall job satisfaction than did the "external" group.

Similarly, Ryback and Sanders (1980) having studied student satisfaction in academic environments reported that greater student satisfaction correlated highly with internal locus of control, as measured by Rotter's (1966) Internal-External Scale.

5. LOCUS OF CONTROL AND INFLUENCING VARIABLES

Rotter (1966) stated that over time an individual's general tendency toward internality or externality strengthens or diminishes according to his experiences.

Situational factors said to contribute to the development of these tendencies include organizational policies and practices, the work itself, incentive systems (Lawler, 1973; Anderson, 1975) and personal and

social variables (Turner & Lawrence, 1965; Porter & Lawler, 1968; Wild & Dawson, 1976). This study focusses on three of these aspects, considered to be closely related to individual locus of control orientation.

1. Personal Variables

Age. Findings on the relationship between age and locus of control orientation indicate that increased age is associated with higher levels of internality. Runyon (1973) found that older chemical plant workers exhibited greater internal locus of control orientation. Similarly, Rice (1978) determined that internally oriented principals as a group, were significantly older than their external counterparts.

Sex. There appears to be no consistent evidence as to whether men and women in equivalent positions are similar or different in terms of locus of control orientation. In a study by Gordon (1977), locus of control in males was found to be related to grade point averages but not to high self-esteem scores while the reverse held true for females.

Milner and Tetu, Jr. (1979) studied the relationship between the sex of an administrator and the faculty's perceptions of that administrator's leadership. Their findings were that no substantial leadership behavior difference between the two sexes was perceived.

2. Professional Variables

Length of Administrative Experience. Rotter (1966) noted that greater job experience may be related to entrenchment of locus of control orientation as with increased experience an individual could be expected to form more stable perceptions regarding the sources of his beliefs.

A study conducted by Rice (1978) investigated the experiential differences between 'internal' and 'external' school principals.

Principals in the internal locus of control group were found to be predominantly the more experienced principals while those classified as "externals" consistently had fewer years of career experience.

Professional Training in Educational Administration. Otten (1977) reported that graduate students exhibiting an internal locus of control orientation excelled in academic achievement and were more likely to graduate within five years.

Evidence from Gurin et al (1978) indicates that feelings of ability to control (internality) are associated with higher educational levels. Gurin et al (1978) administered Rotter's Locus of Control Scale to a national sample of adults and found that high socioeconomic groups, characterized by higher levels of education and better jobs, exhibited greater feelings of mastery over their personal environment.

Breadth of Experience. Breadth of experience has been related to internal locus of control orientation in a study by Gemmill and Heisler (1972). In this study, managers in a large manufacturing company who were identified as "internals" were found to exhibit greater job mobility.

3. Organizational Variables

School Type. Research suggests that over time the nature of the school setting (elementary or secondary) influences a leader's belief regarding ability to control. Johnson and Weiss (1971) observed that elementary school principals may not be as closely linked to central office decision-making as are secondary principals.

Seaman and Carver (1975)* found that differences in attitudes between elementary and secondary principals were due to differences in faculty expectations and school organization. In an earlier Alberta study, Wilson (1968) found that elementary school principals viewed themselves as exercising very little influence on their board. Over time this feeling of being controlled by others should bring about a more external belief.

School Size No definitive evidence of the effects of school size on LCO appears to have been gathered. Hall (1972) stated that school size could be determined by the number of full time equivalent teachers. According to Gilbert (1976), the concerns of principals in large schools are more managerial while those of small school principals are more professional. Concerns common to small schools, according to Bumbarger and Ratsoy (1975) are program and resource adequacy, workload and less qualified and experienced teachers. The more direct exercise of control by the 'managerial' principals in secondary school could lead to higher internal LCO.

Type of Employing Authority. A number of studies show that the size of the organization exerts an influence on the feelings and beliefs of the individual. Hall (1972) found that greater feelings of stress and discomfort, resulting from depersonalization were evident in large organizations. Similarly Cummings and Berger (1976) determined that large size is related to impersonality, resulting in greater problems of control, coordination and communication. Given the greater problems of control encountered in large organizations, the principals in large school jurisdictions could be expected to develop greater LCO externality.

6. SUMMARY

In this chapter a review of the literature pertaining to the central concepts of this study; attribution theory, locus of control orientation, concepts of leadership, job satisfaction and demographic variables was provided.

First, an overview of attribution theory and its relationship to the locus of control variable was presented.

Then locus of control theory, as conceptualized by Rotter (1966), and the nature and extent of locus of control research, was reviewed. Predominantly the research tended to emphasize the positive nature of internality and to associate externality with negative or less desirable aspects of human behavior. "Internals" tended to exhibit behavior more compatible with individual accomplishment while "externals" were more likely to be satisfied with participatory work involvement.

Second, a review of the literature on concepts of leadership and leader behavior was conducted. Generally the study of leadership was shown to have moved through three major periods, as noted by Behling and Schriesheim (1976). In the first period, researchers focussed on individual traits as determiners of effective leadership. In the second period, the focus was placed on attempts to determine the major types of behaviors that leaders displayed on the job and their effects on group performance. The third period involved leadership as a function of the interaction among the leader, his subordinates and the situation. An integral part of the leadership review was the tracing of the development of the LBDQ as a measure of leader behavior from its origins in the Ohio State Studies to its recent modification by House and Dessler (1974).

Regarding job satisfaction, the results showed that "internals" expressed overall satisfaction with their jobs more frequently than "externals". "Internals" were found to exhibit greater intrinsic satisfaction; that is satisfaction from the work itself. "Externals" on the other hand gained more satisfaction from extrinsic rewards such as better wages and working conditions.

The relationship of locus of control orientation to selected individual variables was also reviewed. Herein the personal variables: age and sex, the professional variables: length and breadth of administrative experience and extent of educational training and the organizational variables: school size and type and size of employing authority were identified. Findings for these variables suggest that differences in locus of control orientation may be related in varying degrees to each of these variables.

CHAPTER 3
CONCEPTUAL DESIGN

The theoretical rationale for the study is provided in this chapter. A model of hypothesized relationships is presented and the variables selected for study are delineated. Following this an explication of terms is given, the statement of the problem is made, and the assumptions, delimitations and limitations are stated.

1. SYNTHESIS OF RELATIONSHIPS

As the review of the literature has shown, locus of control research strongly supports the position that the internal-external locus of control variable inherent in ascription of causality influences human behavior significantly and predictably. Individuals at the internal end of the locus of control continuum have been found to be more assertive, achieving, independent and controlling, while "externals" were seen as exhibiting variable views, but generally worrying less about personal control, and tending to favor extrinsic controls and rewards.

Regarding work attitudes "Internals" were more satisfied with their jobs, were more task oriented and felt less job strain than "externals". "Externals", on the other hand, were more satisfied with directive job supervision and preferred more coercive power bases in relations with "internals"; but exhibited greater suggestibility, attitude change and conformity when interacting with outside agents.

In addition, a number of individual variables have been shown to be related to locus of control orientation in a number of studies. Three

of these aspects that contribute to the development of locus of control orientation--personal aspects, professional aspects and organizational aspects were selected for further testing in order to determine their relationship if any, to the major variables under examination.

2. THEORETICAL MODEL

Conceptualization of Relationships

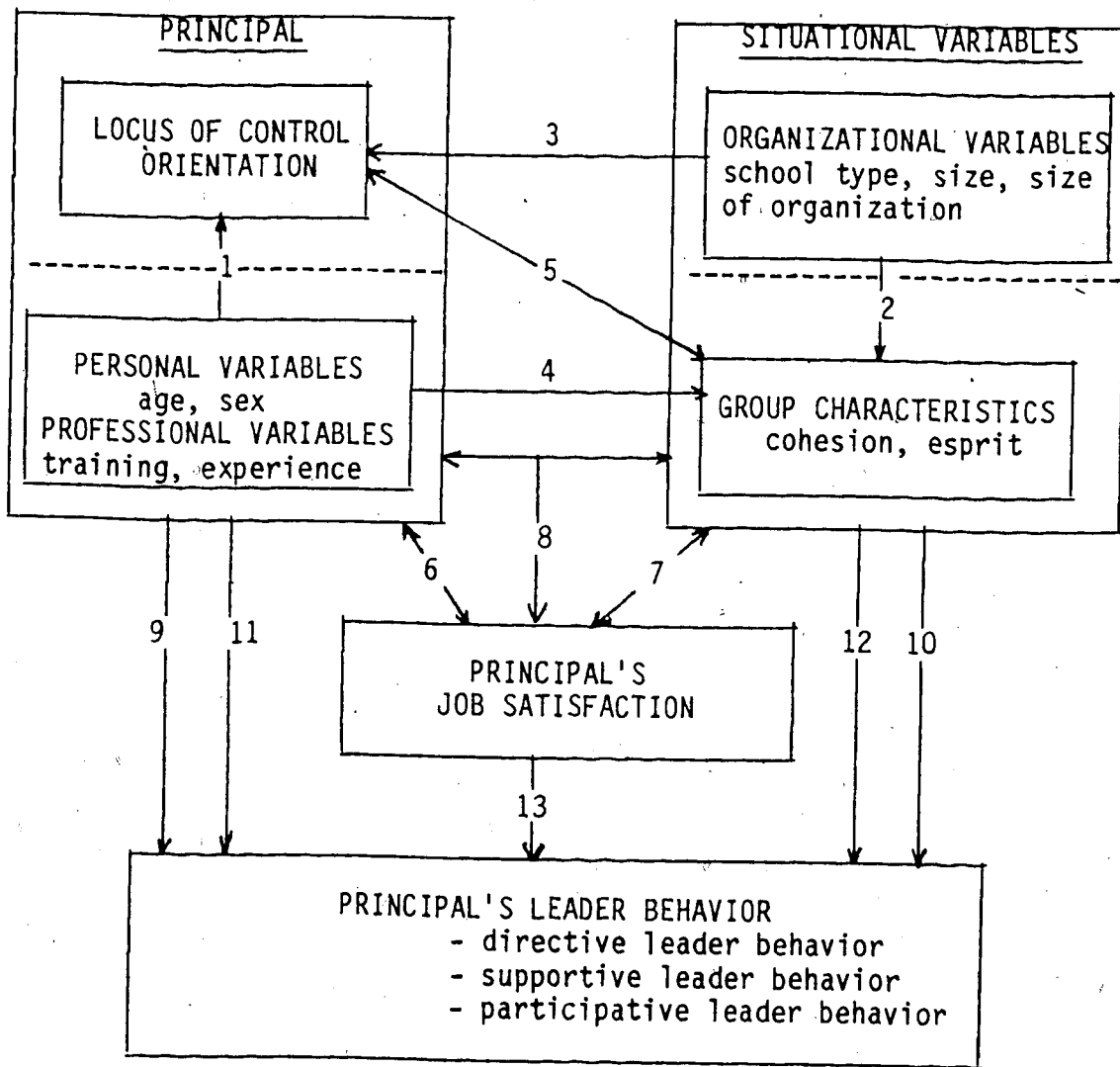


FIGURE 1. THEORETICAL FRAMEWORK

Relationships Selected for Study

The conceptual model (Figure 1) depicts a set of hypothesized relationships between concepts. A one-way arrow implies that one variable produces, causes or affects the other variable. A two-way arrow implies that each variable affects the other and is in turn affected by it.

Figure 1 reveals the complexity of the topic of interest. To maintain a manageable level of complexity this study will examine only the main effect relationships of arrows 1, 3, 6, 9. The significance of the findings will indicate the merits of further studies which might include the effects of group characteristics on LCO, leader behavior and job satisfaction. Thus as is shown in Figure 1 the following relationships may be hypothesized:

1. A principal's locus of control orientation (LCO) is related to his age, sex, training and experience (Arrow 1 in Figure 1).
2. Organizational variables are related to the principal's LCO (Arrow 3 in Figure 1).
3. The principal's job satisfaction is influenced by LCO and personal variables influence LCO (Arrow 6 in Figure 1).
4. The principal's leader behavior is related to LCO and personal variables (Arrow 9 in Figure 1).

3. EXPLICATION OF TERMS

Locus of Control Orientation. Locus of control orientation is defined as the tendency on the part of individuals to attribute the causes of events in life primarily to themselves (internal locus of control orientation), or primarily to outside forces such as powerful others, chance, luck or

fate (external locus of control orientation) (derived from Rotter, 1966:1).

Leader Behavior. The definitions of Directive Leader Behavior, Supportive Leader Behavior and Participative Leader Behavior are derived from House and Dessler (1974).

Directive Leader Behavior. Directive Leader Behavior is defined as leader behavior that involves the establishment of well-defined patterns of organization and the definition of relationships of roles within the group.

Supportive Leader Behavior. Supportive Leader Behavior is defined as leader behavior characterized by friendship, respect, mutual trust and warmth in relationships with subordinates.

Participative Leader Behavior. Participative Leader Behavior is defined as leader behavior where the leader allows subordinates to influence decisions by asking for suggestions and including subordinates in the decision-making process.

Job Satisfaction. The definitions of job satisfaction are derived from Wanous and Lawler (1972).

Intrinsic Job Satisfaction. Intrinsic Job Satisfaction is defined as the self- or task-mediated affective state experienced by a person during, or following the completion of a set of task behaviors.

Extrinsic Job Satisfaction. Extrinsic Job Satisfaction is defined as the affective state experienced by a person following the completion of a set of task behaviors wherein the affective state is regulated by a source external to the person and the immediate task.

Overall Job Satisfaction. Overall Job Satisfaction is defined as job satisfaction which is the sum of satisfaction across all facets of the job.

4. STATEMENT OF THE PROBLEM

The problems posed relate to the hypotheses derived from Figure 1 as stated in the 'Relationships Selected for Study.' The questions to be investigated are as follows:

Problem 1: Locus of Control and Leader Behavior (Relationship 4)

Question 1.1 Is there a significant relationship between principals' locus of control orientation and the 'directive' leader behavior dimension?

Question 1.2 Is there a significant relationship between principals' locus of control orientation and the 'supportive' leader behavior dimension?

Question 1.3 Is there a significant relationship between principals' locus of control orientation and the 'participative' leader behavior dimension?

Problem 2: Locus of Control and Job Satisfaction (Relationship 3)

Question 2.1 Is there a significant relationship between principals' locus of control orientation and 'intrinsic' job satisfaction?

Question 2.2 Is there a significant relationship between principals' locus of control orientation and 'extrinsic' job satisfaction?

Question 2.3 Is there a significant relationship between principals' locus of control orientation and 'overall' job satisfaction?

Problem 3: Locus of Control and Individual Variables (Relationships 1, 2)

Question 3.1 Is there a significant relationship between principals' locus of control orientation and their age?

Question 3.2 Is there a significant difference in locus of control orientation between male and female principals?

Question 3.3 Is there a significant relationship between principals' locus of control orientation and their length of administrative experience?

Question 3.4 Is there a significant relationship between principals' locus of control orientation and their breadth of administrative experience?

Question 3.5 Is there a significant relationship between principals' locus of control orientation and the extent of their administrative training?

Question 3.6 Is there a significant difference in locus of control orientation between elementary and secondary school principals?

Question 3.7 Is there a significant difference in locus of control orientation between principals of small and large schools?

Question 3.8 Is there a significant difference in the locus of control orientation of principals in different types of employing authorities?

5. ASSUMPTIONS

A general assumption made in this study concerns the data which will be used to measure the relationships. The individual background data will be largely factual and unambiguous; however, it must be assumed that the data dealing with observations, perceptions and attitudes will be a true reflection of the perceptions of the respondents and that the perceptions of the nature of the question will be uniform throughout the sample.

A second important assumption is that the sample groups exhibit normal population variance on all variables studied so that inferences regarding the general population, which the sample group purports to represent, may be drawn. Several provisos regarding this matter are recognized and warrant mention. Ferguson (1966:295) suggests that the assumptions made for most sets of real data are at best only "roughly satisfied".

Likewise, Glass (1971) points out that inferential statistical analysis is only an approximation, since a given population is never exactly the same as any other, nor is it even exactly the same as itself

over any period of time. Consequently, even descriptive statistics cannot be wholly accurate. With these two points in mind, the conclusions drawn from the findings of this study may justify the claim that they are generalizable to the population from which the random sample was obtained.

6. DELIMITATIONS

1. Locus of control orientation represents only one facet of a multi-faceted process with many other variables coming into play between the attribution of causality and individual behavior. This study will not attempt to determine the influence of other attributional variables on leader behavior.

2. The study is delimited to a population of principals and teachers within the Province of Alberta.

3. Though it is recognized that the I-E orientation of the teachers responding to the Leader Behavior Questionnaire may have an effect on their perceptions of the principals' behavior, their LCO will not be investigated in this study.

4. In recent years the concept of leadership has been studied predominantly from the effective/ineffective leader behavior perspective. In this study, however, no attempt will be made to determine whether the observed leader behavior is effective or ineffective during specific tasks or situations. This approach is in line with the views of several behavioral writers. Stogdill and Coons (1972:2) stated that "leadership should not be regarded as synonymous with good leadership". Similarly, Fiedler and Chemers (1974) held that when speaking of leader behavior we

are not speaking in terms of effectiveness unless we evaluate the leader behavior in terms of its effect on specific tasks or situations involved, as the behavior style may be deemed effective on one task or in one situation but ineffective on another task or in another situation. It is not the purpose of this study to test the merits of dimensions of leader behavior. This study was designed to determine the relationship between dimensions of leader behavior and the personality trait: locus of control orientation.

5. A delimitation resides in the instrumentation in this study. The variables studied are delimited to those dimensions as identified by the specific questionnaires selected to measure them.

7. LIMITATIONS

1. Internal-external locus of control orientation is but one of a large number of attributional variables of school principals which might have relevance for this study. In selecting the variable LCO, the study attempted to define a specific relationship which is thought to exist between this aspect of personal belief and behavior.

2. A limitation in this study resides in the distribution of the LBO to the 6 teachers in each school. Though the principal was directed to distribute the LBO systematically (1st, 3rd, 5th, 7th) to his teachers, no control as to the final system of distribution the principal utilized would be directly exercised by the researcher.

8. SUMMARY

In Chapter 3 research evidence supporting the need to continue to consider individual traits when studying leader behavior, along with a synthesis of the findings on the relationship of locus of control and the selected variables to individual behavior was presented.

In Figure 1, a framework for investigating the relationship of locus of control orientation and selected variables to leader behavior was outlined.

Next, specific relationships to be tested were identified.

Following this an explication of terms, the problem statement, the assumptions and the delimitations and limitations were given.

CHAPTER 4

RESEARCH DESIGN

1. INSTRUMENTATION

Selltiz et al, (1966) noted that on questionnaires respondents often feel freer to express unpopular or troublesome views than in interviews. Bohrnstadt (1967) found that the questionnaire approach to data collection was equal in reliability to the interview in eliciting job attitudes. A further advantage of the questionnaire method is that data can be gathered from a large, diverse sample and the anonymity of the respondents preserved. The above are important considerations in a correlational study such as this one; consequently, the questionnaire approach was chosen as the method of data collection in this study.

Two questionnaires were utilized to gather data from school personnel. One questionnaire entitled 'Principal's Questionnaire' was administered to principals. It included the following sections:

Section A: Personal Data

Section B: Satisfaction Scale

Section C: Personal Belief Scale

The second questionnaire was the Leader Behavior Questionnaire which was administered to teachers to gather data regarding their perceptions of the the leader behavior exhibited by their principal. The questionnaires are described below. A copy of each is included in Appendix A.

Principal's Questionnaire

Section A: Personal Data

Section A contains questions regarding the following characteristics of principals:

Personal: age, sex.

Professional: length and breadth of administrative experience, professional training.

