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ISBN 0-315-53829-5

**A Study of the Relationship Between the
Leadership Style of the Principal and
School Effectiveness Under Differing Conditions
of Situational Favorability**

by

Wayne F. Oakley

**Thesis presented to the School of Graduate Studies and
Research as partial fulfillment of the requirements
for the degree of Ph.D. in Education**

Abstract

This study examined the relationship between elementary principals' leadership style and group effectiveness, as determined by measuring school effectiveness, under differing conditions of situational favorability. Fiedler's Contingency theory of leadership, as well as findings from the school effectiveness literature with respect to school effectiveness, provided the theoretical rationale for the study. Also examined was the assumption of the theory with respect to the relationship between leadership style (LPC) and the situational variables of task structure and position power.

The study was carried out in 33 school districts in Newfoundland and Labrador. Complete data were obtained from 176 elementary schools using mailed questionnaires. The independent variables were leadership style, and the situational variables, group atmosphere, task structure and principal position power. The instrument used to measure leadership style was the Least Preferred Co-worker scale (LPC). Situational favorability was determined by measuring group atmosphere using the Group Atmosphere Scale, task structure, using the Task Structure Questionnaire, and position power, using the Principal Position Power Questionnaire. These questionnaires were completed by the principals. The dependent variable, school effectiveness, was measured by using a modified version of Bohac's school effectiveness instrument, and was completed by teachers.

The hypotheses were as follows:

1. There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is high.

2. There will be a positive correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is moderate.
3. There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is low.
4. There is no relationship between elementary principal LPC scores and position power as perceived by the principals.
5. There is no relationship between elementary principal LPC scores and task structure as perceived by the principals.
6. For the effect of leadership style (LPC), principal-staff relations (GA) and task structure (TS) on school effectiveness:
 - 6.1 There is no effect attributable to LPC.
 - 6.2 There is no effect attributable to GA.
 - 6.3 There is no effect attributable to TS.
 - 6.4 There is no effect attributable to the interaction of LPC and GA.
 - 6.5 There is no effect attributable to the interaction of LPC and TS.
 - 6.6 There is no effect attributable to the interaction of GA and TS.
 - 6.7 There is no effect attributable to the interaction of LPC, GA, and TS.

The hypotheses were tested using the Spearman rho and Pearson product moment correlation procedures, and by using analysis of variance.

There was no significant relationship found for LPC scores and school effectiveness when the situational favorability for the principal was high or moderate. The relationship between LPC and school effectiveness under the unfavorable situation was not tested because of insufficient cases in this category. There was no relationship

found between LPC and task structure or LPC and position power. The analysis of variance found no significant effect on school effectiveness for LPC, task structure, or any of the interactions. Group atmosphere was found to have a significant effect on school effectiveness.

Fiedler's Contingency theory predicts that low LPC principals will have higher school effectiveness scores than high LPC principals when the situational favorability is high, while high LPC principals will have higher school effectiveness scores than low LPC principals when the situational favorability is moderate. The results of the hypotheses which tested these predictions did not support the Contingency theory. For hypothesis 6, the theory predicts that the LPC and group atmosphere interaction will be significant. This result was not found for this study. Fiedler has claimed that group atmosphere alone does not affect group effectiveness. In this study group atmosphere was found to affect school effectiveness. The assumption of the theory that there is no relationship between LPC and each of the situational variables was supported.

The results of this study questions the applicability of Fiedler's Contingency theory to the school context. Other findings, limitations, implications, and suggestions for further research are discussed.

Acknowledgments

This research was conducted under the supervision of Dr. Ian I. Dow, to whom the writer is deeply indebted. Appreciation is also expressed to Dr. Robert R. O'Reilly who offered very valuable assistance, and to Dr. Ruth Whitehead for her assistance, continued encouragement, and support throughout the period of the study.

The writer acknowledges with thanks the cooperation of the School District Superintendents, Principals, and Teachers of Newfoundland and Labrador. Without their participation, this study could not have been realized.

Statistical and computer program assistance from Mr. Michel Brabant are acknowledged with thanks.

To my wife, Myrna, a sincere thank you for encouragement, tolerance, understanding, and help with the coding of the data.

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Introduction

People living in modern society encounter and are part of a multiplicity of organizations. While definitions of an organization are varied and abundant, Porter, Lawler, and Hackman (1975) identified the basic components as follows: organizations are composed of individuals and groups; are oriented towards the achievement of goals; the individuals and groups are given functional responsibilities; there are mechanisms to coordinate the work of the groups; and organizations are characterized by continuity over time.

There is considerable support in the literature that leadership is essential for the effective operation of organizations (Katz and Kahn, 1966; Hall, 1972; Fiedler and Chemers, 1984). Over the years there have been a preponderance of studies looking at leadership from a characteristic or trait perspective, from a behaviors perspective, and for the past twenty years from a contingency perspective, where group effectiveness is seen to be dependent on the style of the leader and the situational factors under which the leader and subordinates find themselves.

Schools are one type of organization. Schools as organizations channel energy and resources into the recruitment, selection, and training of educational leaders on the assumption that leaders do affect organizational action and hopefully the lives of the students. Schools are organized on the basis of superordinate (principal) - subordinate (teachers) relationships.

Fiedler's Contingency theory of leadership states that the effectiveness of a particular leader will be contingent upon the leader's style of interacting with his group members and the favorability of the situation in which the leader finds himself.

Situation favorability, or the degree to which a leader controls the situation, consists of three components: leader-member relations, task structure, and position power. The Contingency theory predicts that low LPC leaders will be more effective than high LPC leaders when conditions are highly favorable or highly unfavorable. High LPC leaders will be more effective than low LPC leaders when conditions are moderately favorable.

With organizations being so central and important in modern society, it follows that organizational effectiveness would be a central construct in organizational theory. The result has been a number of alternate models of effectiveness for organizations (e.g. Etzioni, 1964; Yuchtman and Seashore, 1967; Steers, 1976; Connolly, Conlon, and Deutsch, 1980; Quinn and Rohrbaugh, 1983). For the past fifteen years or so, there has been an increased emphasis on studies related to the effectiveness of schools as organizations. While these studies are varied, and although many studies have not been without their critics (e.g. Gray, 1981; Rowan, Bossert, and Dwyer, 1983; Purkey and Smith, 1983), a common "core" of findings as to what characteristics delineate effective schools can be discerned as follows:

- a) Strong leadership on the part of the principal
- b) High expectations by the principal and staff for student achievement
- c) A system for monitoring student progress
- d) A positive, orderly climate
- e) Emphasis on basic skills achievement
- f) Clearly stated, well-defined goals
- g) Good home-school relations.

The overall research problem of this study focused on the question "What is the relationship between the leadership style of the principal and school effectiveness under differing conditions of situational favorability?" Within the school context, the task structure of the teachers has been considered to be unstructured in a number of

studies conducted in Canada (McNamara, 1968; McKague, 1970; Garland, 1973), while other studies conducted in the United States (Mellor, 1974; Bobner, 1982) found variability among the schools studied. Fiedler stated that schools were structured. The position power of the principal has been considered high in previous studies, although no measurement has been made in the studies reviewed, for elementary schools within Canada. Principal-staff relations can be good or poor. Variability on all three situational factors would provide a test of all octants. The Contingency theory, then, predicts that low LPC principals will be more effective than high LPC principals under high conditions of situational favorability (octants I, II, and III), and under low conditions of situational favorability (octant VIII), while high LPC principals will be more effective than low LPC principals under conditions of moderate favorability (octants IV, V, VI, and VII). This study measured each of the situational variables in testing the theory, and also examined the relationships between the leadership style of the principal and each of task structure and position power as perceived by the principal. Group effectiveness, as measured by school effectiveness, was determined using seven components generally associated with effective schools as found in the literature.

Review of the Literature

This chapter provides the theoretical background necessary for the understanding of this study. It begins with a description of the historical perspective of leadership from trait to contingency theories, and describes some of the studies conducted relevant to the theories of each period. Fiedler's Contingency theory is reviewed to some depth, with description of the Least Preferred Co-worker, leader-member relations, task structure and position power. A number of studies which have been conducted using the Contingency theory are reviewed, especially those studies which have applied the theory to the educational setting. Organizational effectiveness literature is reviewed, followed by relevant literature from the school effectiveness area. A brief review of the principal as leader in a school is presented. Finally, the statement of the problem, research question, and hypotheses are presented.

Historical Perspective of Leadership

Leadership has been the topic of intense speculation and controversy for thousands of years. Plato wrote of it in his famous Republic. This concept has been of interest to laymen, theorists, and researchers alike. That it has held such a central view for so long attests to its importance in the study of organizations. Katz and Kahn (1966) point out that there is an almost universal assumption that even a small subpart of an organization can operate successfully only if some person has been formally designated a leader. The interplay between the organizational structure, its environment and its members, makes leadership necessary in an organization (Hall, 1972). Fiedler and Chemers (1984) state that the quality of leadership, more than any other single factor, determines the success or failure of an organization.

Barrow (1977) states that leadership is probably the most extensively researched process known to the behavioral sciences. The fact that leadership research remains so extensive today, attests to the fact that leadership is a very complex phenomenon (Fiedler & Chemers, 1984). Despite this, Stogdill (1974) says that only a beginning has been made in understanding leadership.

A survey of literature concerning leadership indicates that various approaches have been utilized as the theory of leadership developed. One of the first major problems was in operationally defining leadership itself. Hemphill (1968) states that perhaps the most glaring inconsistency in the literature is in the depiction of the leadership concept itself. Stogdill (1974) identifies eleven different definitions of leadership in the literature as follows: a focus of group processes (Bernard, 1927); as personality and its effects (Bogardus, 1934); the art of inducing compliance (Bennis, 1959); the exercise of influence (Stogdill, 1950; Katz & Kahn, 1966); an act or behavior (Hemphill, 1949); a power relation (Raven & French, 1958); an instrument of goal achievement (Cattell, 1951; Davis, 1962); an effect of interaction (Merton, 1969); a differentiated role (Jennings, 1944); initiation of structure (Hemphill, 1954); and a form of persuasion (Koontz & O'Donnell, 1964). Hemphill (1968) redefined leadership, based on the varying definitions in the literature, as that set of power relationships which include both influence and authority. It is this definition of leadership that will be used in the present study. The leadership process is that set of behavior changes which result from accepted power.

Bavelas (1959) distinguishes between the idea of leadership as a personal quality and the idea of leadership as an organizational function. The former considers the qualities and abilities of individuals while the latter concerns the patterns of power and authority, and human interactions in organizations. Early studies of leadership dealt almost entirely with the personal qualities and abilities aspect, known as the "great man" or "trait theory" of leadership.

The "trait theory" of leadership assumed that there are people who are endowed with certain characteristics or traits that especially fit them for their tasks as leaders. This assumption leads to searching for individuals who possess these traits, for leadership positions. Training, according to this view, is very effective in improving leadership skills. Research based on this view attempts to identify these traits that determine leadership ability, and to refine the ways of measuring these traits in people. Even though extensive surveys of the research literature show little promise for this method, the notion of traits in effective leaders persist. Stogdill (1948) reviewed over one hundred and twenty trait studies. He concluded that the trait approach to leadership, as used in most studies reported, had yielded negligible, and often contradictory results. This conclusion was substantiated further (Stogdill, 1974).

Traits, alone, are of little value in predicting leadership effectiveness. Traits do, however, appear to interact to generate personality dynamics that can be an advantage in leadership responsibility. A study of personality dynamics is not the same as studying traits alone. Sanford (1952, quoted in Faulkner, 1981) contended that for a specific situation, leaders do have traits which set them apart from followers. However, what traits set what leaders apart from what followers varies from one situation to another.

An alternate theory focuses on the specific, concrete behaviors in which leaders engage. This era in leadership research has become known as the behavioral approach to the study of leadership. Studies of this period shifted the emphasis from personality characteristics to the study of what the leader actually does to influence the satisfaction and performance of subordinates.

There have been a plethora of studies which can be classified under the behavioral approach, conducted at places such as the Institute for Social Research at the University of Michigan, the Survey Research Centre in Michigan, and Ohio State

University. Those conducted at Ohio State University were probably the most extensive and well known. The work began there in 1945 and following a number of years of research, resulted in the development of an instrument to measure leader behavior known as the Leader Behavior Description Questionnaire. Although the various early editions of the instrument contained a number of dimensions, factor analytic studies reduced it to two dimensions of leader behavior: initiating structure and consideration. Halpin (1966) defines initiating structure as characterizing the leader's behavior in delineating the relationships between himself and members of the work-group, and in endeavoring to establish well-defined patterns of organization, channels of communication and methods of procedure. Consideration is defined by Halpin as behavior indicative of friendship, mutual trust, respect, and warmth in the leader-member relationship. These two leader behavior dimensions refer to leader behavior in a given situation, and not to traits of leadership, although an examination of the instrument shows that some items are concerned with aspects of the leader's personality.

Stogdill (1974) notes that many studies of leadership have been conducted using the various adaptions of the LBDQ instruments. In fact, a recent review of Dissertation Abstract International by this writer reveals extensive use of the LBDQ-XII even into the 1980's.

Korman (1969) reviewed the literature extensively on the relationship of Initiating Structure and Consideration. He found low to moderate correlation between these dimensions and other indicators of effectiveness such as ratings by superiors and subordinates. There was almost no evidence on the predictive validity of the two dimensions.

Greenfield (1968) states that the LBDQ lacked a theory base initially and was widely used because it provided a quick, easy description of the leader behavior in

groups. He says that because it merely describes leader behavior at a fixed point in time, it is not adequate to describe complex behavior in an organization.

The research of this period did identify rather consistently certain leadership behavior functions and find relationships with subordinate satisfaction. However, there was little evidence to link these behavior functions and subordinate satisfaction with group effectiveness. Korman (1969) suggested that what was needed in future studies was not just the recognition of this factor of "situational determinants" but, rather, a systematic conceptualization of situational variance as it might relate to leadership behavior.

Additional research demonstrated the strong effects of situational factors on leader behavior and effectiveness. As the research moved from "Great Man" and "Trait" approaches to "Situational" and "Behavioral" theories, it became increasingly apparent that leadership is a product of at least three components: the leader, the led, and the situation in which they all function (Crehan, 1984). Such an interactive approach to the study of leadership has come to be known as contingency theories of leadership.

Contingency Theories

Contingency theories have clearly been the dominant approach among leadership researchers at least since the mid-to-late sixties (Schermerhorn, Hunt, and Osborn, 1982). The basic guiding principle of each theory is that the most appropriate leadership in terms of follower outcomes is a question of contingencies facing the leader (Hunt, 1984).

Hendrix (1976) has identified eight such models, each of which states that leadership effectiveness is dependent upon a different variable. For example, focusing on the leader, Katz and Kahn (1966) identify hierarchical level as the independent

variable. Stogdill (1959, 1971) states it to be the role and role set of the leader. Hersey and Blanchard (1972), focusing on the subordinate, claim that the maturity level of the follower is the variable on which leadership effectiveness is contingent. House (1971), meanwhile, contends that it is worker motivation that is the contingent variable. Dubin (1965) and Woodward (1965) claim that leadership depends upon the type of production technology. Each of these models suggests that leadership effectiveness depends upon a single variable. Fiedler (1967) proposed a theory which is more complex than those outlined above, in that it is the relationship of two variables which is contingent upon a third variable, namely, that group effectiveness is dependent upon leadership style and situational favorability. Fiedler's Contingency theory initiated a research tradition which has prevailed for over two decades.

A brief overview of the Contingency theory is presented next, followed by a more detailed discussion of its constituent parts. A more detailed explanation of the Contingency theory is then given, followed by a review of empirical studies conducted on the theory, especially with respect to those conducted in the education field.

Fiedler's Contingency Theory

Fiedler's Contingency theory states that the group's performance will be contingent upon the appropriate matching of leadership style and the degree of favorableness of the group situation for the leader, i.e. the degree to which the situation provides the leader with influence over his group members (Fiedler, 1978). Leadership style is measured using the least preferred co-worker scale (LPC). The situational variables considered important in determining situation favorableness are: leader-member relations, measured by a group atmosphere scale; task structure, the degree to which task requirements are delineated; and position power, viewed as the power vested in the leader. The degree of favorability of the situation is determined by

the score on each of the three variables. These scores are weighted disproportionately with leader-member relations having the highest weighting and position power the lowest weighting. Based on post-hoc analysis of correlational studies, Fiedler dichotomized the three situational variables, used the combination of values on those variables to construct a single, eight value index of situational favorableness, and matched those values with the correlations between LPC and performance (Fiedler, 1967).

Historical Background of Least Preferred Co-worker

Fiedler's earliest work was in the field of psychology. He became interested in the therapeutic relationship between clinician and patient, a more specific situation within his general research interest of measuring interpersonal relations. One of the procedures used by clinicians at that time was "to predict the self-concept of the patient in psycho-therapy" (Fiedler, 1967). This measure revealed a positive correlation between the competency of the therapist and the perceived similarity between the therapist and the patient. Fiedler (1967) notes that this finding led to an assumption with respect to leader perceptions of their subordinates and their effects on group performance. Fiedler's work in this area ultimately led him to the leadership area.