Organizational: school type (elementary or secondary), school size, type of employing authority.

Section B: Satisfaction Questionnaire

The Minnesota Satisfaction Questionnaire: Short Form is based on the concept of satisfaction as "individual-need fulfillment" (Wanous and Lawler 1972:96). The Short Form of the MSQ was derived from a long instrument developed as a measure of degree of satisfaction with several different aspects of the work environment (Creed, 1978). Items in the short form are those with the highest correlations with the twenty scales in the long form.

Weiss, Dawis, England and Lofquist (1967) identified two major factors in the MSQ. The first factor labelled 'Extrinsic Satisfaction', accounting for 55 percent of the variance, is indicative of satisfaction with working conditions, supervision policies and practises, compensation and security. The second factor, accounting for the remaining items, is indicative of satisfaction derived from the work itself and is labelled 'Intrinsic Satisfaction'. Additionally, an overall satisfaction score is obtained by averaging twenty of the items on the MSQ (Johnson and Weiss,

1971:26). Thus the MSQ is viewed as a measure containing three satisfaction scales; Intrinsic Satisfaction, Extrinsic Satisfaction and Overall (general) Satisfaction.

Johnson and Weiss (1971) quote reliability coefficients for the MSQ as varying from 0.87 to 0.92 for different occupational groups. Weiss et al (1967) and Foley (in Buros, 1972:1494) have concluded that the research findings on MSQ lend support for the construct validity of the instrument as a "macro classifier of satisfaction."

Items numbered 5, 6, 12, 13, 14 and 19 make up the Extrinsic Satisfaction Scale. The remaining items, excepting items 17 and 18 comprise the Intrinsic Satisfaction Scale. As stated previously, all twenty items taken together make up the Overall Satisfaction Scale.

Section C: Personal Belief Scale

Rotter's (1966) Internal-External Locus of Control scale was designed to measure individual differences in generalized expectancy for internal-external control. It consisted of 29 question pairs including 6 filler items presented in a forced-choice format. Each of the 29 items provides the respondent with a pair of alternative statements which express a contrast in belief between internal and external control.

The Internal-External Scale (1966) has been validated in widely varying research situations (Joe, 1971). According to Robinson and Shaver (1975:229) over 50 percent of the locus of control orientation studies employed the Rotter (1966) scale and it is "still to be recommended as a measure of generalized internal-external expectancy."

Item and factor analyses for the I-E scale show a reasonably high internal consistency for an additive scale (0.69 to 0.73). Test-retest reliability, though not high, is consistent and deemed satisfactory (between 0.49 and 0.83) for varying samples and intervening time periods (Hersch & Schiebe, 1967).

The scale correlates at least satisfactorily with other methods used to assess the same variables such as Likert scale, questionnaire, interview assessments and story-completion technique ratings (Rotter, 1966).

Discriminant validity, as indicated by low correlations with such variables as intelligence (-0.11 to 0.01) and social desirability (-0.29 to -0.21), is reasonably high (Joe, 1971).

Evidence of the construct validity of the I-E scale is derived from predicted differences in behavior for individuals above and below the median of the scale and from correlations with behavioral data obtained from relevant studies (Hersch & Schiebe, 1967).

Maintaining that the forced-choice format of the scale inhibits factor identification, Collins (1974:384-385) converted the 23 forced-choice items into 46 Likert scale items. His subsequent correlational testing indicated that the 46 Likert scale items simulated the results obtained by the forced-choice scale, but were much more amenable to factor analysis since they did not require the respondents to choose between alternatives which were not necessarily symmetric.

Collins (1974) subjected the statements of his respondents to a principal components analysis and obtained loadings of at least 0.30 on all but 13 of the items. He stated that these substantial loadings on the

first factor along with the high variance of the first factor relative to the other factors, demonstrated the overall unidimensionality of the I-E scales. Upon performing varimax rotation, Collins (1974) furthermore determined that within the 'common theme' of the scale there were at least 4 discrete subsets each of which accounted for approximately one quarter of the total variance.

Zuckerman and Gerbasi (1977) replicated Collins' (1974) study and reported that Collins' suggestion that the I-E scale contains relatively independent factors in addition to the 'common theme' was supported by their data. They predicted that variables that reliably correlate with the overall I-E scale would be more highly correlated with the 'difficult world' and 'predictable world' factors and that authoritarianism and a low level of social and political activity would be related to the 'just world' and 'politically responsive world' factors.

Scoring of the Collins (1974) instrument requires the subtraction of the total individual scores on the 23 external items (1, 4, 6, 8, 9, 11, 13, 16, 18, 20, 22, 24, 25, 27, 29, 31, 33, 36, 37, 39, 42, 44, 45) from total individual scores on the 23 internal items (2, 3, 5, 7, 10, 12, 14, 15, 17, 19, 21, 23, 26, 28, 30, 32, 34, 35, 38, 40, 41, 43, 46) to determine a raw total individual belief score. As each item score can vary from 1 to 5, the raw score extremes for the 23 internal items can range from 23 to 115, as is the case for the external items. Thus the maximum range of the raw total individual scores, wherein the external item scores have been subtracted from the internal item scores is +92 to -92. However, in order to compensate for the possible omission of responses to some of the items on the questionnaire, the total raw score

of each individual is divided by the number of items responded to, producing a total mean score for each respondent. As there are 46 items in the Collins instrument, the maximum range of individual mean scores is +4.00 to -4.00. Positive total mean scores identify individuals as "internals" while negative overall individual scores identify those classed as "externals". The individual mean scores of all of the respondents are then plotted on a line to produce a continuum representative of locus of control (LOC) internality-externality in a given population sample.

In this study the Collins (1974) Likert format was utilized so that Rotter's (1966) forced-choice format could be simulated and additionally so that factor analytic results could be viewed in comparison to the factor analytic findings reported by Collins (1974) and Zuckerman and Gerbasi (1977).

The Leader Behavior Questionnaire

The Leader Behavior Questionnaire used in this study was developed by House and Dessler (1974). House and Dessler's factor analysis of the Leader Behavior Questionnaire produced three behavior scales namely: Instrumental (Directive) Leader Behavior, Supportive Leader Behavior and Participative Leader Behavior.

The Leader Behavior Questionnaire which is in essence a refined version of the LBDQ-XII, has higher content and concurrent validity and internal consistency and test-retest reliability than either the LBDQ or the SBDQ instruments (Creed, 1978). House and Dessler (1974) reported scale reliabilities to 0.80 for their three leadership scales on the LBQ.

Schriesheim and Von Glinow (1977) quoted reliabilities ranging from 0.78 to 0.89 for the House and Dessler Instrumental and Supportive Leadership Scales. Creed's (1978) factor loadings on the House and Dessler Leader Behavior Questionnaire, based on data obtained from school personnel, vary from 0.46 to 1.00 for the Participative dimension, 0.41 to 0.82 for his Achievement-Oriented dimension and an average of 0.73 for the Directive (Instrumental) dimension.

2. METHODOLOGY

The Sample

A list of all the schools in the province (excluding schools with a staff of less than one principal and 6 teachers) was obtained from Alberta Education. From this list an equal-size stratified random sample was drawn on the basis of type of employing authority (stratum), school type (elementary or secondary) and school size.

Though there are differences in the population sizes of each of the jurisdictions, the sample size of each was kept the same. According to Richards (1982), when groups are compared to see if differences exist, their sample sizes should be kept the same so that sub-groups in the smaller jurisdictions do not become too small. Slonim (1960:74) states that though it may appear "paradoxical", as a given population increases in size, the sample can remain "remarkably" constant and still result in a similarly high degree of precision.

Thus, a total sample of 192 schools (48 schools in each stratum, 12 schools in each sub-stratum) was obtained. Each of the principals of

the 192 schools was then asked to serve as a respondent to the 'Principal's Questionnaire' and to systematically select (1st, 3rd, 5th, 7th, etc.) six teachers on his/her staff as respondents to the Leader Behavior Questionnaire so that the total sample of respondents consisted of 192 principals and 1152 teachers.

The total sample of respondents, as stratified on the basis of type of jurisdiction (stratum), and school type and school size (sub-stratum) is illustrated in Figure 2.

	Elementary Schools (Grades 1 to 6)		Secondary Schools (Grades 7 to 12)	
	Small Schools (6 to 20 teachers)	Large Schools (21 or more teachers)	Small Schools (6 to 25 teachers)	Large Schools (26 or more teachers)
Large Urban (250 or more teachers)	12 principals 72 teachers	12 72	12 72	12 72
Small Urban (Under 250 teachers)	12 72	12 72	12 72	12 72
Large Rural (250 or more teachers)	12 72	12 72	12 72	12 72
Small Rural (Under 250 teachers)	12 72	12 72	12 72	12 72

FIGURE 2. SAMPLE STRATIFICATION

Sampling Procedure

Permission to distribute questionnaires was obtained from the Division of Field Services, University of Alberta and from the school jurisdictions involved.

A coded packet containing the Principal's Questionnaire, envelope for the completed questionnaire and six teacher packets, along with a covering letter and a stamped, addressed return envelope was mailed to each principal. The principal was asked to complete his portion of the packet and to distribute, to the systematically selected (1st, 3rd, 5th, etc.) teachers, a packet which contained a covering letter, a Leader Behavior Questionnaire coded for identification with the principal and an envelope for the completed questionnaire. The teachers and principal were instructed to return their completed questionnaires, sealed in the envelope provided, to the secretary of the school for return mailing.

Respondents Rate of Return

The rate of return was calculated by first determining the number of the total response and subtracting from this total the number of unusable responses obtained from the number of usable responses. The number of usable responses was then compared to the total potential sample size to determine the net percentage of responses.

Responses were received from a total of 149 schools, yielding a 76.6% total return. Of this total, 17 returns were deleted as they were incomplete due to absence of principal or teacher portions of the return packet, leaving 132 (68.8 percent) usable responses. The frequency and percentage distribution of rate of return for each stratum is presented in Table 1.

Though the rate of return of the 'Small Rural' stratum was slightly higher than those of the other three strata, no great variation in the percentage of returns among the strata was obtained.

Kerlinger (1964:397) identified two defects that might occur when a mail questionnaire is used in research. These are a potential lack of sufficient responses and an inability to validate the responses provided. Since valid generalizations cannot be made from low returns, the first of these potential defects was explored further to determine possible implications for this study. The issue here is what is an adequate percentage of return. Hopkins (1976:147) felt that fifty percent was adequate for analysis and reporting; sixty percent was good, and seventy percent was very good. Kerlinger (1964:397) on the other hand, stated that at least 80 percent return is necessary and failing this, effort should be made to learn something of the characteristics of the

non-respondents.

Since in this study, the response rate was approximately 69 percent it was decided that information relevant to possible response bias should be obtained. First, information to this effect was gained by letter and telephone contact with several of the non-respondents. Here indications were that the lower rate of return was due primarily to two factors; 1) a notable lack of interest in questionnaires in general, and 2) fears that data from the study were, or could be linked to a personal or school evaluation.

Also, Hopkins (1976:148) had stated that to resolve the questions of bias a comparison of answers gained from early respondents with those of late respondents should be made, the assumption being that the responses of the late respondents might be much like those of the non-respondents. So a comparison of ten of the earliest returns with ten of the last returns was made. This revealed no substantial differences in mean scores on the Personal Belief Scale and the Leader Behavior Questionnaire. The conclusion drawn was that the response bias in this study was minimal.

Table 1
Frequencies and Percentage Distribution of Rate
of Return by Stratum (Type of Jurisdiction)

Stratum (Type of Jurisdiction)	Total Sample			Rate of Return		
	Principals f	Teachers f	%	Principals f	Teachers f	%
Large Urban	48	288	100	32	192	68.3
Small Urban	48	288	100	33	198	68.8
Large Rural	48	288	100	30	180	62.8
Small Rural	48	288	100	37	222	77.0
Totals	192	1152	100	132	792	68.8

3. STATISTICAL ANALYSIS PROCEDURES

Analysis of the data was carried out utilizing statistical techniques from the Statistical Package for the Social Sciences (SPSS:1970) program. Factor Analysis (oblique and varimax rotations) was performed to test the stability of the scoring procedures for each of the questionnaires. Pearson Product-Moment Correlation coefficients and Analysis of Variance (t and F tests) were computed to determine if statistically significant relationships among the variables or significant differences between groups existed.

Factor Analysis

The responses of the school personnel on the Leader Behavior Questionnaire, the Satisfaction Questionnaire and the Belief Scale (Rotter's I-E Scale - Collins format) were subjected to factor analysis to

extract common factor variances and to determine the stability of the factor solutions.

Leader Behavior Questionnaire. On the Leader Behavior Questionnaire a decision to adopt the oblique factor solution was made after factor matching the factor solution reported by House and Dessler (1974:46-47) with the solution obtained in this study. Whether the factor pattern obtained from school personnel was similar to that obtained by House and Dessler was a key concern, since the questions to be tested in this study were based on the leader dimensions developed from House and Dessler's factor solution and since Creed (1978) had reported results differing from those of House and Dessler.

The Oblique Procrustes factor analysis technique was employed to rotate the oblique solution derived in this study (see Table 42, Appendix E). The relationship between the oblique solution in this study and House and Dessler's oblique solution was then determined from the normalized matrix used to obtain the factor matched solution. Table 45 in Appendix E reports the correlation obtained in this matrix.

The transformation matrix indicates high correlations between House and Dessler's Instrumental (Directive) dimension and the second factor obtained in this study, House and Dessler's Participative dimension and factor three in this study, and House and Dessler's Supportive dimension and factor one.

Given the high correlations obtained, the conclusion was made that the underlying factor structure derived from the responses of the school principals in this study satisfactorily matched the factor solution

obtained by House and Dessler, and the oblique factor solution was adopted for this study.

Satisfaction Questionnaire. On the Satisfaction Questionnaire the oblique factor solution obtained from data in this study was checked for 'goodness of fit' in terms of the major factors identified by Weiss et al (1967) and found to be highly similar. Weiss et al's (1967) three scale format was therefore adopted as an appropriate scoring procedure for the Satisfaction Questionnaire responses in this study.

Belief Scale. Although the Belief Scale (Rotter's Internal-External Scale - Collins' adaption) was scored according to the scoring format prescribed by Collins (1974:383), two and four factor analysis was also performed, in order to gather further statistical data on meaningful factors in the I-E scale, in the light of the factor analytical findings reported by Levenson (1973) and Walkey (1977) and Collins (1974) and Zuckerman and Gerbasi (1977). Factor analysis confirmed the appropriateness of the Collins (1974) internal-external scoring solution but did not support the existence of his four subscales within the 'common theme' of the scale.

Tables 26, 27, 28 and 29 in Appendix C report the factor analysis solutions obtained for the instruments utilized in this study.

Pearson Product-Moment Correlation

Pearson Product-Moment Correlation Coefficients were calculated to determine if statistically significant correlations existed between the

continuous variables under study. The relationships of locus of control orientation to: dimensions of leader behavior, aspects of job satisfaction and the individual variables; age, length and breadth of administrative experience and extent of administrative training were thus examined. A .05 level of probability was established as indicating a significant relationship.

Analysis of Variance

One-way analysis of variance was employed to test for differences between principals grouped on locus of control orientation by Median Split and dimensions of leader behavior and aspects of job satisfaction, in the event that their relationships might not be linear. The ANOVA method was also used to determine the degree of difference between the category means of the non-continuous demographic variables: sex, school type, school size and type of jurisdiction.

Where the one-way analysis provided an F which was statistically significant beyond the .05 level, the Scheffe procedure was applied to locate the differences contributing to the ANOVA results. As this procedure is deemed "rigorous", the significance level for it was set at .10 (Ferguson, 1971:271).

4. SUMMARY

In this chapter the two questionnaires used to measure locus of control orientation, leader behavior, job satisfaction and items used to

gather individual data were discussed. The 'Principal's Questionnaire' was arranged into three sections, namely Personal Data, Satisfaction Scale and Personal Belief Scale. The 'Leader Behavior Questionnaire' was administered separately to teachers to gather data on the leader behavior of their principals. Descriptions of the scales, including their reliability and validity ratings were presented. These suggested that the instruments were appropriate for use in this study.

Then information regarding the population to be sampled, along with sampling procedure was presented.

Next, data on rate of return was given. The number of usable responses was 132 out of a total of 192 solicited, for a percentage response rate of approximately 69 percent. Subsequent checking for response bias was done and it was determined that bias was minimal.

Finally the statistical analysis procedures were outlined. Three major statistical techniques utilized to analyze the data obtained were described. These were: Factor Analysis, Pearson Product-Moment Correlation and Analysis of Variance.

CHAPTER 5 THE RESPONDENTS

Three major categories of independent individual variables were incorporated into this study. These were identified as: personal variables, professional variables and organizational variables. Of the 132 principals who responded, grouping on the basis of these variables was as follows:

1. PERSONAL VARIABLES

The frequency and distribution of the personal variables of the respondents is illustrated in Table 2.

Age

Of the 132 principals who responded, approximately 37 percent were 30-39 years of age, 39 percent were 40-49, 22 percent were 50-59, and 2 percent were 60 and over.

Sex

The ratio of females to males was around 1 to 9. Males made up 89 percent of the total and females made up 11 percent.

2. PROFESSIONAL VARIABLES

The frequency and distribution of the professional variables is reported in Table 3.

Table 2

Frequency and Percentage Distribution of the
Personal Characteristics of the Principals

Variables	f	Total %
Age		
30 - 39	48	36.6
40 - 49	51	38.9
50 - 59	29	22.1
60 and over	3	2.3
Sex		
Female	15	11.4
Male	117	88.6

Length of Administrative Experience

Total years of experience in administration was divided into six categories. These were as follows: 1 year or less, 7.6 percent; 2-4 years, 17.4 percent; 5-9 years, 31.8 percent; 10-14 years, 15.9 percent, 15-19 years, 13.6 percent and; 20 or more years, 13.6 percent.

Breadth of Administrative Experience

Approximately 58 percent of the principals had no administrative experience outside their present jurisdiction. Seven percent had 1 year experience. Twelve percent had 2 years experience. Ten percent had 3 years. Around 7 percent had 10-14 years experience. Five percent had 15-19 years, and 2 percent had 20 or more years experience.

TABLE 3

Frequency and Percentage Distribution of the
Professional Variables of the Principals

Variable	f.	Total %
<u>Length of Administrative Experience (in years)</u>		
0 - 1	10	7.6
2 - 4	23	17.4
5 - 9	42	31.8
10-14	21	15.9
15-19	18	13.6
20 or more	18	13.6
<u>Breadth of Administrative Experience (Yrs. of Experience outside present jurisdiction)</u>		
0	77	58.3
1 year	9	6.8
2 - 4	16	12.1
5 - 9	13	9.8
10-14	9	6.8
15-19	6	4.5
20 or more	2	1.5
<u>Training in Educational Administration</u>		
No graduate courses	34	26.0
Some graduate courses	37	28.2
Graduate Diploma	18	13.7
M. Ed.	41	31.3
Ph. D.	1	0.8

Training in Educational Administration

Just over one quarter (26 percent) of the principals had no graduate courses in administration. Approximately 28 percent had taken some graduate courses. Fourteen percent held a graduate diploma in administration. Thirty-one percent held an M. Ed., and just under 1 percent held a Ph. D.

3. ORGANIZATIONAL VARIABLES

The specific frequency and percentage distributions of the organizational variables are given in Table 4.

School Type

Respondents were grouped on the basis of whether they were principals of elementary (K-6) or secondary (grades 7-12) schools. Approximately one-half of the respondents came from elementary schools and one-half from secondary schools.

School Size

Respondents were also grouped according to school size. Small elementary schools were those having 6-20 teachers. Large elementary schools were those with 21 or more teachers. Small secondary schools were those having 6-25 teachers while large secondary schools had 26 or more teachers. The representation of respondents from each of these four school groupings was notably consistent with each group comprising approximately one quarter of the total respondents.

Type of Employing Authority

Of the 132 respondents, 24.2 percent came from 'Large Urban' (250 or more teachers) jurisdictions. Twenty-five percent came from 'Small Urban' (under 250 teachers) jurisdictions. Approximately 23 percent came from 'Large Rural' (250 or more teachers) jurisdictions, and 28 percent came from 'Small Rural' (under 250 teachers) jurisdictions.

TABLE 4

Frequency and Percentage Distribution of the Organizational Variables of the Respondents

Variable	f.	Total %
School Type		
Elementary	67	50.8
Secondary	65	49.2
School Size		
Small Elementary (6-20 teachers)	36	53.7
Large Elementary (21 or more teachers)	31	46.3
Small Secondary (6-25 teachers)	31	47.7
Large Secondary (26 or more teachers)	34	52.3
Type of Employing Authority		
Large Urban (250 or more teachers)	32	24.2
Small Urban (Under 250 teachers)	33	25.0
Large Rural (250 or more teachers)	30	22.7
Small Rural (Under 250 teachers)	37	28.0

4. SUMMARY

In this chapter the personal, professional and organizational variables tested were described. These variables were subjected to

analysis in order to determine their relationship to locus of control orientation.

Of the 132 principals who responded to the questionnaire approximately 75 percent were under 50 years of age and 90 percent were males.

An examination of the professional variables employed revealed that just over one half (56.8 percent) of the principals had 9 or less total years of administrative experience. About 58 percent had no experience outside their present jurisdiction. In terms of training in educational administration, just over one-quarter (26 percent) had taken no graduate courses in administration, 28 percent had some graduate courses, 14 percent held a graduate diploma, and 31 percent held an M. Ed. Just under 1 percent held a Ph. D.

The principals were also grouped on three organizational variables. On school type, approximately one half of the respondents were elementary school principals (gr. K-6) and one half were secondary school principals (gr. 7-12). On grouping according to small (6-20 teachers) or large (21 teachers and over) elementary schools and small (1-25 teachers) or large (26 teachers and over) secondary schools, the representation of principals was fairly similar with each group comprising approximately one-quarter of the total number of respondents. Of the four types of employing authority: Large Urban (250 or more teachers), Large Rural (250 or more teachers), Small Urban (less than 250 teachers), and Small Rural (less than 250 teachers), each type (stratum) consisted of approximately one-quarter of the total sample.

CHAPTER 6

ANALYSIS OF THE DATA

In this chapter the results of the scoring and statistical analysis of the data are presented and the findings regarding the questions posed are reported. The problems are presented in the order established in the 'Statement of the Problem' in Chapter 3.

In Problem 1 the findings regarding the relationship of locus of control orientation to the leader behavior dimensions; directive leader behavior, supportive leader behavior, and participative leader behavior are reported.

In Problem 2 the relationship of locus of control orientation to the 3 aspects of job satisfaction; intrinsic satisfaction, extrinsic satisfaction and overall satisfaction is presented.

For Problems 1 and 2 the locus of control data were grouped in two different ways in order to study their relationship to leader behavior and job satisfaction. First a continuous LCO scale was utilized to see if linear correlations would be evident. Second, the LCO continuum was divided into two groups by Median Split, to facilitate further testing in the event that non-linear relationships might exist.

Pearson Product-Moment Correlation coefficients were computed to measure the extent of the correlations between the continuous variables. One-way analysis of variance was employed to test for differences between the LCO groups on dimensions of leader behavior and on aspects of job satisfaction.

Problem 3 presents the findings regarding the relationship of principals, classified according to individual variables, to locus of control orientation.

Pearson Product-Moment Correlation was utilized to determine the relationships between locus of control orientation and the individual variables; age, length and breadth of administrative experience and extent of administrative training. Analysis of variance was used to determine if significant differences in locus of control orientation among the means of groups identified by sex, school type, school size, and type of employing authority would be evident.

Finally, an overview of the findings is presented in the summary.

1. RESULTS

The Locus of Control Data

Internal-external locus of control orientation, referred to in the research problems formulated for testing in this study, was operationalized in Likert format as adapted by Collins (1974:384-385). As previously described in Chapter 4, Section C under 'Personal Belief Scale', the Collins scale identifies 23 internal items and 23 external items, which when combined by subtraction produce a locus of control orientation score. This score, when divided by the total number responded to, yields an individual mean score on locus of control orientation which can then be plotted on a line to obtain an LCO continuum.

Scoring of the Personal Belief Scale data, obtained from the respondents in this study in this manner, yielded the following results. Of the 132 respondents, 128 had total LCO mean scores above zero, thus identifying them as "internals". Only 3 had total mean scores below zero, categorizing them as "externals". The range of the mean scores above zero for the "internals" was from 0.04 to 1.87, a distance of 1.83 (a range of 0 to 4.00 is theoretically possible). The range of the mean scores of the 3 "externals", however, was -0.08 to -0.185, a distance of only 0.105 (0 to -4.00 is possible). Thus, not only was the external group comparatively small, but also their deviation from zero internality-externality was notably slight, being approximately 16.5 times less than that of the internal group. Consequently, it should be noted that the locus of control orientation continuum derived from this population sample contained at best an extremely weak and tenuous representation of externality, and at worst no group representative of external locus of control orientation.

The frequency distribution of the responses to the LCO Belief Scale is presented in Table 5.

TABLE 5

FREQUENCY DISTRIBUTION FOR TOTAL BELIEF SCORES ON THE
COLLINS FORMAT LOC BELIEF SCALE (N=132)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
-0.185	1	0.8	0.8
-0.109	1	0.8	1.5
-0.087	1	0.8	2.3
0.0	1	0.8	3.0
0.040	1	0.8	3.8
0.051	1	0.8	4.5
0.136	1	0.8	5.3
0.159	1	0.8	6.1
0.170	1	0.8	6.8
0.205	1	0.8	7.6
0.221	1	0.8	8.3
0.263	1	0.8	9.1
0.281	1	0.8	9.8
0.293	1	0.8	10.6
0.333	1	0.8	11.4
0.341	1	0.8	12.1
0.342	1	0.8	12.9
0.355	1	0.8	13.6
0.370	1	0.8	14.4
0.375	1	0.8	15.2
0.382	1	0.8	15.9
0.386	1	0.8	16.7
0.400	1	0.8	17.4
0.415	1	0.8	18.2
0.426	1	0.8	18.9
0.428	1	0.8	19.7
0.457	1	0.8	20.5
0.469	1	0.8	21.2

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
0.495	1	0.8	22.0
0.511	1	0.8	22.7
0.514	1	0.8	23.5
0.547	1	0.8	24.2
0.549	1	0.8	25.0
0.558	2	1.5	25.8
0.601	1	0.8	27.3
0.630	1	0.8	28.0
0.634	2	2.3	28.8
0.646	1	0.8	29.5
0.641	1	0.8	31.8
0.643	1	0.8	32.6
0.679	1	0.8	34.8
0.681	1	0.8	35.6
0.685	1	0.8	36.4
0.687	1	0.8	37.1
0.688	1	0.8	37.9
0.694	1	0.8	38.6
0.719	1	0.8	39.4
0.725	1	0.8	40.2
0.726	2	1.5	41.7
0.730	1	0.8	42.4
0.732	1	0.8	43.2
0.761	1	0.8	43.9
0.764	2	1.5	45.5
0.766	1	0.8	46.2
0.768	1	0.8	47.0
0.744	1	0.8	47.7
0.795	1	0.8	48.5
0.808	1	0.8	59.2

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
0.810	1	0.8	50.0
0.813	1	0.8	50.8
0.815	1	0.8	51.5
0.819	1	0.8	52.3
0.837	1	0.8	53.0
0.841	1	0.8	53.8
0.846	1	0.8	56.1
0.850	1	0.8	56.8
0.851	1	0.8	57.6
0.855	1	0.8	58.3
0.857	1	0.8	59.1
0.859	1	0.8	59.8
0.889	1	0.8	60.6
0.891	1	0.8	61.4
0.895	1	0.8	62.1
0.899	2	1.5	63.6
0.935	1	0.8	64.4
0.937	1	0.8	65.2
0.940	1	0.8	65.9
0.945	1	0.8	66.7
0.971	1	0.8	67.4
0.975	1	0.8	68.2
0.976	2	1.5	69.7
0.984	1	0.8	70.5
0.991	2	1.5	72.0
1.013	1	0.8	72.7
1.025	1	0.8	73.5
1.027	1	0.8	74.2
1.056	1	0.8	75.0
1.058	1	0.8	75.8

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
1.062	3	2.3	78.0
1.063	1	0.8	78.7
1.065	1	0.8	79.5
1.092	1	0.8	80.3
1.103	1	0.8	81.1
1.111	1	0.8	81.8
1.114	1	0.8	82.6
1.150	1	0.8	83.3
1.152	1	0.8	84.1
1.154	1	0.8	84.8
1.248	1	0.8	85.6
1.275	2	1.5	87.1
1.313	1	0.8	87.9
1.317	1	0.8	88.6
1.361	1	0.8	89.4
1.368	1	0.8	90.2
1.408	1	0.8	90.9
1.413	1	0.8	91.7
1.486	2	1.5	93.2
1.543	1	0.8	93.9
1.556	1	0.8	94.7
1.574	1	0.8	95.5
1.611	1	0.8	96.2
1.649	2	1.5	97.7
1.703	1	0.8	98.5
1.743	1	0.8	99.2
1.870	1	0.8	100.0
Mean	0.807	Median	0.811

The Leader Behavior Data

All twenty-two of the items of the Leader Behavior Questionnaire were included in the factor analysis performed to obtain measures of the factors; Directive Leader Behavior, Supportive Leader Behavior and Participative Leader Behavior. The weighting of each item in their respective dimensions was thus represented by the factor loadings obtained in the oblique factor solution. Utilization of all of the twenty-two items in the calculation of the factor scores--"the complete estimation method" (Nie et al, 1975:488) was made since including only those items with substantial loadings would not allow the items with lower loadings to affect the scale. In the complete estimation method these items are viewed as potential suppressors which through their intercorrelations with high loading items provide the best estimate of a given factor (Creed, 1928).

In this solution all but one of the items loaded higher than 0.40 on one of the 3 factors, with 3 items loading higher than 0.40 on two factors. The oblique factor solution from data in this study was consistent with the oblique factor solution reported by House and Dessler (1974) and so was adopted in this study. Tables 41 to 43 in Appendix E present the oblique factor solutions discussed.

Adoption of the oblique factor solution meant that the factors obtained would not be independent nor orthogonal. Pearson correlation computation between the labelled factors confirmed that the intercorrelation between them was substantial. Table 44 in Appendix E indicates the correlations between these factors. The frequency distributions of the responses to the Leader Behavior Questionnaire are reported in Tables 35 to 37 in Appendix D.

Problem 1: Locus of Control and Leader Behavior

Question 1.1

"Is there a significant relationship between principals' locus of control orientation and the 'directive' leader behavior dimension?"

No relationship between these two variables was evident.

1. Pearson Product-Moment Correlation analysis revealed no significant correlation between the 'directive' leader dimension and locus of control orientation. Table 6 presents the correlation coefficient and probability obtained.

TABLE 6

Pearson Product-Moment Correlation Between
LCO and Directive Leader Behavior

	Locus of Control Orientation	
Directive Leader Behavior	$r = 0.02$	$p = 0.43$

2. One-way analysis of variance indicated no significant differences on 'directive' leader behavior between the means of the groups categorized as 'Higher Internals' and 'Lower Internals' by Median Split. Table 7 presents the ANOVA results obtained.

TABLE 7

One-Way Analysis of Variance Between LCO Groups
on Directive Leader Behavior

LCO Groups	M	S.D.	t	p
Group 1 - Lower Internals	3.726	0.446	-0.53	0.59
Group 2 - Higher Internals	3.764	0.385		

Question 1.2

"Is there a significant relationship between principals' locus of control orientation and the 'supportive' leader behavior dimension?"

No relationship between these variables was evident.

1. There was no significant correlation between LCO and 'supportive' leader behavior. Table 8 presents the correlation coefficient and probability obtained

TABLE 8

Pearson Product-Moment Correlation Between
LCO and Supportive Leader Behavior

	Locus of Control Orientation	
Supportive Leader Behavior	r = 0.07	p = 0.20

2. The difference in the means between the two Median Split LCO groups on 'supportive' leader behavior was not statistically significant. Table 9 presents the ANOVA results obtained.

TABLE 9

One-Way Analysis of Variance Between LCO Groups
and Supportive Leader Behavior

LCO Groups	M	S.D.	t	p
Group 1 - Lower Internals	3.950	0.489	-1.02	0.31
Group 2 - Higher Internals	4.035	0.466		

Question 1.3

"Is there a significant relationship between principals' locus of control orientation and the 'participative' leader behavior dimension?"

The analysis revealed no significant relationship between these two variables.

1. Pearson Correlation analysis results indicated no significant relationship between LCO and 'participative' leader behavior. Table 10 presents the correlation coefficient and probability obtained.

TABLE 10

Pearson Product-Moment Correlation Between
LCO and Participative Leader Behavior

	Locus of Control Orientation	
Participative Leader Behavior	$r = 0.04$	$p = 0.33$

2. Analysis of Variance indicated no significant differences on 'participative' leader behavior between the means of the LCO groups

categorized by Median Split. Table 11 presents the ANOVA results obtained.

TABLE 11
One-Way Analysis of Variance Between LCO Groups
on Participative Leader Behavior

LCO Groups	M	S.D.	t	p
Group 1 - Lower Internals	3.642	0.457	-1.16	0.25
Group 2 - Higher Internals	3.736	0.470		

The Job Satisfaction Data

Factor analysis was performed on the Satisfaction Questionnaire in order to ascertain the 'goodness of fit' between factor loadings obtained from data in this study and the factor structure reported by Weiss et al (1967:22). Comparison of the item loadings indicated approximately 75 percent agreement between Weiss et al's solution and the oblique solution obtained from school principals in this study. Factor 2, which accounted for 18 percent of the total variance, was similar to Weiss et al's scale labelled Intrinsic Satisfaction. Factor 1, with 82 percent of the variance was similar to Weiss et al's scale labelled Extrinsic Satisfaction. The Overall Satisfaction scale was obtained by summing all of the items on the questionnaire. The oblique factor solution is presented in Table 26 of Appendix C. The frequency distributions of the responses to the Satisfaction Questionnaire (Minnesota Satisfaction Questionnaire-Short Form) are presented in Tables 38 to 40 of Appendix D.

Problem 2: Locus of Control and Job Satisfaction

Question 2.1

"Is there a significant relationship between principals' locus of control orientation and intrinsic job satisfaction?"

Data analysis indicates that LCO (internality) is directly associated with intrinsic job satisfaction.

1. The Pearson Product-Moment Correlation coefficient between locus of control orientation and intrinsic job satisfaction was significant beyond the .05 level of confidence. Table 12 presents the correlation coefficient and probability obtained.

TABLE 12

Pearson Product-Moment Correlation Between LCO and Intrinsic Job Satisfaction

		Locus of Control Orientation
Intrinsic Job Satisfaction	r =0.19	p =0.02*

* significant beyond the .05 level of probability

2. When differences on intrinsic job satisfaction between the means of the two LCO groups identified by Median Split were examined, the mean of the 'Higher Internal' group was significantly higher than the mean of the 'Lower Internal' group in intrinsic job satisfaction. Table 13 presents the ANOVA results obtained.

TABLE 13

One-Way Analysis of Variance Between LCO Groups
on Intrinsic Job Satisfaction

LCO Groups	M	S.D.	t	p
Group 1 - Lower Internals	3.982	0.356	-2.48	0.02*
Group 2 - Higher Internals	4.164	0.477		

* significant beyond the .05 level of probability

Question 2.2

"Is there a significant relationship between principals' locus of control orientation and extrinsic job satisfaction?"

No significant relationship between these two variables was found.

1. Pearson Correlation coefficient computation yielded no significant correlation between LCO and extrinsic job satisfaction. Table 14 presents the correlation coefficient and probability obtained.

TABLE 14

Pearson Product-Moment Correlation Between
LCO and Extrinsic Job Satisfaction

	Locus of Control Orientation	
Extrinsic Job Satisfaction	r = 0.08	p = 0.17

2. Analysis of variance on the locus of control orientation groups and extrinsic job satisfaction revealed no differences between the

LCO groups on extrinsic job satisfaction. Table 15 presents the ANOVA results obtained.

TABLE 15
One-Way Analysis of Variance Between LCO Groups
on Extrinsic Job Satisfaction

LCO Groups	M	S.D.	t	p
Group 1 - Lower Internals	3.450	0.665	-0.87	0.39
Group 2 - Higher Internals	3.551	0.670		

Question 2.3

"Is there a significant relationship between principals' locus of control orientation and overall job satisfaction?"

The data tend to indicate that locus of control orientation is associated with overall job satisfaction.

1. A positive Pearson correlation between locus of control orientation and overall job satisfaction was evident. Table 16 presents the correlation coefficient and probability obtained.

TABLE 16

Pearson Product-Moment Correlation Between
LCO and Overall Job Satisfaction

	Locus of Control Orientation	
Overall Job Satisfaction	$r = 0.16$	$p = 0.03^*$

* significant beyond the .05 level of probability

2. Analysis of variance indicated no significant differences on overall job satisfaction between the 'Higher Internal' and 'Lower Internal' LCO groups. Table 17 present the ANOVA results obtained.

TABLE 17

One-Way Analysis of Variance Between LCO Groups
on Overall Job Satisfaction

LCO Groups	M	S.D.	t	p
Group 1 - Lower Internals	3.822	0.410	-1.91	0.06
Group 2 - Higher Internals	3.972	0.490		

Problem 3: Locus of Control and Individual Variables

Question 3.1

"Is there a significant relationship between principals' locus of control orientation and their age?"

As indicated in Table 18, no significant correlation between LCO and age was obtained.

TABLE 18

Pearson Product-Moment Correlation Between
LCO and Principals' Age

	Locus of Control Orientation	
Age	$r = -0.07$	$p = 0.32$

Question 3.2

"Is there a significant difference in locus of control orientation between male and female principals?"

Analysis of variance indicated no significant difference between males and females on LCO at the .05 level of significance. Table 19 presents the ANOVA results obtained.

TABLE 19

One-Way Analysis of Variance Between
Male and Female Principals on LCO

Sex	N	M	S.D.	t	p
Group 1 - Female	15	0.941	0.287	1.80	0.09
Group 2 - Male	117	0.790	0.424		

Question 3.3

"Is there a significant relationship between principals' locus of control orientation and their length of administrative experience?"

Pearson Correlation revealed a significant negative relationship between locus of control orientation and length of administrative experience (higher LCO scores indicate higher internality.) Greater length of administrative experience was associated with lower levels of LCO (decreasing internality). Table 20 presents the correlation coefficient and probability obtained.

TABLE 20

Pearson Product-Moment Correlation Between
LCO and Length of Administrative Experience

	Locus of Control Orientation	
Length of Admin. Experience	$r = -0.15$	$p = 0.05^*$

* significant at the .05 level of probability

Question 3.4

"Is there a significant relationship between principals' locus of control orientation and their breadth of administrative experience?"

Correlation analysis indicated a significant negative relationship between breadth of administrative experience and locus of control orientation. Principals with administrative experience in more than one school jurisdiction exhibited lower levels of LCO (lower internality) than did their less widely experienced counterparts.