Originally, Fiedler measured the leader's perceptions using both a most preferred co-worker and least preferred co-worker scale. The difference between these two scales measured the Assumed Similarity of Opposite (ASO). From a number of studies it was determined that these two measures, LPC and ASO, were consistently highly correlated. Consequently, only the least preferred co-worker scale (LPC) continued to be used. Over time, this scale has undergone a number of changes from a Q sort technique, to a Likert-type scale, to the present semantic differential format (Fiedler, 1967).

Measurement of the Least Preferred Co-worker (LPC)

The LPC score is obtained by asking the leader to think of all of the people with whom he has ever worked, then to focus on the one person with whom he found it the most difficult to cooperate. This person is known as the least preferred co-worker, and can be someone with whom the leader is presently working, or with whom he has worked at some time in the past¹. Describing that one person, the leader completes a 16 item semantic differential scale. An example of the LPC scale is as follows:

Pleasant:	8:	7:	6:	5:	4:	3:	2:	1	Unpleasant
Friendly:	8:	7:	6:	5:	4:	3:	2:	1	Unfriendly
Open:	8:	7:	6:	5:	4:	3:	2:	1	Guarded

Respondents indicate where on this range of eight points they would place their target person. Leaders are designated as "high LPC" or "low LPC" according to one of two procedures.

One method is based on mean item scores. Fiedler (1967), using a sample of 320, indicates that high LPC mean item scores range from 4.1 to 5.9 with a mean of 4.9 and a standard deviation of 0.82, while low LPC scores range from 1.2 to 2.2 with a mean of 1.8 and a standard deviation of 0.43. For the entire sample the mean was 3.32 and the standard deviation was 1.39. Posthuma (1970), using 2014 subjects, did a norming process finding a mean of 3.71 and a standard deviation of 1.05.

The other method of determining high and low LPC is based on the total score of the items. Fiedler (1976; 1978) indicates that a score below 58 indicates a low LPC leader while a score above 63 indicates a high LPC leader. Leaders with scores

1. The masculine gender is used throughout the dissertation to denote both male and female leaders.

between 58 and 63 are referred to as middle LPC. Fiedler (1978) states that LPC is normally distributed in the population with a mean of 60.

The two methods described above are quite clear for designating a leader's LPC score as either high, middle, or low. However, what situation pertains with respect to dividing LPC scores for a group? There are three methods either suggested or endorsed by Fiedler:

1. The leader could be labelled high and low LPC on the basis of a mean split using Fiedler's value of 3.32 or Posthuma's norm of 3.71.
2. Fiedler (1967) has indicated that only the upper and lower thirds of the sample distribution of scores should be used. Using this criteria, only those above 4.1 would be high LPC and those below 2.2 would be low LPC.
3. Fiedler (1971) endorsed the procedure used by Chemers and Skrzypek (1972) in their West Point study in which cadets whose LPC scores fell either one standard deviation above or below the mean were chosen as leaders. High LPC leaders in this study had scores approximately 4.5 or greater while low LPC leaders had scores of approximately 2.5 or less, values close to Fiedler's noted above.

Meaning of Least Preferred Co-Worker (LPC)

From the preceding explanation of the least preferred co-worker scale it can be seen that this scale is a relatively simple scale to administer. However, the interpretation of the meaning of the LPC scale has been most problematic over the years. The search for meaning has created quite a number of research studies, resulting in varying interpretations during this period. Even Fiedler has changed his position on its meaning over the past twenty years. As Fiedler stated:

In some respects the Least Preferred Co-worker score is an almost ideal psychological measure. It takes no more than 5 minutes to administer; it consists of a short set of scale items (usually 16 to 20); it has split-half reliability of above 0.90, a test-retest reliability for adults ranging from

0.5 to 0.8; and it arouses little if any resistance on the part of subjects (Fiedler and Chemers, 1974, p. 81). In addition, the score has yielded consistent relations with leadership performance. On the other hand, however, the score has been extremely resistant to any meaningful interpretation despite a persistent and intensive effort which has extended over nearly two decades (Fiedler, 1972a, p. 392). Understanding LPC has been a maddening and frustrating odyssey. For nearly 20 years, we have been attempting to correlate it with every conceivable personality trait and every conceivable behavior observation score. By and large these analyses have been uniformly fruitless (Fiedler & Chemers, 1974, p. 74).

The earliest interpretation of the score was based on the concept of psychological distance. Fiedler (1960) claimed that the person who obtained a low score was relatively distant and reserved, while the individual who received a high score formed close and intimate relations and has a tendency to become emotionally involved with others. However, this claim was not substantiated in later research.

Studies were conducted by a variety of researchers to determine whether LPC was a measure of personality, cognitive complexity, and an index of relationship versus task orientation.

For example, Bass, Fiedler, and Krueger (1964) conducted a study of 163 male college students to determine the relationship between LPC and such personality measures as social desirability and response set, personality inventories which measured self-esteem, esteem for parents and esteem for the most and least preferred co-worker. Their results yielded low and insignificant results.

A number of studies explored the relationship between LPC and cognitive complexity. Bieri (1961) suggested that LPC could be used as a measure of cognitive complexity. Fiedler (1967; 1972a) recognized this possibility. Bass, Fiedler, and Krueger (as quoted in Fiedler, 1967) reported a significant relationship between LPC scores and the tendency to use extremes, and between LPC scores and an instrument which measured the individual's tendency to categorize broadly or narrowly.

Weissenberg and Gruenfeld (1966) studied the relationship between LPC scores and the Embedded Figures Test (EFT) and found a significant curvilinear relationship where high EFT scores had significantly higher LPC scores than medium EFT scores.

Fishbein, Landy, and Hatch (1969) examined the differences in cognitive structure between high and low LPC respondents by studying the types of beliefs which each type held about their least preferred co-worker. They reported that high LPC individuals described their least preferred co-worker as bull-headed, talkative and bossy while low LPC individuals described their least preferred co-worker as unintelligent, unpleasant, obnoxious, self-centered, and egotistical. To Fishbein et al. this meant that the concept of least preferred co-worker has different meanings for high and low LPC individuals, meaning that these individuals differ in terms of cognitive structure. Fiedler (1972a) interpreted these results as evidence that high and low LPC leaders have different need structures.

A number of early studies provided support for the interpretation of the LPC score as an index of relationship-versus-task-orientation; the high LPC individual was believed to be relationship oriented while the low LPC individual was believed to be task oriented. Jones and Johnson (1972), studying 53 managers from a division of a large, national service-oriented corporation, investigated the relationship between the LPC scores of the leaders and the organizational climate as measured from their subordinates using Likert's Profile of Organizational Characteristics. They found that subordinates under high LPC leaders, regardless of their own LPC score, had more favorable perceptions of the organization than did subordinates under low LPC leaders. They state that their findings tend to support the notion that high LPC leaders are more human-relations oriented than low LPC leaders.

Hawley (1969, as quoted in Garland, 1973) in his study of elementary schools reported similar findings; he reported a correlation of $-.36$ between LPC scores and

Initiating Structure and a correlation of $-.45$ between LPC scores and Assumption of Leader Role in his examination of the relationship between LPC scores and scores on the Leader Behavior Description Questionnaire - XII.

Graham (1968) studied 116 life insurance agents, with agents being classified under high or low LPC managers. Leader behavior categories of Consideration and Initiating Structure were identified using a 27 item questionnaire. The correlation between Consideration and Initiating Structure was higher for agents under high LPC managers than it was for agents under low LPC managers. He states that taken as a whole, the results support the notion that high LPC leaders tend to be primarily human relations oriented whereas low LPC leaders tend to be more task oriented.

While the studies above tend to support the interpretation of LPC scores as an index of relationship versus task-orientation, some studies have presented contradictory evidence.

Sample and Wilson (1965) compared the behavior of leaders whose groups were conducting class projects involving laboratory experiments. The authors identified three phases in the experiment: planning it, running it, and writing the report. Running the experiment was considered most structured and planning it the least structured. The high LPC leaders made most task-relevant remarks in the running phase and fewest in the planning phase. The low LPC leaders made more positive social emotional responses in the running phase and fewest in the planning phase while the high LPC leaders made fewer positive emotional responses in the running phase and more in the planning phase. In other words, both high and low LPC leaders are friendly and considerate to group members and both are task-oriented, but at different times during the task. It is not the occurrence of the behavior which distinguishes the two kinds of leaders, but the timing of the behavior.