Table 21 presents the correlation coefficient and probability obtained.

TABLE 21

Pearson Product-Moment Correlation Between
LCO and Breadth of Administrative Experience

	Locus of Control Orientation	
Breadth of Admin. Experience	$r = -0.15$	$p = 0.05^*$

* significant at the .05 level of probability

Question 3.5

"Is there a significant relationship between principals' locus of control orientation and the extent of their administrative training?"

As indicated by the results in Table 22, locus of control orientation was not significantly related to extent of administrative training.

TABLE 22

Pearson Product-Moment Correlation Between
LCO and Extent of Administrative Training

	Locus of Control Orientation	
Extent of Administrative Training	$r = -0.10$	$p = 0.13$

Question 3.6

"Is there a significant difference in locus of control orientation between elementary and secondary school principals?"

15

No significant difference in locus of control orientation between elementary and secondary school principals was evident. Table 23 presents the ANOVA results obtained.

TABLE 23

One-Way Analysis of Variance Between LCO Groups
on Directive Leader Behavior

School Type	N	M	S.D.	t	p
Group 1 - Elementary	67	0.839	0.473	0.91	0.36
Group 2 - Secondary	65	0.774	0.342		

Question 3-7

"Is there a significant difference in locus of control orientation between principals of small and large schools?"

No significant differences in LCO between principals of small and large schools was evident. Table 24 presents the ANOVA results obtained.

TABLE 24

One-Way Analysis of Variance Between Principals
of Small and Large Schools on LCO

School Size	N	M	S.D.	t	p
Group 1 - Small Elem. & Sec. Schools	67	0.819	0.405	0.33	0.74
Group 2 - Large Elem. & Sec. Schools	65	0.795	0.424		

Question 3.8

"Is there a significant difference in the locus of control orientation of principals in different types of employing authorities?"

Analysis of variance revealed no statistically significant differences among the means of the groups of principals categorized by type of employing authority (large urban, small urban, large rural, small rural) in locus of control orientation. Table 25 presents the ANOVA results obtained.

TABLE 25

One-Way Analysis of Variance Among Type of Employing Authority Groups and LCO

Type of Employing Authority	M	S.D.	t	p
Group 1 - Large Urban	0.420	0.074	0.17	0.92
Group 2 - Small Urban	0.444	0.077		
Group 3 - Large Rural	0.420	0.077		
Group 4 - Small Rural	0.387	0.064		

2. SUMMARY

Analysis of the main variables in this study yielded the following results:

1. There were no significant relationships between locus of control orientation and the leader behavior dimensions; 'directive' leader

behavior, 'supportive' leader behavior, and 'participative' leader behavior.

2. Significant relationships between locus of control internality and two aspects of job satisfaction were evident.

a) LCO (internality) was positively associated with overall job satisfaction.

b) LCO (internality) was positively associated with intrinsic job satisfaction.

3. No significant relationship between LCO and extrinsic job satisfaction was evident.

Additionally, analysis of the relationship of locus of control orientation to the selected individual variables resulted in the following findings:

4. LCO was not found to be associated with age.

5. An association between LCO and sex was not evident beyond the .05 level of probability but was noted beyond .10 alpha.

6. LCO (internality) was significantly and negatively related to length of administrative experience.

7. LCO (internality) was significantly and negatively related to breadth of administrative experience.

8. No significant relationship between LCO and extent of principals' administrative experience was found.

9. No significant differences in LCO were evident where respondents were categorized by the organizational variables school type, school size, extent of administrative experience and type of employing authority.

CHAPTER 7

DISCUSSION OF THE FINDINGS

In this chapter the results of the scoring and statistical analysis of the data are discussed in the light of considerations regarding design outcomes and in relation to the literature reviewed in Chapter 2. Second, the results of the factor analysis of the data collected are reported in terms of their reliability and stability, and in comparison with the findings regarding them in past factor analytic studies.

1. LOCUS OF CONTROL AND LEADER BEHAVIOR

The first problem, that of examining the relationship of locus of control orientation to dimensions of leader behavior, was based on the findings of numerous studies examining the relationship of internal or external locus of control orientation to specific individual behaviors. Adjectives such as achieving, assertive, independent, motivated, controlling, social and persuasive have been consistently used to describe "internal" individuals as opposed to "externals" in these studies. These same descriptors are generally implied in the definitions used to identify the leader behavior dimensions: directive leader behavior, characterized by an assertive and controlling leadership style; supportive leader behavior, characterized by warmth in relationships with subordinates; and participative leader behavior, where emphasis is placed on decision-making through social interaction. Thus it could have been hypothesized that a significant relationship between internality-externality orientation and dimensions of leader behavior would be indicated.

The finding in this study was that LCO is not significantly related to dimensions of leader behavior. This finding must be viewed in the light of the following considerations as the inability to identify relationship, other than the possibility that these variables are not related, may be a result of them.

Internality of the Principals

It had been assumed that a random sample of principals throughout the province of Alberta would yield a substantial representation of internal and external principals (though not necessarily a normal distribution), since previous leader sampling had indicated that both orientations were present (Gemmill and Heisler, 1972 and Rice, 1978). However, no substantial representation of external belief was extant in the chosen sample. The resultant overall internality of the sample thus precluded the possibility of comparing the responses of "internals" and "externals". Statistical analysis had the effect of measuring only whether varying degrees of internality would manifest themselves in predictable variations of leader behavior rather than indicating whether "internals" and "externals" exhibited significantly different predominant leader behaviors.

Group Homogeneity

Also, the sample group was notably homogeneous in terms of locus of control internality. In the scoring system used it is theoretically possible to obtain a maximum range of scores from +4.00 to -4.00, however, the scores obtained in this sample ranged from +1.87 to -0.16, a narrow

range by comparison. Thus not only was the sample predominantly internal, but also their range of internality was comparatively narrow.

Low Variance of the LCO

Rotter (1966) noted that LCO, being but one of many personal beliefs that influence behavior, accounts for but a part of the total variance in individual behavior. Given the predominant internality of the sample, along with the comparatively narrow range of LCO represented, it is conceivable that leader behavior differences might be minimal.

Sample Size

The size of the sample groups, though deemed ample at the outset, may not have been large enough to overcome sampling weaknesses. With some subjects for example, a questionnaire may elicit only socially acceptable responses, or responses which are hastily and haphazardly done. Also, some respondents may be incapable of accurately reporting on the behavior of others. In addition, with information based on self-report there is the possibility of systematic bias due to a high degree of subjectivity or 'halo' effect. A larger testing sample might have lessened the effects of these weaknesses.

Attitude, Behavior and Perception

Danyluk (1981) suggested that there may be little or no relationship between an individual's behavioral attitude and his actual behavior, so that what a principal believes and values with regard to his leadership may only be partially similar to what is perceived by others.

The Leader Behavior Questionnaire in this study was responded to by teachers regarding their principal, while the Belief Scale and the Satisfaction Scale were responded to by principals regarding themselves. Though this is accepted practise utilizing these instruments, it is possible that the 'ideal' and the 'real' LCO and the 'ideal' and 'real' leader behavior and job satisfaction are quite dissimilar, precluding the possibility of getting valid data. Had the principal, for example, responded to a leader behavior questionnaire regarding himself, there might have been a significant relationship evident as was the case between LCO and job satisfaction, where the data in both instances was based on self-report.

Psychometric Considerations

Both the Collins (1974) Internal-External Scale and the House and Dessler (1974) Leader Behavior Questionnaire have been subjected to considerable analysis in the past in attempts to establish the stability of their scale and item characteristics. Varying results have been reported. In view of the lack of significant findings in the present study regarding the relationship of LCO to leader behavior and most of the background variables where it could have been hypothesized from relevant literature that relationships would be present, the psychometric qualities of these instruments were analyzed and compared to the factor analytic results reported in previous research¹.

¹ See Appendix B (p. 136) for a complete discussion of the factor analytic findings.

The Internal-External Belief Scale. The Collins 46 item Likert scale was subjected to factor analysis to determine the validity of the scoring procedure suggested by Collins (1973), and to measure the consistency of the items comprising the subscales as reported by Collins (1973) and Zuckerman and Gerbasi (1977).

Two-factor varimax rotated factor analysis was performed to measure the level of agreement on alternatives identified by Collins as internal items and external items. Of the 23 items identified by Collins as internal, 17 had higher loadings on Factor 1, with 6 items loading higher on Factor 2, yielding 74 percent agreement between Collins' internal items and Factor 1. Of the 23 items identified by Collins as external items, all 23 (100 percent) loaded higher on Factor 2 in this study. None of the 6 items identified by Collins as internal but loading higher on Factor 2 in this study, had significantly high loadings (plus or minus 0.30 or better). It may be that rather than indicating disagreement with Collins' identification they just failed to have high discriminant validity for this sample and the population it represents.

Overall there was 87 percent agreement between the Collins identification of the internal and external items and Factors 1 and 2 respectively. This substantial correlation was deemed to lend strong support for the validity of Collins' 23 internal and 23 external items classification.

The most significant difference between the findings in this study and those of Collins (1974) and Zuckerman and Gerbasi, however, became evident when comparison as to similarity of items comprising each of the four Collins subscales was made. Of the twelve items making up

Collins' 'difficult-easy world subscale, only five items (41.8 percent) scored similarly in this study. Of the eleven items comprising Collins' 'just-unjust world' subscale only three (27.3 percent) were similarly placed. Of Collins' eight items making up his 'predictable-unpredictable' subscale, seven (87.5 percent) were similar in this study. Collins' 'politically responsive-unresponsive world' subscale comprised of 9 items, had only four items similarly placed (44.4) percent in this study.

The generally low agreement between the Collins four subscale findings and those in this study, with the exception of the 'predictable-unpredictable' subscale indicates perhaps that the identity of subsets within the I-E scale is still not clearly defined. Though evidence regarding the unidimensionality (the common theme) of the scale appears strong, the number and stability of identifiable subscales, as indicated by Collins, does not seem to hold up well. It is noteworthy that where eigenvalue minimums are set at 1.0 (a common practise though Overall and Klett (1972) note that there is no mathematical or statistical justification for that specific setting), the I-E scales consistently produce 8 or more factors with eigenvalues greater than 1.0. In this study no less than 17 factors had eigenvalues greater than 1.0 when total variance was computed. Usually each researcher decides how many factors should be extracted and rotated. As a result there is a disagreement as to the number and stability of the subscales, which may ultimately be resolved when only those items that consistently yield a known number of similar factors are used to make up the scale. The varimax solutions obtained in this study are presented in Tables 28 and 29 in Appendix C.

The Leader Behavior Questionnaire. House and Dessler's (1974) Leader Behavior Questionnaire is comprised of three dimensions of leader behavior. Their Instrumental Leadership Scale is similar to the LBDQ-XII Initiating Structure Scale, which differs from other versions as it does not include items reflecting punitive or autocratic leader behavior. The Supportive Leadership Scale, unlike in the LBDQ or the SBDQ, does not include participative items. The Participative Leadership Scale is made up of new items specifically developed by House and Dessler (1974:43) and of items from the LBDQ Consideration Scale that reflect participative behavior. Factor analysis of data obtained from the responses of workers in an electronics firm yielded three oblique factors that substantiated the existence of House and Dessler's (1974) three dimensions within the Leader Behavior Questionnaire. House and Dessler (1974:49) quoted scale reliabilities approaching 0.80 for their three leadership scales and Schriesheim and Von Glinow (1977:402) reported reliabilities of 0.78 and 0.89 for the Instrumental (renamed Directive in this study) and Supportive Leadership Scales.

Creed's (1978) factor analysis of the Leader Behavior Questionnaire, however, failed to confirm the three leader behavior dimensions reported by House and Dessler (1974). Though, Creed's (1978) Leader Directive Behavior Scale and his Leader Participative Behavior Scale were conceptually similar to House and Dessler's (1974) Instrumental and Participative dimensions, he obtained no significant loading on Supportive Leader Behavior as reported by House and Dessler (1974). Instead Creed (1978) obtained a significant factor loading on items that reflected "achievement-oriented" behavior. Consequently, Creed (1978)

operationalized the Leader Behavior Questionnaire in a different way to reflect the oblique factors he derived from the responses of school system personnel.

In this study, the Leader Behavior Questionnaire was subjected to factor analysis to determine which operationalization, House and Dessler's (1974) or Creed's (1978) would be most appropriate.

The relationship between the oblique solution in this and House and Dessler's oblique analysis was further tested by factor matching the two solutions. The transformation matrix used to obtain the factor matched solution indicated a high degree of correlation between House and Dessler's Instrumental Leader Behavior and Factor 2 in this study ($r=0.95$), their Supportive Leader Behavior and Factor 1 in this study ($r=0.87$), and their Participative Leader Behavior and Factor 3 in this study ($r=0.97$). These high correlations were deemed to lend strong support for the concurrent validity of House and Dessler's behavior scale classification.

On the other hand a comparison with Creed's (1978) operationalization of the dimensions of the Leader Behavior Questionnaire, yielded little agreement as to the placement of the items. Of the 13 items that Creed (1978) identified as indicative of Participative Leader Behavior, nine loaded plus or minus 0.40 on the dimension identified as Supportive Leader Behavior by House and Dessler (1974) and in this study. Where Creed (1978) identified only 3 items as constituting Directive Leader Behavior, 6 were identified by House and Dessler, and 5 in this study. The Dimension 'Achievement-Oriented Behavior' created by Creed (1978) was not substantiated in this study as this new dimension was made up of items

which loaded on Supportive and Directive Leader Behavior in this study as was the case in House and Dessler's findings. Thus the operationalization proposed by Creed (1978) from data obtained on an Alberta sample did not stand up.

As was the case for House and Dessler (1974), Kerr et al (1974) and Creed (1978), analysis in this study yielded behavior factors that were highly intercorrelated. Pearson Product-Moment Correlation coefficient computation between the three leader behavior scales in this study confirmed these substantial correlations between the scales.

Supportive Leader Behavior and Participative Leader Behavior correlated at the 0.80 level. Directive Leader Behavior and Supportive Leader Behavior correlated at the 0.64 level and Participative Leader Behavior correlated with Directive Leader Behavior at the 0.48 level.

The high intercorrelation among these three dimensions suggests that differences on them, due to the influence of associated variables could be expected to be difficult to isolate as a variation in one of the dimensions would be accompanied by a similar variation in the other two dimensions.

However, as Stogdill and Coons (1957) pointed out, the question regarding the ability of the LBQ to sense relatively gross as against fine discriminations in leader behavior must also be posed. If one assumes that the 132 leaders in this study behave differently in some important respects, then the three dimensions in the scale apparently could not detect these differences.

The oblique factor solutions discussed in this section are presented in Tables 41, 42 and 43 in Appendix E.

2. LOCUS OF CONTROL AND JOB SATISFACTION

Internal LCO and Job Satisfaction


Problem 2 was formulated to determine the relationship of the locus of control orientation of principals to their job satisfaction. As reviewed earlier in this study locus of control orientation had previously been shown to be significantly related to job satisfaction.

The major point to emerge from the investigation of Problem 2 in this study is the substantiation of these previous findings.

In the first instance LCO (internality) was found to be associated with overall job satisfaction. This finding is in keeping with the findings of Organ and Green (1974), Rice (1978), and Ryback and Sanders (1980) who reported that "internals" scored significantly higher on overall job satisfaction than did "externals".

Second, the relationship between LCO (internality) and intrinsic satisfaction was found to be substantially higher than that between LCO (internality) and overall satisfaction. According to Lawler (1973) overall job satisfaction is the sum of all aspects of the job to which each aspect of the job contributes differently, with those aspects perceived to be of greatest importance contributing most. This would suggest that for the largely "internal" principals in this study the work itself is the major source of job satisfaction. Similarly Runyon (1978) and Evans (1973) reported that "internals" derived more satisfaction from work involvement than "externals".

Finally, no relationship between LCO (internality) and extrinsic job satisfaction was evident. This result is perhaps not unusual since the sample was primarily internal in LCO and the literature suggests that



extrinsic items, though part of the consideration made regarding the job, are not of primary importance to "internals".

Psychometric Considerations

Factor analysis of the MSQ-Short Form by Weiss et al (1967), resulted in the identification of two major scales in the questionnaire, namely; intrinsic satisfaction and extrinsic satisfaction, in addition to the overall satisfaction scale which is used to differentiate among occupational groups in terms of level of job satisfaction (Johnson and Weiss, 1971).

It is noteworthy that even though the range of LCO in the sample was relatively narrow, aspects of job satisfaction still varied consistently with LCO as the literature had indicated it might. This is perceived as not only a strong confirmation of the high correlation between LCO and job satisfaction, but also as evidence that the MSQ-Short Form discriminates between aspects comprising its scales rather well. The two aspects, intrinsic satisfaction and extrinsic satisfaction do not associate similarly when compared to other variables, so that their respective influence on related variables is less difficult to identify.

Whether the overall job satisfaction scale provided added information, in the light of the intrinsic and extrinsic scales, is debatable. Given the information that a group relates highly to intrinsic satisfaction with little or no indication of relating to extrinsic satisfaction, as was the case in this study, one could infer that overall satisfaction, being the sum of the first two aspects would of necessity be less strongly related to LCO (internality). Computing overall

satisfaction in this study, however, did enable the researcher to determine whether its relationship to internality would be upheld as previous research had suggested.

3. LOCUS OF CONTROL AND INDIVIDUAL VARIABLES

The selection of age, sex, length of administrative experience, breadth of administrative experience, extent of administrative training, school type, school size, and type of employing authority for study with regard to their relationship to LCO was based on previous findings that suggested that these variables might account for differences in the locus of control orientation of principals. As was the case in Problem 1, with two notable exceptions, the results did not substantiate the relationships that could have been hypothesized from the reviewed literature.

Age. Locus of control orientation was found not to be significantly related to age of principals as was reported by Runyon (1973) and Rice (1978).

Sex. No significant relationship between LCO and sex was obtained. Previous findings are varied as to whether females are more internal in locus of control orientation than are males. Gordon (1977) reported significant differences between males and females on LCO. Milner and Tetu Jr (1979), on the other hand, found no differences in male and female orientation.

Extent of Administrative Training. Locus of control orientation was not found to be significantly related to levels of administrative training. As

cited in the review of the relevant literature, previous research indicated that a positive relationship could be expected.

School Type. The LCO of principals was not found to differ between elementary and secondary schools. Previous research that suggested that secondary school principals could be expected to be more internal than elementary school principals was not supported.

School Size. This variable was not found to be associated with locus of control orientation. Although no previous research was located that dealt directly with the effects of school size on LCO, according to Gilbert (1976) and Bumbarger and Ratsoy (1975), concerns common to principals of small schools differed considerably from those of large schools. LCO (internality) however, did not appear to be affected by these differing concerns.

Type of Employing Authority. No significant relationship was evident between this variable and locus of control internality, though the literature indicates that jurisdictional size and complexity accounts for differences on some personal variables. Greater mobility, communication and uniformity of educational delivery between jurisdictions in recent years may have resulted in less diversity in terms of the personal outlook of school principals irrespective of where they are located in Alberta.

Length and Breadth of Administrative Experience. The two background variables; length of administrative experience, and breadth of administrative experience were found to be significantly and negatively related to LCO (internality). Previously, Rotter (1966) and Rice (1978) reported that locus of control internality was positively associated with greater length of administrative experience, and Gemmill and Heisler

(1972) found locus of control internality to be positively related to greater breadth of experience. This study found the opposite to be true in both cases.