Fiedler (1966) designed a study of group creativity using Belgian Navy teams. These teams performed under varying conditions of situational favorableness. He found that high LPC leaders were more considerate than low LPC leaders under conditions of less favorableness, while low LPC leaders were more considerate than high LPC leaders under favorable situations.

Gruenfeld, Rance, and Weissenberg (1969) studied the behavior of high and low LPC leaders in three different situations of favorability (low, moderate, high). They found that high LPC subjects behaved in a less dominant, more accepting, more tension relaxing manner than low LPC subjects; and that low LPC subjects tended to increase their attempts at dominance, while high LPC subjects tended to increase their tension release behavior in the moderately stressful situation (unfavorable situation in Fiedler's Contingency model). They drew the conclusion that a leader's behavior is a function not only of personality, but also of the supportiveness of his subordinates.

On the basis of these studies and others, Fiedler's present interpretation is as follows:

Leaders tend to behave in a human relations-centered manner in one situation but in a job-oriented manner in another. This means that we cannot define leadership style by leader behavior. There are no generally considerate leaders, only leaders who are considerate in some situations and inconsiderate in others (Fiedler & Chemers, 1974, p. 102).

Fiedler (1972a) proposed the motivational hierarchy interpretation of LPC to account for these fluctuations. This means that people have different goals but also their motivation to achieve them corresponds to the importance they attach to each goal. When individuals function in a stressful situation they tend to focus on those goals which are of primary concern. When the environment is less stressful, attention can be directed to secondary-type goals.

Therefore, Fiedler (1972a) states that high LPC persons are motivated primarily to achieve successful interpersonal relations. Their secondary goals include

self-enhancement, prominence, and esteem from others. The primary goal of low LPC persons is directed towards goal attainment. Their secondary goals focus on interpersonal relations, especially if such relations will contribute to task achievement. When the situation is stressful or provides leaders with inadequate power and influence, the high LPC leaders will seek to accomplish the goals most important to them, the needs for affection, approval, and status, while the low LPC leaders will focus on their most important goals, the needs involving goal attainment. Under favorable conditions, when leaders know that their primary goals will be achieved, high LPC leaders will focus on their task accomplishments and on seeking status and esteem from others, for example, their superordinates, while low LPC leaders will focus on being considerate and person-oriented.

Fiedler's theory, then, maintains that different situations require different leadership styles. The leadership style of the leader and the degree of situational favorability of the group determines group effectiveness.

Historical Background of Situational Favorableness

As mentioned earlier when outlining Fiedler's Contingency theory, a prominent component of the theory is the situational favorableness dimension. This dimension was the final outcome of Fiedler's effort to develop a taxonomy of groups and its development took place over a period of time. The initial step involved differentiating between social and task groups, with task groups only being used in the theory. Task groups were categorized as counteracting, coacting, and interacting. Each category differs both in the role played by the leader, and in the requirements of its members to accomplish a task. Fiedler (1967) defines each group as follows: counteracting groups are typically engaged in negotiation and bargaining processes; coacting groups work relatively independent of other team members; and interacting groups need to work together in the performance of the task. Clearly, the leader's role must be different for each group type.

Situational Variables

Based on his research with interacting groups, Fiedler developed a classification scheme in terms of the situational factors which would be most likely to affect the degree of influence which the leader enjoyed over group behavior. Fiedler believed that there were three situational variables which were most important in the classification of interacting groups:

1. the interpersonal relationship between leader and members;
2. the structure of the task; and
3. the leader's position power.

1. Leader-member relations:

The leader-member relations variable is considered by Fiedler to be the most important of the three situational variables and when scoring it is weighted accordingly. The variable refers to the leader's affective relations with group members, to the acceptance which he can obtain, and to the loyalty which he can engender (Fiedler, 1967). The primary importance of this variable is rationalized by Fiedler on the basis of observations from many of his research endeavors. This has also been supported by Fishbein, Landy, and Hatch (1969) who concluded that "the leader-member affective relation was, as would be expected from Fiedler's model, the most important single determinant of expectations about the most effective leader's behavior." Also, Nebeker (1975) provided an empirical basis for the weighting system proposed by Fiedler. He says that Fiedler's theoretical combination is about as close to optimal as could possibly be expected. Hunt (1967) also supported that this variable is more important than the other two variables.

According to Fiedler (1967) the leader-member relationship can be assessed in one of two ways. In real life situations, the most readily available method is the

sociometric preference rating, completed by group members. The alternate and much simpler method is the Group Atmosphere Scale (GAS), which can be completed by the leader or the group. The instrument is very similar in item content to the LPC. The GAS score can be expressed either as a total or as an item mean score (Fiedler & Chemers, 1974). To reflect the level of leader-member relations, Crehan (1984) stated that it would seem reasonable to use the median split, or by trichotomizing the sample distribution when there is a sufficient number of groups.

2. Task Structure:

Task structure is considered by Fiedler to be the second most important situational variable. The leader's control is increased as task structure is increased (Fiedler & Chemers, 1974). The extent to which the task is structured or unstructured is determined by

1. decision verifiability, or the degree to which the correctness of the solution can be demonstrated either by appeal to authority, by logical procedures, or by feedback;
2. goal clarity, or the degree to which the requirements of the task are clearly stated or known to the group members;
3. goal path multiplicity, or the degree to which the task can be solved by a variety of procedures; and
4. solution specificity, or the degree to which there is more than one solution.

A structured task is characterized by high decision verifiability, high goal clarity, goal path simplicity, and high solution specificity (Fiedler, 1967).

Task structure can be determined by having the leader complete the Task Structure Rating Scale. This scale consists of ten items covering the four criteria of task structure above. Fiedler and Chemers (1984) recommend that a score of 6 or below be considered unstructured, while a score of 14 or above be considered structured.

It should be noted that Fiedler views task structure in terms of the task which the group is required to perform. It is the leader's function to ensure task achievement. To the extent that the group successfully accomplishes the task, the leader is said to be effective.

3. Position power:

Position power is viewed by Fiedler as the least important of the situational variables. This variable is the degree to which the position itself permits the leader to gain compliance from group members. This definition closely aligns it with French and Raven's (1958) concepts of legitimate power and reward and punishment power (Fiedler, 1967). This power is organizationally determined, since the organization vests the power in the position. Fiedler contends that the more position power the leader has, the greater will be his control and influence over group members.

With respect to measurement of position power, Fiedler indicates that it is in fact only rarely necessary to rate leadership positions in work contexts. Practically all managers, supervisors, foreman, and superintendents in business and industry have high position power. Practically all committee chairmen and leaders of groups of colleagues tend to have low position power (Fiedler & Chemers, 1974, p. 69).

Position power can be measured using the Position Power questionnaire developed by Fiedler (1967). The average interrater agreement among four judges rating 35 positions was .95 for this questionnaire.

Fiedler's Contingency Theory: A Closer Look

Fiedler dichotomized the situational variables into good and poor leader-member relations, structured and unstructured tasks, and strong and weak position power. These were then combined to yield eight different categories called "octants". The eight octants were then arranged in an order which represented the amount of control and influence provided for the leader by each situation, or the degree of favorableness for the leader, as represented in Figure 1.

Octant	I	II	III	IV	V	VI	VII	VIII
Leader-member relations	good	good	good	good	poor	poor	poor	poor
Task structure	high	high	low	low	high	high	low	low
Position power	strong	weak	strong	weak	strong	weak	strong	weak

Figure 1

Favorableness for the Leader Concept

Fiedler, F.E. (1967). *A Theory of Leadership Effectiveness*. New York: McGraw-Hill.
p. 176.

The Contingency theory was constructed from the research findings of approximately 18 studies relating group performance to leader LPC score, as conducted by Fiedler and his associates between 1951 and 1964. Each LPC-performance correlation coefficient (Spearman rho) was plotted according to the octant in which the group had been classified. Median correlations were then calculated for each octant to generate the curve which has become known as the Contingency theory as represented in Figure 2.

Fiedler's theory states that the effectiveness of a particular leader is contingent on the favorability of the situation in which the leader finds himself. High LPC leaders will be more effective in situations that are moderately favorable to the leader (octants IV, V, VI, VII). Low LPC leaders will be more effective in situations which are either very favorable or unfavorable (octants I, II, III, VIII). According to Fiedler, the Contingency theory is

a theory ... which states that the group's performance will be contingent upon the appropriate matching of leadership style and the degree of favorableness of the group situation for the leader, that is, the degree to which the situation provides the leader with influence over his group members. The theory suggests that group performance can, therefore, be improved either by modifying the leader's style or by modifying the group-task situation (Fiedler, 1967, p. 151).

It should be noted that although the majority of Fiedler's research has been based on interacting groups, Fiedler reports the results of several studies which indicate that the theory generalizes to coacting task groups (Fiedler & Chemers, 1974). This is important for the present study in that within the school context, the task group can be characterized as coacting.

The amount of research generated by Fiedler's theory is staggering. Crehan (1984) in her meta-analysis of the research to 1981 found over 400 works using Fiedler's theory, either partially or completely. A number of problems with the theory has been raised. Schriesheim and Kerr (1977) note that the theory is incomplete because there

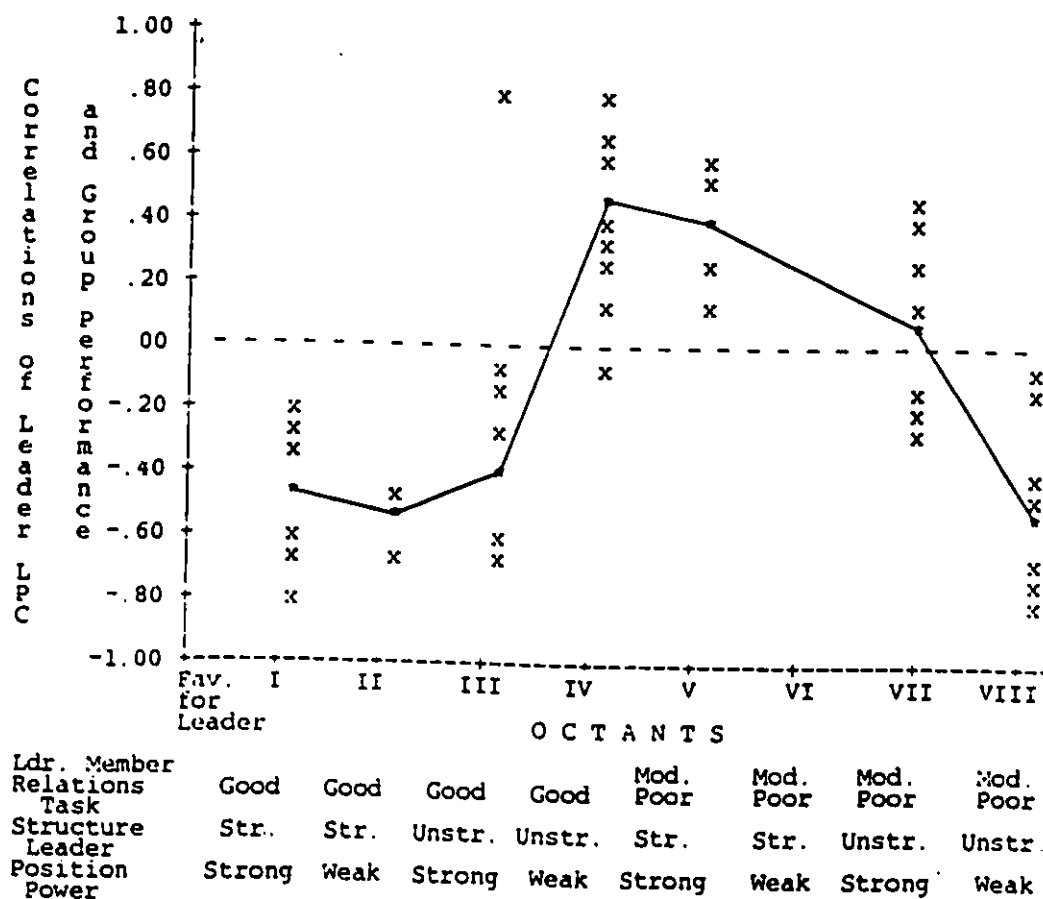


Figure 2.- Contingency Model of Leadership Effectiveness

Fred E. Fiedler, "Validation and Extension of the Contingency Model of Leadership Effectiveness; A Review of Empirical Findings," Psychological Bulletin, Vol. 67, No. 2, August 1971, p. 131.

are other variables which influence the favorableness of the situation besides the three delineated by Fiedler. Graen, Alvares, and Orris (1970) have reported that available research does not consistently support the theory with respect to statistical significance. Fiedler (1971), in a rebuttal, pointed out that in their studies they failed to follow Fiedler's definitions of terms in that position power manipulations were inadequate, and structured and unstructured tasks were insufficiently differentiated.

Shiflett (1973) claimed that the weightings given to task structure, leader-member relations and position power have not been explained satisfactorily. McMahon (1972) disputed the weighting of task structure in the model. However, Fiedler (1977) quoted studies by Nebeker (1975) and Fishbein, Landy, and Hatch (1969) to refute this criticism.

According to the theory adequacy criteria proposed by Filley, House, and Kerr (1976), it is obvious that the Contingency theory suffers from shortcomings and problems which may seriously affect its usefulness (Schriesheim & Kerr, 1977). Crehan (1984) found from her meta-analysis that there was evidence of problems of a methodological nature, especially in studies using the theory in education settings, and in terms of theory adequacy. However, she found that of all the studies she included in her review, 15% of the authors claimed support for the theory, 62% of the authors claimed partial support, and 23% of the authors found no support. Her final conclusion was that at this time, it is not possible to draw conclusive evidence of either support or non-support for the theory. She called for more stringent research, keeping in mind the methodological problems identified.

Strube and Garcia (1981), using a meta-analysis technique based on Stouffer's formula, tested the statistical validity of the Contingency theory. The sample included 33 tests that Fiedler used to derive the theory, and 145 subsequent tests of the validity of the theory. All but octant II received strong support, while it was noted that it is

extremely difficult to produce octant II situational conditions. Strube and Garcia state that "the theory as a whole was overwhelmingly supported... and given that it took 13 years to generate the present validation evidence consisting of 145 hypothesis tests, it is unlikely that the model will be disconfirmed in the near future" (p. 316).

Peters, Harke, and Pohlmann (1985) extended the work of Strube and Garcia using the meta-analytic procedures developed by Schmidt and Hunter. Their study was limited to only those specific studies pertinent to the controversy surrounding the validity of the Contingency theory as originally specified and tested—a total of 11 developmental studies and 24 validation studies. The results from the developmental data set fully support the theory on which they were based, although the results from the field studies fall short of providing full support for the Contingency theory. They state that "taken as a whole, the meta-analyses lead to a generally positive conclusion regarding the validity of the Contingency theory..." (p. 183).

On balance, then, despite seemingly contradictory evidence by various research studies, Fiedler's Contingency theory appears to remain a workable theory.

Empirical Studies from Education

A number of studies have used the Contingency theory in the school context. One of the best-known authors in this area is McNamara, who did both his master's and doctoral theses using the theory. In his master's thesis, described by Garland (1973, p. 53-56), McNamara (1967) attempted to validate the Contingency theory in elementary schools. He administered the LPC and Group Atmosphere scales to principals in 32 schools. Leader position power and task structure were not measured. The investigation assumed that the principal's position power would be weak and that the task structure of a school staff would be unstructured. Thus, octants IV and VIII of the model were tested. The indices of school staff effectiveness were based on

ratings by school system administrators. The sample of schools was trichotomized on the basis of G.A. scores, and those which had scores of 64 or less were considered to be octant VIII schools, while those which had G.A. scores of 69 or more were considered to be octant IV schools.

McNamara found that Spearman rank-order correlations between LPC scores and administrators' ratings of school effectiveness for good G.A. schools was $-.48$ ($n=11$) while the correlation for poor G.A. schools was $.31$ ($n=12$). On the basis of the relationship between the LPC scores and supervisors' ratings of school effectiveness, McNamara revised his assumptions on principal position power from low to high and placed good G.A. schools in octant III and poor G.A. schools in octant VII. Using these octants, his findings supported the Contingency theory.

In his second study McNamara (1968) included both elementary and secondary principals, who were divided into those with less than two years, and those with more than three years of experience as principals. The principals were further divided into those with low and those with high LPC scores. School effectiveness was rated by school superintendents in the case of the elementary schools, and by the results on ninth- and twelfth-grade province-wide achievement tests in the secondary schools. The average performance scores of experienced and inexperienced principals with high and low LPC scores were compared in both the elementary and secondary school settings. In the elementary school setting, the best performers as perceived by school superintendents were inexperienced high-LPC principals and experienced low-LPC principals. In the secondary school setting, the reverse was true, with inexperienced low-LPC principals and experienced high LPC principals doing best.