If the finding here is a true reflection of the relationship as it exists then the following acculturation process may be in effect. Assuming that at entrance to the teaching-profession there is a wider range of LCO than later in the profession, the LCO may be progressively shaped toward greater internality through the daily exercise of authority on the part of the teacher in the largely insular classroom.

The line of succession then to the principalship may be such that those teachers having the greatest desire to participate in decision-making at a higher organizational level, and believing in their ability to do so, would be most apt to aspire to the position of principal. Such a process would be in agreement with the thinking of Likert (1952:110-111) who wrote:

The behavior of all persons seems to be influenced by an all pervasive desire for ego-recognition; that is, for a sense of personal worth -- a sense of importance...

Although the principal's position is predominantly thought of as one of exercise of authority, closer inspection and greater experience reveals that the principal is also a 'follower' in the decision-making process within the school district organization. He is but one administrator in the hierarchical structure of the school system and, like all the others, is subject to decisions made or managed by officials higher in the organization. According to Johnson and Weiss (1974:4) the complexity of the principal's 'middle management' position has been

compounded by recent developments where he finds himself caught between two powerful forces; 1) the established source of power represented by boards of education and their agent, the Superintendent of Schools and, 2) "the recent phenomenon of organized teachers demanding a voice in the decision-making process in education." As a result, the principal is seeing his area of authority and activity narrowed; he finds himself in the unique position of interpreting and implementing policies which he has had no formal role in developing.

The growing realization of the 'helplessness' of the position that perhaps comes with greater length and breadth of administrative experience may thus be reflected by a decrease in LCO internality.

CHAPTER 8

SUMMARY, CONCLUSIONS AND IMPLICATIONS

In the first section of this chapter a summary of the nature of the study, the instrumentation, the research methodology and the major findings is presented.

In the second section, the conclusions drawn from the findings and their implications for educational administration, educational practise and further research are presented and discussed.

1. SUMMARY

Nature of the Study

Attribution literature suggests that the behavior of individuals is influenced by their perceptions of their ability to control outcomes (locus of control orientation). A number of recent studies have related locus of control orientation to styles of individual behavior and to levels of job satisfaction. As an extension of these studies, this study investigated these relationships as they apply to principals, in an attempt to determine whether leader behavior and job satisfaction can be predicted on the basis of measures of locus of control orientation.

The framework developed for this study resulted from a consideration of the interaction among locus of control orientation, leader behavior, job satisfaction and background variables which were identified in the literature as potential sources of variation in locus of control orientation. These background variables were classified as

personal, professional, and organizational variables and examined separately in terms of their influence on locus of control orientation.

Research Methodology

A stratified random sample of Alberta schools was drawn up. The principal and six teachers in each of the sample schools was asked to respond to mailed questionnaires. The total sample consisted of 196 principals and 1176 teachers, of which 132 principals and 792 teachers (69 percent) responded.

Two questionnaires were used to collect the data. Teachers responded to the Leader Behavior Questionnaire regarding their principal. Principals responded to an instrument developed for this study entitled: the Principal's Questionnaire, which sought information pertaining to the individual variables, job satisfaction, and locus of control orientation. Job satisfaction was measured by the Minnesota Satisfaction Questionnaire - Short Form, and internal-external locus of control was measured by the Collins Likert format adaptation of the Rotter Internal-External Locus of Control Scale (I-E Belief Scale).

The responses of the school personnel were subjected to statistical analysis to determine the relationships among the variables. Pearson Product-Moment correlations were obtained to determine relationships between the continuous variables. Analysis of variance was utilized to determine whether significant differences between principals grouped according to identified variables would be evident. A level of probability of .05 was established as indicating a significant relationship.

Review of the Problem

Three problems, with a resultant fourteen questions, were selected to determine the interrelationships between locus of control orientation, leader behavior, job satisfaction and selected individual variables.

Problem 1 involved the investigation of the nature of the relationship between locus of control orientation and leader behavior. Three questions were posed in this problem in order to determine the relationship of locus of control orientation to the leader behavior dimensions; Directive Leader Behavior, Supportive Leader Behavior and Participative Leader Behavior respectively.

The relationship between LOC orientation and job satisfaction was the second problem examined. Three questions were posed herein to determine the relationship of locus of control orientation to three aspects of job satisfaction; intrinsic satisfaction, extrinsic satisfaction and overall satisfaction.

In Problem 3 the relationship between locus of control orientation and the personal, professional, and organizational background of the principals was investigated. Eight questions were formulated to determine the relationship to age, sex, school size, school type, type of jurisdiction, length and breadth of administrative experience, and extent of administrative training to locus of control orientation.

Locus of Control Orientation of Alberta Principals

An initial important point emerged from the analysis of the locus of control data obtained from respondents in this study. It was

found that, rather than being heterogeneously distributed in terms of internality and externality on a locus of control continuum, Alberta principals were predominantly of internal locus of control orientation. This finding meant that a contrasting group of "externals" was not available for comparison to the other variables. Consequently, statistical analysis measured only the relationship of lower and higher levels of internality to the other variables.

Problem 1: Locus of Control and Leader Behavior

No significant relationships between locus of control and dimensions of leader behavior were found.

Problem 2: Locus of Control and Job Satisfaction

Significant relationships were evident between locus of control orientation and aspects of job satisfaction. Higher levels of locus of control internality were positively associated with greater intrinsic and overall job satisfaction. LCO (internality) was not found to be significantly related to extrinsic job satisfaction.

Problem 3: Locus of Control and Individual Variables

Locus of control orientation was significantly related to length of administrative experience and to breadth of administrative experience. Principals with greater overall experience had lower LCO (internality) scores than the less experienced principals. Principals with more experience outside the present jurisdiction exhibited lower locus of control internality than did their less widely experienced counterparts.

No significant relationships were evident between LCO and the variables age, sex, extent of administrative training, school type, school size and type of employing authority.

2. CONCLUSIONS

Locus of Control and Leader Behavior

This study indicated no significant relationships between LCO and dimensions of leader behavior, thus not supporting the reviewed literature that suggested that relationships could be expected.

The inability to obtain significant results is not viewed as evidence refuting the existence of significant relationships given: the internality and homogeneity of the sample, the low percentage of the total variance of LCO in individual behavior, considerations regarding sample size and perceptual bias, the inconsistency of the LCO instrument, and the high intercorrelation among the three leader behavior dimensions in the LBQ.

It is felt that the finding regarding the predominant internality in locus of control orientation of the sample, drawn randomly from the total Alberta population of principals, is in itself an important finding, since research provides support for the positive nature of internality in terms of individual attributes (Stephens (1971), Rotter (1971) and Stephens and Delys (1972) even called for the setting up of training programs that would emphasize the development of internal control expectancies, claiming that society needs more 'internally-minded' people in leadership roles.) It is now evident that this need for internally

mind people in leadership roles is being met in Alberta educational systems. Through varied selection procedures internally-minded persons are being chosen as the educational leaders of Alberta schools.

Locus of Control and Job Satisfaction

This study substantiates previous findings that indicate that locus of control orientation is significantly associated with job satisfaction. In this study, internal LCO correlated with overall job satisfaction as Rice (1978) and Ryback and Sanders (1980) indicated it would. As well, internality was positively associated with intrinsic job satisfaction. These findings suggest that for principals, the work itself is the major source of job satisfaction and that the importance of the job as a satisfier increases with higher locus of control internality.

Overall satisfaction, which includes the extrinsic items as well as the intrinsic items of the questionnaire, was found to be related to LCO to a lesser extent than intrinsic satisfaction. This appears to indicate that, though extrinsic job satisfiers are not of great importance to the largely internal principals, they are given consideration by them.

It is significant that even though the range of locus of control orientation in the sample in this study was notably narrow, aspects of job satisfaction still varied consistently with LCO. This is perceived as a substantive indication of a high correlation between locus of control internality and job satisfaction. This is also taken as evidence that the satisfaction instrument used in this study discriminates well between the aspects comprising its scales. Since intrinsic satisfaction and extrinsic satisfaction do not associate similarly when compared to other variables,

their respective relationships to associated variables is less difficult to identify.

Locus of Control and Individual Variables

Selection of the individual variables for study with regard to their influence on locus of control orientation was based on previous findings that indicated that they might account for some variance in LCO. The results in this study, however, vary in terms of yielding significant correlations.

Age, school type, school size, extent of administrative training, and type of employing authority were found not to be significantly related to LCO in this study. In the light of relevant research that suggests that differences due to these variables exist, the findings in this study are taken to indicate that principals, with their homogeneity in terms of LCO, are not significantly affected by these variables, unlike perhaps other, more heterogeneous groups.

Earlier studies regarding the influence of sex differences on LCO have not been consistent, as some have reported significant differences due to sex while other indicated no evident differences. In view of the design considerations which may have contributed to the non-findings, it is felt that further research on sex as a variable is warranted.

As previous research had indicated, length and breadth of administrative experience were found to relate to LCO significantly, however in this study, unlike in previous studies, length and breadth of experience were negatively related to LCO. The perception or realization

by the more experienced principals that one does not really control or change things, as opposed to the perhaps more idealistic perception held by less experienced principals, may be reflected in this finding.

That significant relationships were evident between LCO (internality) and these particular variables is noteworthy also in the light of the pronounced internality and homogeneity of the sample. Since by definition locus of control orientation is a generalized individual expectancy based on past experiences, it should follow that level of LCO would be more sensitive to these experiential variables, so that it might be reasonable to expect that significant relationships would be evident even in groups representing a narrow band in the LCO continuum.

3. IMPLICATIONS

Implications for Selection and Training of Principals

Selection of school principals is largely dependent upon perception of the candidate's ability to facilitate the educational process in the school. Herein the candidate's commitment to the achievement of educational goals, his/her conformity to system expectancies, and his/her ability to implement school policies and procedures are closely scrutinized. A finding in this study was that Alberta school systems through their various selection procedures regarding these qualities, end up choosing principals who are moderately internal in LCO. In the light of this situation, and recognizing that research cited in Chapter 3 shows that the success of leaders in specified positions can be predicted with a high degree of accuracy by individual

assessment with such objective tests, locus of control orientation testing could conceivably be employed by school jurisdictions and executive search agencies in the selection of principals. Candidates scoring highly as "internals" on the Locus of Control Belief Scale could be expected to exhibit personal beliefs typical of the present population of successful Alberta principals. The likelihood of their being more satisfied with the job itself than low internal candidates is indicated by the findings in this study.

The results of this research indicate that those principals exhibiting higher levels of internal LCO are the less widely experienced principals. The literature suggests that "internals" are more likely to work with staff on program development and be more concerned with the quality of professional service and attitudes of cooperation and dependability. The negative correlation between LCO internality and length and breadth of experience obtained in this study, if accurate, has serious implications for staff development and school administration since it questions the assumption behind standard promotion policies based on seniority, and the assumption of its utility of experience. It is obviously an item for future research.

Implications for Further Study

The recommendations for further research stem from two main sources. One source is the finding in this study regarding locus of control orientation, leader behavior and job satisfaction. The other relates to the findings with respect to statistical analysis of the locus of control and leader behavior instruments utilized.

It was taken in this study that a random sample of Alberta principals would yield a substantial representation of internal and external locus of control orientation, since previous locus of control studies involving Alberta principals implied that this would be the case. The resultant overwhelming internality of the random sample of principals in this study consequently hampered the study to the extent that no conclusions as to the relationship or non-relationship of internal-external locus of control to the other variables under study could be drawn, as no significant group representative of externality was available to contrast with internality. Thus, only the relationship of the other variables to LCO internality could be tested. This too proved difficult as the range of internality of the Alberta principals was relatively narrow. Replicative studies might overcome this difficulty by employing the following procedures:

1. Generate a stratified random sample from the Alberta population at large, wherein principals and other leaders comprise of but a small proportionate group among all the groups making up the Alberta work force to see how LCO is distributed.

2. Do a pilot study on a specified group such as all levels of certificated personnel in a given school to see if there is sufficient LCO heterogeneity in the proposed sample for meaningful comparative study and to check on the discriminant validity of the LCO questionnaire.

The Leader Behavior Questionnaire in this study was completed by teachers regarding their principal, while the I-E Belief Scale and the Job Satisfaction Questionnaire were answered by the principals regarding themselves. Though this is accepted practice using these instruments,

several concerns become evident as a result. Most recent behavioral literature suggests that there may be little or no relationship between an individual's behavioral attitude and his actual behavior, and secondly, that what a principal believes and values with regard to his leadership is only partially similar to what is perceived by others (Danyluk, 1981). To contend with these concerns the following could be attempted:

1. Have the leader respond to a self-questionnaire on leader behavior such as the Leader Opinion Questionnaire as well as the LBQ, so that correlational analysis could be performed. It is possible that the 'ideal' and the 'real' leadership, as well as perhaps the 'ideal' and the 'real' LOC orientation and job satisfaction are highly dissimilar, so that future research will need to differentiate between 'ideal' beliefs and responses and 'real' behaviors.

2. Since the teachers' responses regarding their principals reflect their individual perceptions and biases, larger sample sizes, triangular data gathering, and internal consistency measures could be incorporated into future studies to enhance the reliability of the responses.

Several findings obtained in this study were not consistent with previous findings. Further study would help to confirm or deny their accuracy. These contrary findings are as follows:

1. Age was not found to be associated with locus of control orientation as reported by Runyon (1973) and Rice (1978).
2. Greater length and breadth of administrative experience were found to be negatively associated with internal LCO, whereas Rotter

(1966) and Rice (1978) reported that internal LCO was positively associated with those variables.

3. Greater administrative training was not found to be related to LCO as Gurin et al (1978) indicated it was.

4. Type of employing authority was not significantly related to LCO as previous research by Hall (1972) and Cummings and Berger (1976) suggested it would be.

Schriesheim and Von Glinow (1977) and Creed (1978), having utilized the House and Dessler (1974:46-47) leader behavior scales, stated that even though these scales were the best available they still require further refinement. In this study support was found for this position in two spots (see Appendix B).

Since the three leader scales purport to measure three distinct dimensions, these dimensions were found to be highly intercorrelated so that an individual's high or low score on one of the leader scales was similarly high or low on the other two scales. Looking for differences between these scales may consequently be less valuable than looking for differences in individual item loadings on the various factors derived when factor analysis is performed.

As was noted by Creed (1978), the scales continue to measure extraneous leader dimensions. In this study, the 'supportive' or considerate dimension contained work-oriented leader behavior items previously identified in the 'participative' scale. The data appeared to be unable to discriminate between supportive and consultative leader behavior items. Further item analysis on the LBQ is required to identify

those items that discriminate between the behavior dimensions more consistently.

The I-E Belief Scale was found to have a similar shortcoming. Though the items identified as "internal" and "external" on the Collins adaptation of this scale loaded largely as identified, just under one-half of them failed to account for an appreciable amount of variance. Further item analysis is required in order to determine which items discriminate consistently between factors and account for a significant amount of variance within them. Those items that account for less than plus or minus 0.30 variance should be either altered or excluded from the instrument.

Rotter's I-E Belief Scale and the numerous modifications developed from it suffer not only from a general disagreement regarding dimensionality and number of meaningful subscales, but also from a notable lack of consistency in scoring procedures. A close look at overall methodology is thus recommended as the varying findings reported in many LCO studies may be as much a result of methodological inconsistency as of lack of conceptual clarity or item discriminant reliability.

Attribution literature indicates that the behavior of individuals is influenced by their locus of control orientation. A purpose of this study was to extend the scope of educational administration research by attempting to determine whether a relationship between this personal attribute (which has been prominent in non-managerial individual behavior studies) and the behavior of leaders could be identified. This study has perhaps but managed to highlight some of the problems associated with gathering evidence in this area. It may

be that though the broader field of attribution theory and research has a contribution to make toward greater knowledge of leader attitude and behavior, the locus of control variable taken by itself does not account for a sufficient amount of variance in leader behavior to be a significant and consistent predictor.

Additional recommendations for further research are evident from the delimitations in this study.

1. Locus of control orientation is but one of many variables coming into play between the attribution of causality and individual behavior. Future research might need to focus on the relationship between groups of personal attributes and expectancies, and leader behavior.

2. Regarding subordinate respondents to the LBQ, though it was recognized that their I-E orientation might have some effect on their perception of the principal's behavior, this variable was not investigated in this study. The position taken was that the I-E orientation of the teachers would approximate the average I-E orientation of the general population. Questions thus left unanswered are:

- a) What is the predominant I-E orientation of Alberta teachers?
- b) How does this compare to the general population, wherein Obitz (1978) found locus of control orientation to approximate a normal-curve distribution?
- c) What are the effects of levels of locus of control orientation on perceptions by subordinates of leader behavior, and levels of satisfaction with leader behavior?

Finally, the general premise in LCO literature and research to date has been that internality is associated primarily with positive human

behaviors. This has led researchers such as Stephens and Delys (1972) to conclude that society needs more internally minded persons in leadership positions. It should be noted however, that in some circumstances, such as in work settings involving highly trained professionals and/or associated groups working together, e.g. in community schools, the role of the principal might more appropriately be that of facilitator rather than project leader. In such a case an "external" might be the preferred candidate for that leadership position. Janzen et al (1973) argued in favor of just such a positive view of the "external". They contended that an "external's" greater tolerance for unpredictable situations and his/her less overt desire for personal control should be viewed as positive aspects leading to greater consideration being given to the basic individuality and freedom of others.

In summary, the purpose of this study was to investigate the relationship of locus of control orientation to leader behavior and job satisfaction. The results, in addition to raising a number of further questions, indicated a significant relationship between locus of control orientation and job satisfaction but did not substantiate a relationship between locus of control orientation and leader behavior.

It is hoped that the information provided by this study will add to the general knowledge in this area, and will serve to stimulate further research regarding individual attributes and leader behavior.

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APPENDIX A

Part 1: PRINCIPAL'S QUESTIONNAIRE

Part 2: LEADER BEHAVIOR QUESTIONNAIRE

PRINCIPAL'S QUESTIONNAIRE

SECTION A: Personal Information

CHECK the correct answer.

1. Which of the following best describes the situation of your school?
 - a. Large city (250 or more teachers)
 - b. Small city or town (under 250 teachers)
 - c. Large rural (250 or more teachers)
 - d. Small rural (under 250 teachers)

2. Which of the following best describes the grade organization in your school?
 - a. Elementary (grades K-6)
 - b. Secondary (grades 7-9, 10-12, or 7-12)

3. How many full-time equivalent certificated teachers in your school?
 - a. Elementary: (1) 6-20 teachers (2) 21 or more teachers
 - b. Secondary: (1) 6-25 teachers (2) 26 or more teachers

4. What is your sex?
 - a. Female
 - b. Male

5. What was your age on December 1, 1981?
 - a. Under 30
 - b. 30-39
 - c. 40-49
 - d. 50-59
 - e. 60 and over

6. How many years of experience do you have as a principal? (Count the present school year as a full year.)
 - a. Total number of years:
 - (1) 1 yrs. (2) 2-4 yrs. (3) 5-9 yrs.
 - (4) 10-14 yrs. (5) 15-19 yrs. (6) 20 yrs. or more
 - b. In your present school:
 - (1) 1 yrs. (2) 2-4 yrs. (3) 5-9 yrs.
 - (4) 10-14 yrs. (5) 15-19 yrs. (6) 20 yrs. or more
 - c. Outside your present district/division/county:
 - (1) 1 yrs. (2) 2-4 yrs. (3) 5-9 yrs.
 - (4) 10-14 yrs. (5) 15-19 yrs. (6) 20 yrs. or more

7. Have you taken graduate courses in Educational Administration?
 - a. No graduate courses
 - b. Some graduate courses
 - c. Diploma in Educational Administration
 - d. M.Ed in Educational Administration
 - e. Ph.D in Educational administration

SECTION B: Satisfaction Scale

The purpose of this section is to give you a chance to tell *HOW YOU FEEL ABOUT YOUR PRESENT JOB*; what things you are satisfied with, and what things you are not satisfied with.

Read the following statements carefully. Decide *HOW YOU FEEL ABOUT THE ASPECT OF YOUR JOB* described by the statement. Please answer *EVERY ITEM*.

RESPONSE KEY: *VERY DISSATISFIED = 1, DISSATISFIED = 2, NEITHER = 3, SATISFIED = 4, VERY SATISFIED = 5*

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

1. Being able to keep busy all the time. 1 2 3 4 5.
2. The chance to work alone on the job. 1 2 3 4 5.
3. The chance to do different things from time to time. 1 2 3 4 5.
4. The chance to be "somebody" in the community. 1 2 3 4 5.
5. The way my boss handles his employees. 1 2 3 4 5.
6. The competence of my supervisor in making decisions. 1 2 3 4 5.
7. Being able to do things that don't go against my conscience. 1 2 3 4 5.
8. The way my job provides for steady employment. 1 2 3 4 5.
9. The chance to do things for other people. 1 2 3 4 5.
10. The chance to tell other people what to do. 1 2 3 4 5.
11. The chance to do something that makes use of my abilities. 1 2 3 4 5.
12. The way Board policies are put into practise. 1 2 3 4 5.
13. My pay and the amount of work I do. 1 2 3 4 5.
14. The chances for advancement on this job. 1 2 3 4 5.
15. The freedom to use my own judgment. 1 2 3 4 5.
16. The chance to try my own methods of doing this job. 1 2 3 4 5.
17. The working conditions. 1 2 3 4 5.
18. The way my co-workers get along with each other. 1 2 3 4 5.
19. The praise I get for doing a good job. 1 2 3 4 5.
20. The feeling of accomplishment I get from the job. 1 2 3 4 5.

SECTION C: Personal Belief Scale

This section attempts to find out the way in which certain events in our society affect different people. Each item consists of *FIVE* alternative choices. Decide how *STRONGLY* you agree or disagree with each statement. Carefully *CIRCLE* your choice. Be sure to select the alternative you actually believe to be most true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; there are no right or wrong answers. Answer *EVERY ITEM*. Where appropriate for "He" read "She".

RESPONSE KEY: *NEVER = 1, SELDOM = 2, OCCASIONALLY = 3, OFTEN = 4, ALWAYS = 5*

1. Many of the unhappy things in people's lives are partly due to bad luck. 1 2 3 4 5.
2. People's misfortunes result from the mistakes they make. 1 2 3 4 5.
3. One of the major reasons why we have wars is because people don't take enough interest in politics. 1 2 3 4 5.
4. There will always be wars, no matter how hard people try to prevent them. 1 2 3 4 5.
5. In the long run people get the respect they deserve in this world. 1 2 3 4 5.
6. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries. 1 2 3 4 5.
7. The idea that teachers are unfair to students is nonsense. 1 2 3 4 5.
8. Most students don't realize the extent to which their grades are influenced by accidental happenings. 1 2 3 4 5.
9. Without the right breaks one cannot be an effective leader. 1 2 3 4 5.
10. Capable people who fail to become leaders have not taken advantage of their opportunities. 1 2 3 4 5.
11. No matter how hard you try some people just don't like you. 1 2 3 4 5.
12. People who can't get others to like them don't understand how to get along with others. 1 2 3 4 5.
13. I have often found that what is going to happen will happen. 1 2 3 4 5.
14. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action. 1 2 3 4 5.
15. In the case of the well prepared student there is rarely if ever such a thing as an unfair test. 1 2 3 4 5.
16. Many times exam questions tend to be so unrelated to course work that studying is really useless. 1 2 3 4 5.
17. Becoming a success is a matter of hard work, luck has little or nothing to do with it. 1 2 3 4 5.
18. Getting a good job depends mainly on being in the right place at the right time. 1 2 3 4 5.
19. The average citizen can have an influence in government decisions. 1 2 3 4 5.

RESPONSE KEY: NEVER = 1, SELDOM = 2, OCCASIONALLY = 3, OFTEN = 4, ALWAYS = 5

20. The world is run by the few people in power, and there is not much the little guy can do about it. 1 2 3 4 5.
21. When I make plans, I am almost certain that I can make them work. 1 2 3 4 5.
22. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow. 1 2 3 4 5.
23. In my case getting what I want has little or nothing to do with luck. 1 2 3 4 5.
24. Many times we might just as well decide what to do by flipping a coin. 1 2 3 4 5.
25. Who gets to be the boss often depends on who was lucky enough to be in the right place first. 1 2 3 4 5.
26. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it. 1 2 3 4 5.
27. As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control. 1 2 3 4 5.
28. By taking an active part in political and social affairs the people can control world events. 1 2 3 4 5.
29. Most people don't realize the extent to which their lives are controlled by accidental happenings. 1 2 3 4 5.
30. There really is no such thing as luck. 1 2 3 4 5.
31. It is hard to know whether or not a person really likes you. 1 2 3 4 5.
32. How many friends you have depends upon how nice a person you are. 1 2 3 4 5.
33. In the long run the bad things that happen to us are balanced by the good ones. 1 2 3 4 5.
34. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three. 1 2 3 4 5.
35. With enough effort we can wipe out political corruption. 1 2 3 4 5.
36. It is difficult for people to have much control over the things politicians do in office. 1 2 3 4 5.
37. Sometimes I can't understand how teachers arrive at the grades they give. 1 2 3 4 5.
38. There is a direct connection between how hard one studies and the grades one gets. 1 2 3 4 5.
39. Many times I feel that I have little influence over the things that happen to me. 1 2 3 4 5.
40. It is impossible for me to believe that chance or luck plays an important role in my life. 1 2 3 4 5.

RESPONSE KEY: *NEVER* = 1, *SELDOM* = 2, *OCCASIONALLY* = 3, *OFTEN* = 4, *ALWAYS* = 5

41. People are lonely because they don't try to be friendly. 1 2 3 4 5.
42. There's not much use in trying too hard to please people, if they like you, they like you. 1 2 3 4 5.
43. What happens to me is my own doing. 1 2 3 4 5.
44. Sometimes I feel that I don't have enough control over the direction my life is taking. 1 2 3 4 5.
45. Most of the time I can't understand why politicians behave the way they do. 1 2 3 4 5.
46. In the long run the people are responsible for bad government on a national, as well as on the local level. 1 2 3 4 5.

LEADER BEHAVIOR QUESTIONNAIRE

Following is a list of items that may be used to *DESCRIBE THE BEHAVIOR OF YOUR PRINCIPAL*. Each item describes a specific kind of behavior, but *DOES NOT ASK YOU TO JUDGE* whether the behavior is desirable or undesirable. Remember that the items simply ask you to describe, *AS ACCURATELY AS YOU CAN*, the behavior of your principal. Read each item carefully and decide how *FREQUENTLY YOUR PRINCIPAL* engages in the behavior described.

CIRCLE the number for the item which shows the answer you have selected on the scale.

Answer *EVERY ITEM*.

Where appropriate, for "He" read "She".

RESPONSE KEY: *NEVER = 1, SELDOM = 2, OCCASIONALLY = 3, OFTEN = 4, ALWAYS = 5*

1. He explains the way my tasks should be carried out 1 2 3 4 5.
2. He keeps to himself. 1 2 3 4 5.
3. He lets group members know what is expected of them. 1 2 3 4 5.
4. He is friendly and approachable. 1 2 3 4 5.
5. He helps me overcome problems which stop me from carrying out my tasks. 1 2 3 4 5.
6. Before making decisions he gives serious consideration to what his subordinates have to say. 1 2 3 4 5.
7. He looks out for the personal welfare of the group members. 1 2 3 4 5.
8. He helps make working on my tasks more pleasant. 1 2 3 4 5.
9. He puts suggestions made by the group into operation. 1 2 3 4 5.
10. He schedules the work to be done. 1 2 3 4 5.
11. He maintains definite standards of performance. 1 2 3 4 5.
12. Before taking action, he consults with his subordinates. 1 2 3 4 5.
13. He makes sure his part in the group is understood. 1 2 3 4 5.
14. He decides what shall be done and how it shall be done. 1 2 3 4 5.
15. He does little things to make it pleasant to be a member of the group. 1 2 3 4 5.
16. He gives advance notice of changes. 1 2 3 4 5.
17. When faced with a problem he consults with subordinates. 1 2 3 4 5.
18. He asks that group members follow standard rules and regulations. 1 2 3 4 5.
19. He asks subordinates for their suggestions concerning how to carry out assignments. 1 2 3 4 5.
20. He treats all group members as his equals. 1 2 3 4 5.
21. He asks subordinates for suggestions on what assignments should be made. 1 2 3 4 5.
22. He is willing to make changes. 1 2 3 4 5.

APPENDIX B
CORRELATION FACTOR ANALYSIS

CORRELATIONAL FACTOR ANALYSIS

The purpose of this section is to report on the results of factor analysis on the two main instruments used in this study; 1) the Collins (1974) Likert-format Internal-External Belief Scale, and 2) The House and Dessler (1974) Leader Behavior Questionnaire, and to compare them to factor analytic findings reported in similar research. Both instruments have been subjected to considerable analysis in attempts to establish the stability of their scale and item characteristics on alternate populations with varying results and interpretations.

The Internal-External Belief Scale

A major subject of controversy surrounding the concept of internal-external control and the scale developed by Rotter (1966) to measure it is the dimensionality of beliefs about control. Factor analytic studies have been interpreted largely in two different ways in terms of this issue. Researchers such as Levenson (1973) and Walkey (1979) have argued for the need to view control beliefs as multi-dimensional rather than unidimensional. Levenson (1973) modified Rotter's (1966) scale into a tri-dimensional scale consisting of an 'internal' dimension, a 'powerful others' dimension and a 'chance' dimension. Levenson (1973) reported research findings that supported the validity of this construct. Her varimax rotations produced results showing no overlap of items comprising the three dimensions with four-fifths of the items

loading greater than plus or minus 0.50 in their respective dimensions. In a correlational study, Walkey (1979) reported findings confirming Levenson's factor structure.

Other factor analytic studies did not replicate this structure, identifying instead a unidimensional, generalized control disposition with discrete subsets within the 'common theme' of the scale. Mirels (1970), Collins (1973), and Zuckerman and Gerbasi (1977) concluded from their research that the factors in the scale are but submeasures of the generalized distinction. Collins (1974), having conducted a principal components analysis, and obtaining factor loadings of 0.30 on all but 13 of the items, concluded that these substantial loadings on the first factor, along with the high variance of the first factor relative to the other factors, demonstrated the unidimensionality of the I-E scale. Zuckerman and Gerbasi (1977) replicated Collins' (1974) study and reported similar findings.

Gurin, Gurin and Morrison (1978) reviewed the literature regarding the dimensionality issue, and analyzed data with respect to issues of scale structure and factor validity. They concluded that as Rotter (1975) stated, the total I-E scale measures a generalized expectancy but that this does not preclude the existence of meaningful subscales within the scale.

In this study, the Collins 46 item Likert scale was subjected to factor analysis to determine the validity of the scoring procedure suggested by Collins (1973), and to measure the consistency of the items comprising the subscales as reported by Collins (1973) and Zuckerman and

Gerbası (1977). The varimax solutions obtained in this study are presented in Tables 28 and 29 in Appendix C.

Internal-External Items

Two-factor varimax rotated factor analysis was performed to measure the level of agreement between the items in this study and those identified by Collins as 'internal' and 'external'. Of the 23 items identified by Collins as internal, 17 had greater loadings on Factor 1 in this study (plus or minus 0.30), with 6 items loading higher on factor 2, yielding 74 percent agreement between Collins' internal items and Factor 1. Of the 23 items identified by Collins as external items, all 23 (100 percent) loaded higher on Factor 2 in this study.

None of the 6 items identified by Collins as internal items, but loading greater on Factor 2 in this study, had loadings of at least plus or minus 0.30, so it is likely that rather than indicating disagreement with Collins' identification they just failed to have high discriminant validity for this specific population sample.

Overall there was 87 percent agreement between the Collins identification of the internal and external items and Factors 1 and 2 respectively. This substantial correlation was deemed to lend strong support for the validity of Collins' 23 internal and 23 external items classification.

Collins' Four Factors

Utilizing varimax rotation, Collins (1974:383) had identified 4 factors that formed discrete subsets within the "single common theme" of

the I-E scale. The first factor with 29.3 percent of the variance, which he called the difficult-easy world, was composed entirely of external items. Factor 2 with 25.7 percent of the variance, labelled the 'just-unjust world' was made up of internal items only. Factor 3, accounting for 24.7 percent of the variance, was labelled 'predictable-unpredictable world' and was made up of a different cluster of internal items only. Factor 4, labelled the 'politically responsive-unresponsive world', accounted for 20.3 percent of the four-factor variance and was composed of both internal and external items.

Collins (1974:383) reasoned that the four-factor varimax solution was the most appropriate as it met the criteria for simple structure to a "remarkable degree". Thirty-seven of his 46 items loaded greater than plus or minus 0.35 on only one of the four factors with just one item loading greater than plus or minus 0.35 on more than one factor. Approximately one-half of the items loaded greater than plus or minus 0.50 on one of the four rotated factors, with loadings of less than plus or minus 0.20 on the other three factors. Only one item loaded greater than plus or minus 0.35 on 2 factors. Zuckerman and Gerbasi (1977:162) reported four-factor results "extremely similar" to those obtained by Collins (1974). Varimax rotation of their 46 item responses yielded four factors accounting for 8.0 percent, 6.4 percent, 7.2 percent and 9.6 percent of the variance. Of the 46 items, 37 loaded greater than plus or minus 0.35 on only one factor and twenty items had loadings of more than plus or minus 0.50. Of the remaining nine items, three loaded more than plus or minus 0.35 on two factors and six had loadings lower than plus or minus 0.35. The major difference between Collins' (1974) findings and

those of Zuckerman and Gerbasi (1977) was that, whereas Collins' four factors accounted for 76.3 percent of the variance, Zuckerman and Gerbasi's (1977) four factors accounted for 31.2 percent, a much lower figure. The items comprising the four factors identified by Zuckerman and Gerbasi (1977) however, were much the same as those in Collins' (1974) study.

In this study, varimax rotation analysis yielded only 25 items with loadings greater than plus or minus 0.35. Of these, 13 loaded greater than plus or minus 0.50, with no items loading more than plus or minus 0.35 on more than one factor. Eight items had loadings of less than plus or minus 0.35. The most significant difference between the findings in this study and those of Collins (1974) and Zuckerman and Gerbasi, however, became evident when comparison as to similarity of items comprising each of the four factors was made. Of the twelve items making up Collins' Factor 1, only five items (41.8 percent) were similar in this study. Of the eleven items comprising Collins' Factor 2 only three (27.3 percent) were similarly placed. Of Collins' eight items making Factor 3, seven (87.5 percent) were similarly placed in this study. Collins' Factor 4 comprised of 9 items had only four items similarly placed (44.4 percent) in this study.

The generally low agreement between the Collins four-factor findings and those in this study, with the exception of Factor 3, indicates perhaps that the identity of subsets within the I-E scale is still not clearly defined. Though evidence regarding the unidimensionality (the common theme) of the scale appears strong, the number and stability of identifiable factors, as indicated by Collins,

does not seem to hold up well. It is noteworthy that where eigenvalue minimums are set at 1.0 (a common practise though Overall and Klett (1972) note that there is no mathematical or statistical justification for that specific setting), the I-E scales consistently produce 8 or more factors with eigenvalues greater than 1.0. In this study no less than 17 factors had eigenvalues greater than 1.0 when total variance was computed. Usually each researcher decides how many factors should be extracted and rotated. As a result there is a disagreement as to the number and stability of the factors which may only be resolved when only those items that consistently yield a known number of similar factors are used to make up the scale.

The Leader Behavior Questionnaire

Since its inception in the Ohio State studies, the Leader Behavior Questionnaire has undergone much adaptation and modification. The basis of the first form of the Leader Behavior Description Questionnaire was a list of approximately 1800 items describing leader behavior which were reduced to 150 items and sorted into nine hypothetical subscales (Stogdill, 1974:128). Since then several factor analytic studies of the items have yielded two orthogonal dimensions of leader behavior identified as Initiating Structure and Consideration. Halpin and Winer (1957:42) defined Initiating Structure as behavior related to the definition of roles or relationships and to the establishment of well defined organizational patterns within a group by a leader. Consideration was defined as behavior indicative of warmth, friendship, respect and

mutual trust. Together these two factors accounted for more than eighty percent of the total variance in leader behavior.

Stogdill (1974:419) however, pointed out that although factor analysis suggested two dimensions of leader behavior, it was erroneous to regard leader behaviors within each cluster as identical patterns of behavior. Though restrictive, autocratic, socially distant, task-oriented, directive and structured leader behaviors were usually considered to constitute a work-oriented cluster of behaviors, these behaviors had been shown to be associated with different effects on measures of group cohesiveness, productivity and satisfaction (Stogdill, 1974).

Schriesheim and Kerr (1974:756-765) examined the psychometric properties of the LBDQ, LBDQ-XII, SBDQ and the Leader Opinion Questionnaire (LOQ) and found that only the LBDQ-XII did not include items that measure extraneous leader behavior dimensions. Responding to these criticisms House and Dessler (1974:43) developed an instrument that took into account these shortcomings. House and Dessler's (1974) questionnaire was comprised of three types of leader behavior. Their Instrumental Leadership Scale was similar to the LBDQ-XII Initiating Structure Scale, which differed from the other versions as it did not include items reflecting punitive or autocratic leader behavior. The Supportive Leadership Scale, unlike in the LBDQ or the SBDQ, did not include participative items. The Participative Leadership Scale, unlike in the LBDQ or the SBDQ, did not include participative items. The Participative Leadership Scale was made up of new items specifically developed by House and Dessler (1974:43) and of items from the LBDQ Consideration Scale that

reflected participative behavior. Factor analysis of data obtained from the responses of workers in an electronics firm yielded three oblique factors that substantiated the existence of House and Dessler's (1974) three dimensions within the Leader Behavior Questionnaire.

House and Dessler (1974:49) quoted scale reliabilities approaching 0.80 for their three leadership scales and Schriesheim and Von Glinow (1977:402) reported reliabilities of 0.78 and 0.89 for the Instrumental (renamed Directive in this study) and Supportive Leadership Scales.

However, Creed's (1978) factor analysis of the Leader Behavior Questionnaire failed to confirm the three leader behavior dimensions reported by House and Dessler (1974). Though, Creed's (1978) Leader Directive Behavior Scale and his Leader Participative Behavior Scale were conceptually similar to House and Dessler's (1974) Instrumental and Participative dimensions, he obtained no significant loading on Supportive Leader Behavior as reported by House and Dessler (1974). Instead Creed (1978) obtained a significant factor loading on items that reflected "achievement-oriented" behavior. Consequently, Creed (1978) operationalized the Leader Behavior Questionnaire in a different way to reflect the oblique factors he derived from the responses of school system personnel.