If the experienced elementary school principal is seen to be in a highly favorable situation and the inexperienced elementary principal in only a moderately favorable situation, and if the experienced secondary school principal is viewed as

being in only a moderately favorable situation and the inexperienced secondary school principal is in an unfavorable situation, as Fiedler suggests (Fiedler and Chemers, 1974), then McNamara's findings are explained by, and support the Contingency theory. However some of the methodological shortcomings of McNamara's study such as his lack of theoretical basis for establishing cut-off scores for the G.A. data, the fact that he did not provide descriptive statistics for the G.A. scale, his lack of reliability and validity data for the provincial examination results and, as in his first study, the relative unreliability of the untrained administrators who rated elementary schools, make the findings inconclusive.

One useful result of the study, though, involved the examination of the structure of the task by school staffs, and the position power of principals. All eight of the judges agreed that the task structure of school staffs is unstructured, and seven of the judges agreed that the position power of the principal is high. Another result is of particular importance with respect to the classification of the school staff. McNamara concluded that, on the basis of his observations, school staffs are coacting groups. Fiedler (1967) contends that even though most groups are a mixture of all three types of groups, one type predominates. For school staffs, the type is coacting (Fiedler, 1971). Fiedler says that the theory also applies to coacting groups. In fact, in later years of his research Fiedler stated:

The data on coacting task groups suggest that the distinction between interacting and coacting task groups might be unnecessary, while the distinction between task groups and training groups might be essential (Fiedler, 1971, p. 146).

Fiedler (1971) provided a summary of empirical studies, including those of school staffs, supporting that coacting task groups conform to the Contingency theory.

In 1968, McKague examined the behavior of urban high school principals in 39 high schools in Saskatchewan (McKague, 1970, p. 7-14). Principals' LPC scores were correlated with the subsets of the Organizational Climate Description Questionnaire

giving significant negative correlations with Production Emphasis, Thrust, and Consideration. McKague interpreted these results to mean that low LPC principals tend to behave in a manner which emphasizes production and yet promotes member satisfaction.

Hawley (as quoted in Faulkner, 1981) studied the relationship between scores on the Leadership Behavior Description Questionnaire (LBDQ-XII) and LPC scores of 37 elementary principals in Saskatchewan. A correlation between principals' LPC scores and person-orientation and system-orientation of the LBDQ-XII found no significant relationships. However, when G.A. was considered, there were significant relationships between LPC and person-orientation and between LPC and system-orientation for poor G.A. schools. Therefore, when the school situation was unfavorable (poor G.A.) high LPC principals were seen as person-oriented and low LPC principals were seen as system-oriented. This is consistent with the Contingency theory.

Thomson (1972) studied the relationship between experienced Ontario secondary school principals' leadership effectiveness and perceived teacher assistance. Using the Barrett-Leonard Relationship Inventory administered to students as a test of group effectiveness, he tested two hypotheses formulated around Fiedler's Contingency theory. In relation to the first hypothesis, he found that teachers did not perceive any significant difference between the helping relationship of relationship-oriented principals and task-oriented principals. Contrary to the prediction, the low LPC principals achieved the higher scores. For his second hypothesis he found a significant difference in helping relationships between teachers working in relation to the two leadership styles. However, contrary to the prediction, it was the teachers under the task-oriented principals (low LPC) who obtained the higher helping relationship scores.

Thomson's findings do not conform with predictions from the Contingency theory. However, if Thomson's average G.A. scores, range 55 to 68, are amended in line with the findings of Posthuma (1970) who found the average G.A. of organizations to be 65, then Thomson's G.A. is actually poor to moderate. This means that the situational favorability was poor in this context, which would mean that Thomson's results actually conform to the theory's predictions.

Garland (1973) studied the relationship between secondary principal-teacher interaction and staff performance using Fiedler's Contingency theory and Stern's secondary school environment factors. The initial sample consisted of 211 principals in Ontario schools with five hundred or more students. Three levels of leadership style (low LPC, intermediate LPC, and high LPC) and two levels of group atmosphere (good and poor) were used to identify schools for the experimental sample. Inadequate sample size within two of the cells resulted in only four cells of six schools each forming the experimental sample. Students in these 24 schools were administered the High School Characteristic Index and a Student Background Information Questionnaire. Results from the study indicated that staff groups led by high LPC principals in good G.A. schools did not differ in effectiveness from staff groups led by low LPC principals in good G.A. schools; good G.A. staff groups led by intermediate LPC principals did not differ in effectiveness from good G.A. staff groups led by high and low LPC principals; and staff groups led by high, intermediate, and low LPC principals in good G.A. schools were more effective than staff groups led by intermediate LPC principals in poor G.A. schools. The results of this research provided only marginal support for the Contingency theory. However, as Noble (1986) notes, the first hypothesis was very close to being accepted ($p = 0.055$), and given that the unit of analysis was only 24 schools, the possibility of a type II error should be seriously considered. Also, the results of hypothesis three (which contradicts Fiedler's

theory suggesting that G.A. itself influences effectiveness) should be interpreted cautiously. Data from only four of the possible six cells were contrasted, and in the study LPC and G.A. have a curvilinear relationship. "Thus, Garland's study appears to provide greater support for Fiedler's theory than has been reported earlier by Garland, and Garland and O'Reilly (1974)" (Noble, 1986, p. 28).

Mellor (1974) attempted to validate Fiedler's Contingency theory using 42 elementary schools in Rhode Island. He considered the schools to be coacting and obtained ratings of position power, task structure, and leader-member relations from the principals. Leadership effectiveness was determined in two ways: standardized achievement test controlled for socioeconomic status and race and staff ratings of the school environment.

Mellor determined position power to be strong for the whole sample but found variability among the schools on the dimensions of leader-member relations and task structure. Schools in this sample classified into octants I, III, V, and VII. The correlations between principal LPC scores and effectiveness as measured by standardized achievement tests were $-.36$ for octant I ($n=21$) and $-.10$ for octant III ($n=14$). Using school environment as the measure of effectiveness, the correlations were $-.02$ for octant I ($n=21$), $-.21$ for octant III ($n=14$), $-.22$ for octant V ($n=4$), and $-.39$ for octant VII ($n=5$). Mellor interpreted his results to mean that the Contingency theory was not supported.

Faulkner (1981) investigated the relationship between the principals' leadership style and school organizational structure as reflected in bureaucratization, using 205 principals and 615 teachers in Ontario. Results from the study were as follows: there was a significant negative relationship between LPC and Organizational Inventory (OI) scores (where OI is a measure of bureaucratization in "traditional" schools measured by the Description of School scale) with good leader-member relations (Spearman Rank

Order (S.R.O.) correlation of $-.828$, $p < .05$); there was a significant positive relationship between LPC and OI scores in "open" schools with good leader-member relations (S.R.O. correlation of $.705$, $p < .05$); there was a significant negative relationship between LPC and OI scores in "traditional" schools with poor leader-member relations (S.R.O. correlation of $-.592$, $p < .05$); and there was a significant negative relationship between LPC and OI scores in "open" schools with poor leader-member relations (S.R.O. correlation of $-.750$, $p < .05$).

Three of the four hypotheses of Faulkner's study supported the Contingency theory. Faulkner explained the significant negative result which contradicted the theory (for principals in "traditional" schools with good leader-member behavior) by making a case that principals in "traditional" schools may be under more stress from many sources external to the school than those principals in "open" schools and thus may be operating in a much less favorable situation than G.A. scores might seem to indicate. Consequently, the principals in such schools may be displaying their primary motivational orientation rather than their secondary orientation.

Bobner (1982), using 32 public secondary schools in Ohio, investigated the usefulness of Fiedler's Contingency theory as a guide to the study of principal leadership. Situational favorableness was calculated by obtaining measures of leader-member relations, task structure, and position power. He found that position power was strong for the complete sample, with variability among the schools on the dimensions of leader-member relations and task structure. The 32 schools were classified into octants I, III, V, and VII. Leadership style was measured by Fiedler's Least Preferred Co-worker Scale and leadership effectiveness was measured by the Elementary and Secondary School Environment Index and the median percent of the student body taking the ACT.

The results for octants I, III, and V were in the direction predicted by Fiedler's theory but were not significant. The results for octant VII provided strong support for Fiedler's theory ($p < .01$). The result of the test of the overall pattern of agreement across all octants strongly supported Fiedler's theory. Bobner notes that the results for octants I, III, and V would have been significant if one of the "non agreeing" correlations in any one of the octants had been agreeing (probability would be .035). Bobner interpreted the results of the study to show support for Fiedler's theory.

Edwards (1983) used Fiedler's Contingency theory to investigate the validity of the model for secondary school principals in Hillsborough County, Florida. Leadership style was determined by the Least Preferred Co-worker Scale. Situational favorableness was based on Leader-Member Relations, Task Structure, and Position Power. Leader Effectiveness was defined as a combination of data collection on Perceived Effectiveness by Subordinate and New Programs questionnaires. Results from this study showed non-significant but consistent negative correlations between leadership style and effectiveness in very favorable and very unfavorable situations and positive correlations between leadership style and effectiveness in moderately favorable situations. Thus, the results of the study support the direction indicated by the Contingency theory.

Monaco (1985), using 32 secondary high schools in North Central Texas studied the relationship between the leadership style of principals and their faculties' level of communication satisfaction, as well as the relationship of the respondents' biographical data with leadership style and communication satisfaction. Leadership style was measured using the Least Preferred Co-worker scale. Communication satisfaction was measured using the Communication Satisfaction Questionnaire. The results of the study indicated that there was no relationship between leadership style and the faculties' level of satisfaction with their principals' communications practices. The

teachers' level of communication satisfaction was related to the number of years they taught in the same school, with more experienced teachers showing the more dissatisfaction with the principals' communication practices. These results indicated that principals' leadership style does not appear to affect their ability to communicate satisfactorily, but that principals must improve their communication practices with more tenured teachers.

Summary

This review of leadership has shown that there is considerable support in the literature that leadership is essential for the effective operation of organizations (Katz and Kahn, 1966; Hall, 1972; Fiedler and Chemers, 1984). While there have been a number of definitions of leadership over the years (Stogdill, 1974), the present study defines leadership as "that set of power relationships which include both influence and authority" (Hemphill, 1968).

The earliest studies in the area of leadership concentrated on the characteristics or traits of leaders, while later studies focused on the specific behaviors in which leaders engaged (Stogdill, 1974). By the mid-sixties leadership researchers had realized that leadership effectiveness is a question of contingencies facing the leader (Hunt, 1984). While a number of researchers (for example Hersey and Blanchard, 1969; Stogdill, 1971; House, 1971) studied a different variable which each considered to be most important in determining leader effectiveness, Fiedler (1967) proposed a theory which was more complex in that it predicted that leader effectiveness, as determined by group effectiveness, is dependent on leadership style and situational favorability (Hendrix, 1976).

Fiedler's Contingency theory states that group effectiveness will be contingent upon the leader's style of interacting with his group members and the favorability of the

situation in which the leader finds himself. Situation favorability, or the degree to which a leader controls the situation, consists of three components: leader-member relations, task structure, and position power. The Contingency theory predicts that low LPC leaders will be more effective than high LPC leaders when conditions are highly favorable or highly unfavorable. High LPC leaders will be more effective than low LPC leaders when conditions are moderately favorable.

Fiedler's Contingency theory has been used within the school context, since the school is a type of organization, which by legislation has a person in charge, the leader, the principal. Within the school context, task structure had either been assumed, or rated by judges to be unstructured in a number of studies conducted in Canada (McNamara, 1968; McKague, 1968; Garland, 1973; Faulkner, 1981), while other studies (Mellor, 1974; Bobner, 1982) conducted in the United States actually measured task structure and found variability among the schools. Fiedler (1971) stated that schools had a structured task situation. Position power of the principal had been considered high in previous studies although no measurement had been made in the studies reviewed, for elementary schools within Canada. Principal-staff relations can be good or poor. Variability on all three situational factors provides a test of all octants. The Contingency theory predicts that low LPC principals will be more effective than high LPC principals under high conditions of situational favorability (octants I, II, and III), and under low conditions of situational favorability (octant VIII), while high LPC principals will be more effective than low LPC principals under conditions of moderate favorability (octants IV, V, VI and VII).

The present study provided a partial test of Fiedler's theory within the school context. Because of the discrepancy between Fiedler and previous studies with respect to task structure in schools, and since principal position power had not been measured in the Canadian studies reviewed, each of the situational variables was measured. A

number of the assumptions of the theory with respect to the relationship between LPC and each of the situational variables was also tested. Fiedler (1967, p. 152) has stated that no relationship exists between LPC and the situational variables. However, Garland and O'Reilly (1976) had found a curvilinear relationship between LPC and group atmosphere. None of the studies reviewed had examined the relationship between LPC and task structure and LPC and position power. Therefore these assumptions were tested in this study. Fiedler's theory was tested using school effectiveness as the measure of group effectiveness. A review of organizational and school effectiveness research follows.

Organizational Effectiveness

There is little doubt that the complexity of modern society has led to an increase in organizational life. Most people are active in a number of organizations throughout life. Etzioni (1964) defines an organization as "planned units, deliberately structured for the purpose of attaining specific goals". Schein (1970) defines organizations as "the rational coordination of the activities of a number of people for the achievement of some common explicit purpose or goal through division of labor and function and through a hierarchy of authority and responsibility". Lawler, Nadler, and Cammann (1980) offer a similar definition by defining an organization as "human or behavioral systems composed of activities and people performing in an intentionally coordinated manner to achieve some goal or mission". Porter, Lawler, and Hackman (1975), in a review of the defining characteristics of organizations, identified five common central defining aspects of organizations as follows: organizations are composed of individuals and groups; are oriented towards the achievement of goals; the individuals and groups are given functional responsibilities; there are mechanisms to coordinate the work of the groups; and organizations are characterized by some

degree of continuity over time. Katz and Kahn (1966) proposed an additional dimension by noting that organizations are open social systems interacting within a larger environment.

With organizations being so central and important in modern society, it follows that organizational effectiveness is very important. Organizational theory has dealt with effectiveness as a construct for over a century (Lewin and Minton, 1986). In recent years the popularity of the construct has extended to the general population as evidenced by the popularity and demand for books such as *Theory Z* (Ouchi, 1981), *In Search of Excellence* (Peters and Waterman, 1982) and *The Change Masters* (Kanter, 1983). However, despite the longevity of the organizational effectiveness construct and the popularization of the concept, confusion and ambiguity still characterize writings and research on the subject (Cameron, 1986).

One of the best known and most researched models of organizational effectiveness is the goal model, which is basically a rational model of organizations that is both simple and complex. Effectiveness has been defined by Etzioni (1964) as the degree to which an organization realizes its goals. However, it is realized that most organizations have multiple and frequently conflicting goals. Kochan, Cummings, and Huber (1976) have noted that since most organizations are structurally differentiated, goal multiplicity and incompatibility can almost be taken for granted in most organizations. Hannan and Freeman (1977) noted the following problems with the goal model: multiplicity of goals; most organizations have general rather than specific goals; and the temporal dimension is often neglected. They also note the difficulties of measurement of effectiveness when using the goal model. Despite these problems inherent in the goal model, Connolly, Conlon, and Deutsch (1980) note that goals remain as a central component of most theories of organizations and of organizational effectiveness, and that the goal model remains as a dominant perspective on effectiveness.

Yuchtman and Seashore (1967) and Seashore and Yuchtman (1977) have proposed an alternative to the goal model known as the resource acquisition model of organizational effectiveness. This model defines effectiveness of an organization as "the ability to exploit its environment in the acquisition of scarce and valued resources to sustain its functioning". This model is concerned with penultimate criteria such as growth in business volume and the youthfulness of the organizational members, as compared with ultimate criteria such as survival or death. This model has been criticized and questioned as to its appropriateness as a model of organizational effectiveness. Hall (1980) states that resources are sought on the basis of the paths or goals established by the dominant coalition of the organization. Scott (1977) notes that the model is overly narrow as it only utilizes the interests of the organizational directors. Campbell (1977) states that the penultimate criteria have not been arranged in any hierarchy. Although this model has not generated any coherent line of research (Pennings and Goodman, 1977), it does remain as a dominant theoretical perspective in the study of organizational effectiveness (Hall, 1980).

Hall (1980) notes that both the goal and resource acquisition models are restrictive, in that there are many contingencies of organizations beyond management control, both externally mandated, and internally generated. Connolly, Conlon, and Deutsch (1980) propose a multiple-constituency approach to organizational effectiveness, where several different effectiveness statements can be made about the focal organization, reflecting the criterion sets of different individuals and groups called constituencies. This approach allows multiple evaluations from multiple constituencies outside the organization. They see their approach as embracing other approaches to effectiveness, such as the goal and resource acquisition models. Both of these models are treated as valuable, but partial insights into organizational effectiveness.