In this study, the Leader Behavior Questionnaire was subjected to oblique factor analysis to determine which operationalization, House and Dessler's or Creed's (1978) would be most appropriate. All of the items reported by House and Dessler (1974) as constituting Supportive Leadership loaded greater than plus or minus 0.40 on

Factor 1 in this study, along with 4 items that did not load on Supportive Leader Behavior in House and Dessler's (1974) oblique factor solution. Of the 6 items making up House and Dessler's (1974) Instrumental Leader Behavior, 5 loaded plus or minus 0.40 on Factor 2 in this study, along with 2 items that did not so load for House and Dessler. Of the 5 items identified by House and Dessler as comprising Participative Leader Behavior, all loaded greater than plus or minus 0.40 on Factor 2 in this study along with one item that had loaded greater than 0.40 on Instrumental Leader Behavior in House and Dessler's oblique rotation. The relationship between the oblique solution in this and House and Dessler's oblique analysis was further tested by factor matching the two solutions. The transformation matrix used to obtain the factor matched solution indicated a high degree of correlation between House and Dessler's Instrumental Leader Behavior and Factor 2 in this study ($r=0.95$), their Supportive Leader Behavior and Factor 1 in this study ($r=0.87$), and their Participative Leader Behavior and Factor 3 in this study ($r=0.97$). These high correlations were deemed to lend strong support for the concurrent validity of House and Dessler's behavior scale classification.

On the other hand a comparison with Creed's (1978) operationalization of the dimensions of the Leader Behavior Questionnaire, yielded little agreement as to the placement of the items. Of the 13 items that Creed (1978) identified as indicative of Participative Leader Behavior, nine loaded plus or minus 0.40 on the dimension identified as Supportive Leader Behavior by House and Dessler (1974) and in this study. Where Creed (1978) identified only 3 items as constituting Directive Leader Behavior, 6 were identified by House and Dessler, and 5 in this study.

The dimension 'Achievement-Oriented Behavior' created by Creed (1978) was not substantiated in this study as this new dimension was made up of items which loaded on Supportive and Directive Leader Behavior in this study as was the case in House and Dessler's findings. Thus the operationalization proposed by Creed (1978) from data obtained on an Alberta sample did not stand up.

Support for the existence of three main scales in the Leader Behavior Questionnaire was obtained in this study. Consistent with the findings of House and Dessler (1974) and Creed (1978) when total variance was computed only three factors were found to have eigenvalues greater than 1.0.

Regarding the controversy as to whether the dimensions are orthogonal as suggested by Halpin and Winer (1957), or intercorrelated as indicated by House and Dessler (1974), Kerr et al (1974), and Creed (1978), oblique factor analysis used in this study meant that the leader dimension could be expected to be intercorrelated. Pearson Product-Moment Correlation coefficients between the three leader behavior scales in this study confirmed a substantial intercorrelation between the scales. Supportive Leader Behavior and Participative Leader Behavior correlated at the 0.80 level. Directive Leader Behavior and Supportive Leader Behavior correlated at the 0.64 level and Participative Leader Behavior correlated with Directive Leader Behavior at the 0.48 level. The oblique factor solutions discussed in this section are presented in Tables 41, 42 and 43 in Appendix E.

APPENDIX C

- Table 26: Oblique Solution for the Minnesota Satisfaction Questionnaire
- Table 27: Oblique Solution for Leader Behavior Questionnaire
- Table 28: Varimax Solution for I-E Belief Scale - 2 Factor
- Table 29: Varimax Solution for I-E Belief Scale - 4 Factor

TABLE 26
 OBLIQUE FACTOR SOLUTION FOR THE MINNESOTA SATISFACTION
 QUESTIONNAIRE (N=132)

Item Number	Factor 1 Extrinsic Satisfaction	Factor 2 Intrinsic Satisfaction
1	0.32	0.01
2	0.37	0.10
3	-0.02	-0.64*
4	0.24	-0.18
5	0.72*	0.02
6	0.65*	-0.05
7	0.48*	-0.17
8	0.38	-0.14
9	-0.04	-0.51*
10	0.32	-0.06
11	-0.07	-0.76*
12	0.60*	0.03
13	0.43*	0.06
14	0.50*	-0.07
15	0.14	-0.71*
16	0.24	-0.59*
17	0.63*	-0.08
18	0.22	-0.26
19	0.43*	-0.25
20	0.04	-0.68*

* denotes factor loadings greater than 0.40.

TABLE 27
 OBLIQUE FACTOR SOLUTION OF SCHOOL PERSONNEL RESPONSES
 ON THE LEADER BEHAVIOR QUESTIONNAIRE (N=132)

Item Number	Factor 1 Supportive Leader Behavior	Factor 2 Directive Leader Behavior	Factor 3 Participative Leader Behavior
1	.07	.60*	.14
2	-.67*	.01	-.03
3	.46*	.55*	-.04
4	.92*	-.27	-.01
5	.66*	.22	-.16
6	.49*	.14	.46*
7	.79*	-.01	.10
8	.86*	.05	.01
9	.64*	.26	.10
10	-.08	.69*	.09
11	.31	.66*	-.11
12	.45*	.09	.49*
13	.51*	.46*	.01
14	-.01	.35	-.43*
15	.83*	.07	-.04
16	.43*	.42*	.06
17	.39	.16	.51*
18	-.01	.67*	-.02
19	.06	.26	.72*
20	.67*	.07	.18
21	.36	.13	.39
22	.74*	-.00	.16

* Factor loadings greater than 0.40

TABLE 28
 TWO FACTOR VARIMAX SOLUTION FOR THE
 COLLINS I - E BELIEF SCALE (N=132)

Item Number	Factor 1 Internal LOC	Factor 2 External LOC
1	0.03	0.35
2	0.32	0.09
3	0.1	0.24
4	-0.05	0.14
5	0.22	0.01
6	-0.06	0.08
7	0.23	0.11
8	-0.01	0.25
9	-0.27	0.31
10	0.11	0.17
11	-0.10	0.05
12	0.25	0.27
13	-0.18	0.19
14	0.23	-0.02
15	0.19	0.10
16	-0.36	0.28
17	0.61*	-0.06
18	-0.13	0.02
19	0.30	-0.22
20	0.07	0.41
21	0.50*	0.01
22	-0.35	0.45*
23	0.42*	0.00
24	-0.42*	0.49*
25	-0.24	0.28
26	0.54*	-0.16
27	-0.01	0.49*

28	0.12	-0.25
29	-0.02	0.44
30	0.22	0.24
31	-0.06	0.43
32	0.12	0.26
33	-0.02	0.33
34	0.29	0.11
35	0.14	0.08
36	0.13	0.28
37	-0.06	0.34
38	0.43*	0.01
39	-0.24	0.43*
40	0.27	0.16
41	0.18	0.41*
42	-0.09	0.01
43	0.36	-0.08
44	-0.26	0.22
45	-0.18	0.08
46	0.15	-0.01

* denotes factor loadings greater than 0.40

TABLE 29
FOUR FACTOR VARIMAX SOLUTION FOR THE COLLINS
I - E BELIEF SCALE (N=132)

Item Number	Factor 1:	Factor 2:	Factor 3:	Factor 4:
	Difficult Easy World	Just Unjust World	Political World	Predictable Unpredictable World
1	0.04	0.50*	0.03	-0.10
2	-0.15	0.14	0.05	0.25
3	0.10	0.36	0.25	0.06
4	-0.12	0.28	-0.15	-0.22
5	-0.19	0.09	-0.00	0.11
6	0.04	0.14	0.07	-0.1
7	-0.02	0.12	0.11	0.23
8	0.05	0.31	0.00	-0.07
9	0.30	0.25	-0.04	-0.19
10	0.02	0.21	0.06	0.08
11	0.06	0.09	0.04	-0.13
12	-0.14	0.40*	0.02	0.10
13	0.17	0.18	-0.01	-0.15
14	-0.17	0.18	0.27	0.04
15	-0.03	0.22	0.24	0.11
16	0.59*	0.05	0.06	-0.03
17	-0.28	-0.12	0.05	0.67
18	0.05	0.06	0.02	-0.16
19	-0.15	0.01	0.61*	0.14
20	-0.07	0.33	-0.54	0.10
21	-0.46*	0.30	0.13	0.16
22	0.55*	0.22	-0.09	-0.04
23	-0.09	-0.11	0.04	0.56*
24	0.66*	0.23	-0.07	-0.07
25	0.44*	0.10	-0.01	0.02
26	-0.49*	0.07	0.14	0.26

27	0.24	0.20	-0.51	0.29
28	-0.10	-0.01	0.57*	-0.08
29	0.10	0.43*	-0.19	-0.03
30	0.19	0.02	-0.05	-0.51*
31	0.33	0.20	-0.18	0.20
32	-0.07	0.33	-0.09	0.02
33	0.07	0.39	-0.05	-0.08
34	-0.08	0.14	0.10	0.26
35	0.19	0.07	0.36	0.25
36	-0.19	0.25	0.52*	0.10
37	0.37	0.04	-0.21	0.29
38	-0.32	0.17	0.10	0.23
39	0.38	0.32	-0.07	-0.09
40	0.07	0.02	-0.00	0.46*
41	0.09	0.43*	0.04	0.17
42	0.16	-0.06	0.06	0.02
43	-0.22	0.00	0.13	0.26
44	0.25	0.25	0.07	-0.25
45	0.08	0.00	-0.21	-0.12
46	-0.02	0.16	0.39	0.04

* denotes factor loadings greater than 0.40

APPENDIX D

TABLES 30, 31, 32 Frequency Distributions for I-E Scales-Collins Format

TABLES 33, 34, Frequency Distribution for I-E Scales-2 Factor Varimax
Solution

TABLES 35, 36, 37 Frequency Distributions for LBQ Scales-Oblique Solution

TABLES 38, 39, 40 Frequency Distributions for MSQ Scales-Oblique Solution

TABLE 30
 FREQUENCY DISTRIBUTION FOR TOTAL BELIEF SCORES ON THE COLLINS
 FORMAT LOC BELIEF SCALE (N=132)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
-0.185	1	0.8	0.8
-0.109	1	0.8	1.5
-0.087	1	0.8	2.3
0.0	1	0.8	3.0
0.040	1	0.8	3.8
0.051	1	0.8	4.5
0.136	1	0.8	5.3
0.159	1	0.8	6.1
0.170	1	0.8	6.8
0.205	1	0.8	7.6
0.221	1	0.8	8.3
0.263	1	0.8	9.1
0.281	1	0.8	9.8
0.293	1	0.8	10.6
0.333	1	0.8	11.4
0.341	1	0.8	12.1
0.342	1	0.8	12.9
0.355	1	0.8	13.6
0.370	1	0.8	14.4
0.375	1	0.8	15.2
0.382	1	0.8	15.9
0.386	1	0.8	16.7
0.400	1	0.8	17.4
0.415	1	0.8	18.2
0.426	1	0.8	18.9
0.428	1	0.8	19.7
0.457	1	0.8	20.5
0.469	1	0.8	21.2

0.495	1	0.8	22.0
0.511	1	0.8	22.7
0.514	1	0.8	23.5
0.547	1	0.8	24.2
0.549	1	0.8	25.0
0.554	1	0.8	25.8
0.558	2	1.5	27.3
0.562	1	0.8	28.0
0.601	1	0.8	28.8
0.630	1	0.8	29.5
0.634	3	2.3	31.8
0.636	1	0.8	32.6
0.641	1	0.8	33.3
0.643	1	0.8	34.1
0.679	1	0.8	34.8
0.681	1	0.8	35.6
0.685	1	0.8	36.4
0.687	1	0.8	37.1
0.688	1	0.8	37.9
0.694	1	0.8	38.6
0.719	1	0.8	39.4
0.725	1	0.8	40.2
0.726	2	1.5	41.7
0.730	1	0.8	42.4
0.732	1	0.8	43.2
0.761	1	0.8	43.9
0.764	2	1.5	45.5
0.766	1	0.8	46.2
0.768	1	0.8	47.0
0.774	1	0.8	47.7
0.795	1	0.8	48.5
0.808	1	0.8	49.2
0.810	1	0.8	50.0

0.813	1	0.8	50.8
0.815	1	0.8	51.5
0.819	1	0.8	52.3
0.837	1	0.8	53.0
0.841	1	0.8	53.8
0.846	3	2.3	56.1
0.850	1	0.8	56.8
0.851	1	0.8	57.6
0.855	1	0.8	58.3
0.857	1	0.8	59.1
0.859	1	0.8	59.8
0.889	1	0.8	60.6
0.891	1	0.8	61.4
0.895	1	0.8	62.1
0.899	2	1.5	63.6
0.935	1	0.8	64.4
0.937	1	0.8	65.2
0.940	1	0.8	65.9
0.945	1	0.8	66.7
0.971	1	0.8	67.4
0.975	1	0.8	68.2
0.976	2	1.5	69.7
0.984	1	0.8	70.5
0.991	2	1.5	72.0
1.013	1	0.8	72.7
1.025	1	0.8	73.5
1.027	1	0.8	74.2
1.056	1	0.8	75.0
1.058	1	0.8	75.8
1.062	3	2.3	78.0
1.063	1	0.8	78.8
1.065	1	0.8	79.5
1.092	1	0.8	80.3
1.103	1	0.8	81.1

1.111	1	0.8	81.8
1.114	1	0.8	82.6
1.150	1	0.8	83.3
1.152	1	0.8	84.1
1.154	1	0.8	84.8
1.248	1	0.8	85.6
1.275	2	1.5	87.1
1.313	1	0.8	87.9
1.317	1	0.8	88.6
1.361	1	0.8	89.4
1.368	1	0.8	90.2
1.408	1	0.8	90.0
1.413	1	0.8	91.7
1.486	2	1.5	93.2
1.543	1	0.8	93.9
1.556	1	0.8	94.7
1.574	1	0.8	95.5
1.611	1	0.8	96.2
1.649	2	1.5	97.7
1.703	1	0.8	98.5
1.743	1	0.8	99.2
1.870	1	0.8	100.0

Mean 0.807

Median 0.811

TABLE 31
 FREQUENCY DISTRIBUTION FOR INTERNAL ITEM SCORES ON THE
 COLLINS FORMAT LOC BELIEF SCALE (N=132)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
2.391	1	0.8	0.8
2.522	1	0.8	1.5
2.565	1	0.8	2.3
2.739	1	0.8	3.0
2.826	1	0.8	3.8
2.870	2	1.5	5.3
2.913	2	1.5	6.8
2.957	3	2.3	9.1
3.000	3	2.3	11.4
3.087	3	2.3	13.6
3.130	2	1.5	15.2
3.174	4	3.0	18.2
3.217	7	5.3	23.5
3.226	8	6.1	39.5
3.304	9	6.8	36.4
3.348	7	5.3	41.7
3.391	10	7.6	49.2
3.435	11	8.3	57.6
3.478	8	6.1	63.6
3.522	6	4.5	68.2
3.545	1	0.8	68.9
3.565	9	6.8	75.8
3.609	8	6.1	81.8
3.615	1	0.8	82.6
3.652	9	6.8	89.4
3.696	1	0.8	90.2
3.739	1	0.8	90.9
3.783	4	3.0	43.9

3.826	2	1.5	95.5
3.870	2	1.5	97.0
3.913	1	0.8	97.7
3.957	1	0.8	98.5
4.043	2	1.5	100.0

Mean 3.394

Median 3.432

TABLE 32
 FREQUENCY DISTRIBUTION FOR EXTERNAL ITEM SCORES ON THE
 COLLINS FORMAT LOC BELIEF SCALE (N=132)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
1.792	1	0.8	0.8
1.917	2	1.5	2.3
2.000	1	0.8	3.0
2.042	1	0.8	3.8
2.083	1	0.8	4.5
2.125	1	0.8	5.3
2.167	4	3.0	8.3
2.208	2	1.5	9.8
2.250	1	0.8	10.6
2.292	5	3.8	14.4
2.333	5	3.8	18.2
2.375	3	2.3	20.5
2.417	14	3.0	23.5
2.458	10	7.6	31.1
2.500	11	8.3	39.4
2.542	6	4.5	43.9
2.583	10	7.6	51.5
2.600	1	0.8	52.3
2.625	10	7.6	59.8
2.667	8	6.1	65.9
2.708	6	4.5	70.5
2.750	6	4.5	75.0
2.792	9	6.8	81.8
2.800	1	0.8	82.6
2.833	9	6.8	89.4
2.875	2	1.5	90.9
2.917	3	2.3	93.2
2.958	1	0.8	93.9

3.000	2	1.5	95.5
3.042	1	0.8	96.2
3.083	1	0.8	97.0
3.125	1	0.8	97.7
3.167	1	0.8	98.5
3.208	1	0.8	99.2
3.750	1	0.8	100.0
Mean	2.587	Median	2.586

TABLE 33

FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:

INTERNAL LOCUS OF CONTROL ORIENTATION (N=132) (2 FACTOR SOLUTION)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
2.545	1	0.8	0.8
2.909	1	0.8	1.5
3.000	1	0.8	2.3
3.091	1	0.8	3.0
3.182	4	3.0	6.1
3.273	2	1.5	7.6
3.364	2	1.5	9.1
3.455	12	9.1	18.2
3.545	7	5.3	23.5
3.600	1	0.8	24.2
3.636	10	7.6	31.8
3.714	1	0.8	32.6
3.727	11	8.3	40.9
3.818	15	11.4	52.3
3.909	20	15.2	67.4
4.000	19	14.4	81.8
4.091	9	6.8	88.6
4.182	3	2.3	90.9
4.273	3	2.3	93.2
4.364	2	1.5	94.7
4.545	4	3.0	97.7
4.636	3	2.3	100.0
Mean	3.810	Median	3.822

TABLE 34

FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:
EXTERNAL LOCUS OF CONTROL ORIENTATION (N=132) (2 FACTOR SOLUTION)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
1.583	1	0.8	0.8
1.667	2	1.5	2.3
1.750	1	0.8	3.0
1.833	3	2.3	5.3
1.917	2	1.5	6.8
2.000	3	2.3	9.1
2.083	4	3.0	12.1
2.167	4	3.0	15.2
2.250	3	2.3	17.4
2.333	14	10.6	28.0
2.417	12	9.1	37.1
2.500	17	12.9	50.0
2.583	14	10.6	60.6
2.667	11	8.3	68.9
2.750	11	8.3	77.3
2.800	1	0.8	78.0
2.833	11	8.3	86.4
2.917	7	5.3	91.7
3.000	2	1.5	93.2
3.083	6	4.5	97.7
3.167	1	0.8	98.5
3.250	1	0.8	99.2
3.833	1	0.8	100.0
Mean	2.536	Median	2.517

TABLE 35
 FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:
 SUPPORTIVE LEADER BEHAVIOR (N=132) OBLIQUE SOLUTION

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
2.259	1	0.8	0.8
2.500	1	0.8	1.5
2.741	1	0.8	2.3
2.778	1	0.8	3.0
2.926	1	0.8	3.8
3.000	1	0.8	4.5
3.130	1	0.8	5.3
3.167	1	0.8	6.1
3.222	1	0.8	6.8
3.241	1	0.8	7.6
3.315	1	0.8	8.3
3.333	2	1.5	9.8
3.352	1	0.8	10.6
3.407	1	0.8	11.4
3.426	2	1.5	12.9
3.481	2	1.5	14.4
3.519	1	0.8	15.2
3.537	1	0.8	15.9
3.556	2	1.5	17.4
3.574	2	1.5	18.9
3.593	2	1.5	20.5
3.630	1	0.8	21.2
3.667	2	1.5	22.7
3.704	3	2.3	25.0
3.741	1	0.8	25.8
3.759	2	1.5	27.3
3.778	4	3.0	30.3
3.796	2	1.5	31.8

3.815	1	0.8	32.6
3.852	1	0.8	33.3
3.870	2	1.5	34.8
3.889	2	1.5	36.4
3.926	1	0.8	37.1
3.944	1	0.8	37.9
3.963	3	2.3	40.2
3.981	3	2.3	42.4
4.000	1	0.8	43.2
4.019	1	0.8	43.9
4.037	4	3.0	47.0
4.056	3	2.3	49.2
4.074	2	1.5	50.8
4.111	2	1.5	52.3
4.130	1	0.8	53.0
4.148	2	1.5	54.5
4.167	1	0.8	55.3
4.185	4	3.0	58.3
4.204	4	3.0	61.4
4.222	6	4.5	65.9
4.241	2	1.5	67.4
4.259	3	2.3	69.7
4.278	1	0.8	70.5
4.296	3	2.3	72.7
4.315	2	1.5	74.2
4.333	4	3.0	77.3
4.352	1	0.8	78.0
4.370	2	1.5	79.5
4.389	3	2.3	81.8
4.407	4	3.0	84.8
4.444	5	3.8	88.6
4.463	2	1.5	90.2
4.481	2	1.5	91.7
4.500	1	0.8	92.4
4.519	1	0.8	93.2

4.630	2	1.5	95.5
4.667	1	0.8	96.2
4.722	1	0.8	97.0
4.741	2	1.5	98.5
4.815	1	0.8	99.2

Mean 3.992

Median 4.074

TABLE 36
 FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:
 DIRECTIVE LEADER BEHAVIOR (N=132) OBLIQUE SOLUTION

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
2.222	1	0.8	0.8
2.444	1	0.8	1.5
2.917	1	0.8	2.3
2.944	1	0.8	3.0
2.972	1	0.8	3.8
3.000	1	0.8	4.5
3.083	2	1.5	6.1
3.111	1	0.8	6.8
3.139	1	0.8	7.6
3.167	3	2.3	9.8
3.222	1	0.8	10.6
3.250	3	2.3	12.9
3.306	3	2.3	15.2
3.333	1	0.8	15.9
3.361	1	0.8	16.7
3.389	3	2.3	18.9
3.417	2	1.5	20.5
3.444	2	1.5	22.0
3.472	3	2.3	24.2
3.500	7	5.3	29.5
3.556	5	3.8	33.3
3.583	3	2.3	35.6
3.611	3	2.3	37.9
3.639	2	1.5	39.4
3.667	5	3.8	43.2
3.694	2	1.5	44.7
3.722	4	3.0	47.7
3.750	3	2.3	50.0

3.778	3	2.3	52.3
3.806	2	1.5	53.8
3.833	6	4.5	58.3
3.861	2	1.5	59.8
3.889	1	0.8	60.6
3.917	4	3.0	63.6
3.944	4	3.0	66.7
3.972	3	2.3	68.9
4.000	3	2.3	71.2
4.028	4	3.0	74.2
4.056	2	1.5	75.8
4.083	4	3.0	78.8
4.111	2	1.5	80.3
4.139	1	0.8	81.1
4.167	5	3.8	84.8
4.194	2	1.5	86.4
4.222	5	3.8	90.2
4.250	1	0.8	90.9
4.306	2	1.5	92.4
4.333	1	0.8	93.2
4.361	3	2.3	95.5
4.389	3	2.3	97.7
4.417	2	1.5	99.2
4.583	1	0.8	100.0
Mean	3.745	Median	3.750

TABLE 37
 FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:
 PARTICIPATIVE LEADER BEHAVIOR (N=132) OBLIQUE SOLUTION

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
2.100	1	0.8	0.8
2.233	1	0.8	1.5
2.567	2	1.5	3.0
2.667	1	0.8	3.8
2.767	1	0.8	4.5
2.800	2	1.5	6.1
2.900	1	0.8	6.8
2.933	1	0.8	7.6
3.000	2	1.5	9.1
3.033	2	1.5	10.6
3.067	2	1.5	12.1
3.167	1	0.8	12.9
3.200	1	0.8	13.6
3.233	1	0.8	14.4
3.267	2	1.5	15.9
3.300	3	2.3	18.2
3.333	1	0.8	18.9
3.367	2	1.5	20.5
3.400	2	1.5	22.0
3.433	1	0.8	22.7
3.467	2	1.5	24.2
3.500	6	4.5	28.0
3.533	4	3.0	31.8
3.567	4	3.0	34.8
3.600	6	4.5	39.4
3.633	1	0.8	40.2
3.667	3	2.3	42.4
3.700	3	2.3	44.7

3.733	8	6.1	50.8
3.767	5	3.8	54.5
3.800	3	2.3	56.8
3.833	6	4.5	61.4
3.867	2	1.5	62.9
3.900	10	7.6	70.5
3.933	2	1.5	72.0
3.967	3	2.3	74.2
4.000	5	3.8	78.0
4.033	2	1.5	79.5
4.067	3	2.3	81.8
4.100	7	5.3	87.1
4.133	2	1.5	88.6
4.167	2	1.5	90.2
4.200	1	0.8	90.9
4.267	2	1.5	92.4
4.300	1	0.8	93.2
4.333	3	2.3	95.5
4.400	2	1.5	97.0
4.500	1	0.8	97.7
4.533	1	0.8	98.5
4.667	1	0.8	99.2
4.733	1	0.8	100.0

Mean 3.689

Median 3.733

TABLE 38
 FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:
 OVERALL SATISFACTION (N=132)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
1.750	1	0.8	0.8
2.700	1	0.8	1.5
2.950	1	0.8	2.3
3.000	1	0.8	3.0
3.050	1	0.8	3.8
3.100	1	0.8	4.5
3.150	1	0.8	5.3
3.200	1	0.8	6.1
3.250	1	0.8	6.8
3.300	3	2.3	9.1
3.350	3	2.3	11.4
3.400	3	2.3	13.6
3.450	3	2.3	15.9
3.500	4	3.0	18.9
3.550	4	3.0	22.0
3.600	2	1.5	23.5
3.650	3	2.3	25.8
3.700	8	6.1	31.8
3.750	3	2.3	34.1
3.800	5	3.8	37.9
3.850	9	6.8	44.7
3.900	4	3.0	47.7
3.950	8	6.1	53.8
4.000	14	10.6	64.4
4.050	4	3.0	67.4
4.100	3	2.3	69.7
4.150	7	5.3	75.0
4.200	4	3.0	78.0

4.250	2	1.5	79.5
4.300	6	4.5	84.1
4.350	7	5.3	89.4
4.400	2	1.5	90.9
4.450	2	1.5	92.4
4.500	2	1.5	93.9
4.600	2	1.5	95.5
4.650	1	0.8	96.2
4.700	1	0.8	97.0
4.750	2	1.5	98.5
4.850	1	0.8	99.2
5.000	1	0.8	100.0
Mean	3.897	Median	3.944

TABLE 39
 FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:
 INTRINSIC SATISFACTION (N=132)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
1.750	1	0.8	0.8
2.917	1	0.8	1.5
3.333	2	1.5	3.0
3.417	3	2.3	5.3
3.500	5	3.8	9.1
3.583	2	1.5	10.6
3.667	7	5.3	15.9
3.750	7	5.3	21.2
3.833	7	5.3	26.5
3.917	11	8.3	34.8
4.000	16	12.1	47.0
4.083	14	10.6	57.6
4.167	9	6.8	64.4
4.250	9	6.8	71.2
4.333	9	6.8	78.0
4.417	9	6.8	84.8
4.500	4	3.0	87.9
4.583	3	2.3	90.2
4.667	5	3.8	93.9
4.750	3	2.3	96.2
4.833	2	1.5	97.7
4.917	1	0.8	98.5
5.000	2	1.5	100.0
Mean	4.073	Median	4.065

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TABLE 40
 FREQUENCY DISTRIBUTION FOR THE CALCULATED VARIABLE:
 EXTRINSIC SATISFACTION (N=132)

Score	Absolute Frequency	Percent Relative Frequency	Percent Cumulative Frequency
1.667	1	0.8	0.8
1.833	2	1.5	2.3
2.000	2	1.5	3.8
2.167	3	2.3	6.1
2.333	3	2.3	8.3
2.667	7	5.3	13.6
2.833	5	3.8	17.4
3.000	8	6.1	23.5
3.167	10	7.6	31.1
3.333	8	6.1	37.1
3.500	20	15.2	52.2
3.667	16	12.1	64.4
3.833	9	6.8	71.2
4.000	19	14.4	85.6
4.167	6	4.5	90.2
4.333	1	0.8	90.9
4.500	6	4.5	95.5
4.667	4	3.0	98.5
4.833	1	0.8	99.2
5.000	1	0.8	100.0
Mean	3.500	Median	3.558

APPENDIX E

- TABLE 41: House and Dessler's (1974) Oblique Solution for the LBQ.
- TABLE 42: Creed's (1978) Oblique Solution for the LBQ.
- TABLE 43: Oblique Solution for LBQ obtained in this study.
- TABLE 44: Correlation Coefficients between the Leader Behavior Scales.
- TABLE 45: Transformation Matrix for Matching LBQ Solutions.

TABLE 41
 OBLIQUE FACTOR SOLUTION OF LEADER BEHAVIOR ITEMS
 OBTAINED BY HOUSE AND DESSLER (N=198)

Item Number	Factor I	Factor II	Factor III
	Instrumental Leadership	Supportive Leadership	Participative Leadership
1	.47*	-.18	.06
2	-.15	-.35	.23
3	.46*	-.35	-.05
4	-.10	-.76*	.01
5	.23	-.46*	.03
6	-.15	-.40	.62*
7	.13	-.65*	.08
8	.05	-.72*	-.02
9	-.13	-.73*	-.13
10	.65*	.27	.10
11	.77*	.08	.17
12	.01	.10	.72*
13	.44*	-.30	.05
14	.83*	.23	-.07
15	-.03	-.97*	-.23
16	-0.6	-.66*	.15
17	.11	.07	.77*
18	.63*	.00	.01
19	.13	.04	.68*
20	-.32	-.99*	.04
21	-.01	.18	.55*
22	.07	-.47*	.23

* Denotes factor loadings greater than 0.40

Adapted from House and Dessler (1974: 46-47)

TABLE 42
 VARIMAX FACTOR SOLUTION OF LEADER BEHAVIOR ITEMS
 OBTAINED BY CREED (N=149)

Item Number	Factor I	Factor II	Factor III	Commun- alities
1	.07	.66*	.51*	.70
2	-.46*	-.49*	.02	.45
3	.19	.69*	.33	.62
4	.74*	.34	-.08	.68
5	.42*	.63*	.28	.64
6	.78*	.19	.10	.66
7	.67*	.43*	.02	.63
8	.69*	.46*	.15	.71
9	.70*	.20	.07	.57
10	.07	.30	.79*	.72
11	.23	.62*	.46*	.65
12	.81*	-.06	.23	.72
13	.38	.54*	.42*	.60
14	-.11	.19	.78*	.66
15	.63*	.48*	-.05	.64
16	.67*	.42*	-.03	.62
17	.75*	.00	.39	.71
18	.06	.04	.75*	.56
19	.84*	.05	.00	.71
20	.71*	.34	-.10	.63
21	.73*	.17	.10	.57
22	.70*	.30	.01	.57
<hr/>				
% Total				
Variance	34.1	16.4	13.1	
% Common				
Variance	53.6	25.8	20.7	

* Denotes factor loadings greater than plus or minus 0.40

Adapted from Creed (1978).

TABLE 43
 OBLIQUE FACTOR SOLUTION OF SCHOOL PERSONNEL RESPONSES
 ON THE LEADER BEHAVIOR QUESTIONNAIRE (N=132)

Item Number	Factor 1 Supportive Leader Behavior	Factor 2 Directive Leader Behavior	Factor 3 Participative Leader Behavior
1	.07	.60*	.14
2	-.67*	.01	-.03
3	.46*	.55*	-.04
4	.92*	-.27	-.01
5	.66*	.22	-.16
6	.49*	.14	.46*
7	.79*	-.01	.10
8	.86*	.05	.01
9	.64*	.26	.10
10	-.08	.69*	.09
11	.31	.66*	-.11
12	.45*	.09	.49*
13	.51*	.46*	.01
14	-.01	.35	-.43*
15	.83*	.07	-.04
16	.43*	.42*	.06
17	.39	.16	.51*
18	-.01	.67*	-.02
19	.06	.26	.72*
20	.67*	.07	.18
21	.36	.13	.39
22	.74*	-.00	.16

* Factor loadings greater than 0.40

TABLE 44
 PRODUCT-MOMENT CORRELATION COEFFICIENTS BETWEEN
 LEADER BEHAVIOR FACTORS

Leader Behavior	Factor 1 Supportive Leader Behavior	Factor 2 Directive Leader Behavior	Factor 3 Participative Leader Behavior
Factor 1: Supportive Leader Behavior	1.00	.64	.80
Factor 2: Directive Leader Behavior	.64	1.00	.48
Factor 3: Participative Leader Behavior	.80	.48	1.00

TABLE 45
 NORMALIZED TRANSFORMATION MATRIX USED FOR
 MATCHING THE SCHOOL PERSONNEL OBLIQUE FACTOR
 SOLUTION WITH THE HOUSE AND DESSLER OBLIQUE
 FACTOR SOLUTION

Oblique Factor Solution: House and Dressler (1974: 46-47)	Oblique Factor Solution School Personnel Data (N=132)		
	Factor 1 Supportive	Factor 2 Directive	Factor 3 Participative
Factor 1: Instrumental	0.31	0.95*	-0.22
Factor 2: Supportive	-0.87*	-0.21	-0.07
Factor 3: Participative	0.39	0.24	0.97*

* indicate high loadings

APPENDIX F
DISTRIBUTION LETTERS

COOPERATIVE ACTIVITIES PROGRAM

1. Nature of Activity (Check One)

Observation _____ Demonstration/Experimentation _____
Special Practicum _____ Research _____

2. Organization to be Involved

Edmonton Public School System _____ County of Strathcona _____
Edmonton Catholic School System _____ St. Albert Protestant/Separate
N.A.I.T. _____ School System _____

3. Requestor (University staff member)

Name Dr. J. Small Department Educational Administration
Telephone 432-5241 Position Professor Date Nov. 30, 1981
Request made on behalf of Walter L. Curtis
(Name)

3237 - 104 A. St. Edmonton, 435-6269
(Address) (Telephone)

4. Description of Activity - Include title, objectives, procedure, evaluation, techniques, etc.

TITLE: THE RELATIONSHIP OF LOCUS OF CONTROL ORIENTATION TO LEADER BEHAVIOR.

OBJECTIVE: A number of recent studies have related personal beliefs to styles of individual behavior. As an extension of these studies, this study is examining the nature of aspects of this relationship as it applies to the leader behavior of principals, to attempt to determine whether leader behavior can be predicted on the basis of measures of personal belief.

PROCEDURE: A stratified random sample of Alberta schools has been drawn up. The principal and six teachers in each of the sample schools will be asked to respond to a mailed questionnaire. The total sample consists of 196 principals and 1176 teachers throughout Alberta.

EVALUATION: Statistical analysis will be utilized to determine if a significant, predictable relationship between the variables exists.

5. Anticipated value to university participant:

The study is being conducted as part of the requirements for a Ph. D. The study is significant in its attempt to empirically link an aspect of individual personality to leader behavior.

6. Anticipated value to cooperating organization:

If the thesis of this study is upheld it will have implications for the identification, training, and placement of administrative personnel.

7. Suggested personnel, schools and times:

The principal and six of his teachers will be asked to complete a questionnaire on a once only basis.

Approximate time for completion of the questionnaire:

Leader Behavior Questionnaire - 15 min.

Principal's Questionnaire - 30 min.

Questionnaires will be mailed to the schools by January 15, 1982

(See attached list of selected schools.)

For Office Use Only:

Approved by _____, Field Services Date _____

Approved by _____ Date _____

Subject to the following conditions:

(a) A report of the results of findings of this project is required by the cooperating school system (check one) yes no

(b) Other

W. L. CURTIS
Dep't of Educational Administration
University of Alberta
Edmonton, Alberta
T6G 2G5
December, 1981

.....
Superintendent of Schools
.....
.....

Dear

A number of recent studies have related personal beliefs to styles of individual behavior. As an extension of these studies, I am conducting a study which is examining the nature of aspects of this relationship as it applies to the leader behavior of principals, to attempt to determine whether leader behavior can be predicted on the basis of measures of personal beliefs.

The questionnaire involves 192 principals and 1152 teachers throughout Alberta.

Several schools in your jurisdiction have been randomly selected to participate in this province wide study. The principal and six teachers are asked to respond to a questionnaire in each of the schools. The questionnaire will take only approximately 15 to 30 minutes to complete.

Although there are numerous demands on your time and the time of the selected people, I would appreciate your concurrence to have them participate in this study by directing the enclosed envelopes to the principals of the schools as addressed on each envelope.

Thank you in advance for your help.

Sincerely yours,

W. L. Curtis
Dep't of Educational Administration
University of Alberta

W. L. Curtis
Dep't of Educational Administration
University of Alberta
Edmonton, Alberta
T6G 2G5
December, 1981

The Principal,
.....School
....., Alberta.

Dear Colleague:

A number of recent studies have related personal beliefs to styles of individual behavior. As an extension of these studies, I am conducting a study which is examining further the nature of aspects of this relationship as it applies to principals.

You have been randomly selected to participate in this Alberta wide study. Although there are numerous demands on your time, please take a few minutes to complete the attached Principal's Questionnaire and to systematically distribute (1st, 3rd, 5th, etc.) the six enclosed Leader Behavior Questionnaires to six teachers on your staff.

The questionnaire involves 192 principals and 1152 teachers throughout Alberta. In order to ensure confidentiality, all data will be grouped so that identification of individual questionnaires will not be possible.

Please enclose your completed questionnaire in the attached envelope and place it in the stamped, addressed envelope for return mailing. I would also appreciate your efforts to encourage your selected teachers to place their envelopes containing their completed questionnaires into the large, stamped, addressed envelope, which could perhaps be left with your secretary for return mailing, after all the questionnaires have been collected.

I would appreciate the completion and return of the questionnaires at your nearest convenience.

Thank you in advance for your help.

Sincerely yours,

W. L. Curtis
Dep't of Educational Administration
University of Alberta

W. L. Curtis
Dep't of Educational Administration
University of Alberta
Edmonton, Alberta
T6G 2G5
December, 1981

Dear Teacher,

I am conducting a study which is examining the nature of the relationship between personal beliefs and leader behavior.

You have been selected to participate in this province wide study to help to provide a description of the behavior of Alberta principals. Although there are numerous demands on your time, please take a few minutes to complete the attached (see over) *Leader Behavior Questionnaire*.

In order to ensure confidentiality, an individual envelope is attached for you in which to place your completed questionnaire. Please place this envelope into the large, stamped, addressed envelope left with your school secretary for return mailing.

Upon receipt of the questionnaires, all data will be grouped according to number so that identification of individual questionnaires will not be possible.

I would appreciate the completion and return of your questionnaire at your earliest convenience.

Thank you in advance for your help.

Sincerely yours,

W. L. Curtis
Dep't of Educational Administration
University of Alberta

W. L. Curtis

3237 - 104 A St.

Edmonton, Alberta

T6J 4A1

The Principal,

_____ School
_____, Alberta

Re: PRINCIPAL'S QUESTIONNAIRE and LEADER BEHAVIOR QUESTIONNAIRES.

Dear Colleague,

I would appreciate very much your completion and return of the Principal's Questionnaire along with as many of the six Leader Behavior Questionnaires as your selected teachers complete and return to you. Your participation will greatly enhance the representative validity of the study.

Please note that the teacher responses must be included in the same stamped, addressed return envelope as the Principal's Questionnaire as they are not individually coded and so cannot be identified as to principal if sent separately without school identification. School coding appears only on the Principal's Questionnaire.

If you have already completed and returned the questionnaires, I thank you most sincerely for your kind consideration.

Yours truly,

W. L. Curtis

Dep't of Educational Administration

University of Alberta