Cunningham (1977, p. 471) gives a thorough and comprehensive account of seven models or approaches to the evaluation of organizational effectiveness each of which provides unique information about the organization:

1. The rational-goal approach which evaluates the organization's ability to achieve its goals.
2. The system-resource model which analyzes the decision-maker's capability to efficiently distribute resources.
3. The managerial-process model which assesses the capability and productivity of various managerial processes-decision-making, planning and the like.
4. The organization-development model which appraises the organization's ability to work as a team.
5. The bargaining model which measures the ability of decision makers to obtain and use resources.
6. The structural-functional approach which tests the durability and flexibility of the organization's structure for responding to diverse situations.
7. The functional approach which relates the usefulness of the organization's activities to its client groups.

The relevance and applicability of each approach depend on the particular organizational problem to be resolved.

Ratsoy (1983), his students and his colleagues at the University of Alberta have put forward what he calls the frying pan model of organizational effectiveness in an attempt to "get a handle" on the concept (p. 3). Five major categories of the model include:

1. goals;
2. other outcome measures including satisfaction, absenteeism and adaptability;
3. personnel characteristics including level of professionalism, degree of attachment, personal motives, leadership behavior, decision-making style and communication skills;
4. organizational variables including nature of the work technology used, design of the organizational structure, climate and the like; and
5. environmental variables such as boundary spanning activities, linkages with other organizations, financial, personnel, capital and idea inputs and outputs.

Clearly these are much more comprehensive and complex models than the traditional goal attainment and natural-system view of organizational effectiveness described in the earlier literature. Relatively new parameters are utilized to assess effectiveness including organizational climate, satisfaction and decision making. The complex interaction and inter-dependency of the various subsystems must also be considered if any true measure of organizational effectiveness is to be attained.

A number of studies have attempted to bring some integration to the diverse organizational effectiveness area. Steers (1975) reviewed seventeen organizational effectiveness studies and summarized the fourteen evaluative criteria mentioned in two or more cases. Of these, adaptability/flexibility was mentioned in over half of the studies reviewed, and productivity and job satisfaction were mentioned in about one third. All other criteria were mentioned in less than a quarter of the studies reviewed. Steers attributed this general lack of agreement on evaluative criteria to inadequate attention paid to certain issues concerning the effectiveness construct itself. Steers (1976) proposed a process model containing three components: optimization of goals, a system perspective, and a behavioral emphasis. Four main influences on the organization are considered: environmental characteristics; employee characteristics,

organizational characteristics; and managerial policies and practices, each of which must be consonant with the other three to achieve effectiveness.

Campbell (1977) reviewed the organizational effectiveness literature and presented a taxonomy of 30 criteria which he found being used in the literature. He noted the relative lack of value in "objective" inquiry, arguing that the development of organization-specific models based on clear, explicit assumptions would be generally more promising. Effectiveness, then, would be the degree to which the organization's 'end' objectives are accomplished subject to certain constraints.

Pennings and Goodman (1977) presented a conceptual framework of organization effectiveness beginning with antecedents and including a number of other factors such as constituencies, determinants, and environments of organizational effectiveness. Particular emphasis was placed on internal forces for example, dominant coalitions and their effects on effectiveness, and on the influence of subunit operations as determinants of overall effectiveness. "Organizations are effective if relevant constraints can be satisfied and if organizational results approximate or exceed a set of referents for multiple goals" (Pennings and Goodman, 1977, p. 160).

Miles (1980) identified five major schools of organizational effectiveness thought: scientific management; human relations; socio-technical; organizational development; and the classical economic theory of the firm. He categorized these into two main models: goal attainment and systems. Noting problems with both models, Miles proposed a convergence of both models which he called an "Ecology Model". This model viewed effectiveness as "the ability of the organization to minimally satisfy the expectations of its strategic constituencies". He noted that organizations are subject to change and so will the nature of effectiveness change with the shifting constituencies.

Scott (1977) suggested integrating the various effectiveness criteria into a system containing three basic models: a rational system model, with a mechanistic, instrumental focus; a natural system model, with an organic, system-maintaining focus; and an open system model, with a system-elaborating and system-maintaining focus.

Lewin and Minton (1986) reviewed a three-model theory by Seashore (1979) consisting of: a goal model; a natural system model; and a decision process model, with a focus on the acquisition and management of information.

Lewin and Minton (1986) also reviewed a four-model framework proposed by Cameron (1979) consisting of: a goal model; a systems resource model; an internal processes model, similar to Seashore's decision-process model; and a participant satisfaction model, where the organization is designed to satisfy each constituency represented by the dominant coalition, as a requirement for the organization's continued existence.

Quinn and Rohrbaugh (1983) using Campbell's 30 criteria of effectiveness (Campbell, 1977), designed a study to derive empirically a model which would accommodate the effectiveness criteria identified by theorists and researchers. Using a panel of theorists and researchers, in a two stage study, they determined that three value dimensions, namely, control-flexibility, internal-external, and means-ends, underlie conceptualizations of organizational effectiveness. These three dimensions can be juxtaposed giving a spatial model of organizational effectiveness, reflecting a competing-models framework, which can have several important functions: it organizes the organizational effectiveness literature; indicates the central concepts of organizational effectiveness; identifies the values in which the concepts are embedded; and provides the framework to guide subsequent research. This model supports the conclusion that "there cannot be one universal model of organizational effectiveness (Cameron and Whetten, 1983, p. 262).

Cameron and Whetten (1983) provide guidelines for bounding and assessing effectiveness models as seven critical questions as follows:

1. From whose perspective is effectiveness being assessed?
2. On what domain of activity is the assessment focused?
3. What level of analysis is being used?
4. What is the purpose for assessing effectiveness?
5. What time frame is being employed?
6. What type of data are being used for assessments?
7. What is the referent against which effectiveness is judged?

Cameron (1986, p. 540) outlines five major themes currently acknowledged by most investigators in the organizational effectiveness area as follows:

1. Despite the ambiguity and confusion surrounding it, the construct of organizational effectiveness is central to the organizational sciences and cannot be ignored in theory and research. Effectiveness is generally the ultimate dependent variable in research on organizations.
2. Because no conceptualization of an organization is comprehensive, no conceptualization of an effective organization is comprehensive. As the view of an organization changes so too does the conceptualization of an effective organization change.
3. Consensus regarding the best, or sufficient, set of indicators of effectiveness is impossible to obtain. Criteria are based on the values and preferences of individuals, and no specifiable construct boundaries exist.
4. Different models of effectiveness are useful for research in different circumstances.

5. Organizational effectiveness is mainly a problem-driven construct rather than a theory-driven construct. Because no single model or criteria set exists for organizational effectiveness, there cannot be a single theory about effectiveness.

Cameron (1986) notes that the primary task facing any investigator of effectiveness lies in determining what are the appropriate indicators and standards.

The five areas of agreement outlined above lead to the conclusion that the central area of concern regarding effectiveness is matching an appropriate model of effectiveness with the appropriate circumstances. This is not always easy to do, nor has it been done very often in organizational research (Cameron, 1986, p. 343).

Cameron's recent article is a reasonable summary of where the literature on organizational effectiveness is at this time. Clearly, much has been written about effective organizations but most researchers now believe that no definitive and clear-cut definition applicable for all situations can be found. Most would agree that organizational effectiveness is best understood in terms of continuous process rather than end state, and that managers should recognize the unique qualities of their own organizations. Organizational effectiveness should also be considered from the perspective that there are many separate constituencies involved including the societal, managerial, and individual (Lawler, Nadler, and Cammann 1980). The following section reviews relevant effectiveness research conducted on one specific type of organization, namely, schools.

School Effectiveness

In order to understand the proliferation of research related to school effectiveness, it is necessary to review historically the research in this area. Research studies during the fifties and early sixties were largely optimistic, in that they

concluded that there was a direct relationship between the quality of school services provided to pupils and their subsequent achievement, and that higher quality school services were associated with higher levels of achievement. For example, Guthrie, Kleindorfer, Lewin, and Stout (1971) outline a study by Mollenkopf and Melville (1956) in which a nationwide sample of 17,000 students in grades 9 to 12 were studied in an attempt to assess the schools' contribution to students' performance while attempting to control for out of school influences. They found a high correlation between socio-economic status and student achievement, and identified four input variables as significant determinants of pupil performance: the number of special staff; class size; pupil/teacher ratios; and per pupil instructional expenditure. From these findings the authors concluded that inputs were of central importance to school effectiveness. Another study as described by Guthrie, Kleindorfer, Lewin, and Stout (1971) was conducted by Goodman (1959). He sampled 70,000 grade 7 to 11 students in 102 school districts in New York. I.Q. and achievement test data were correlated with other variables while controlling for SES variance. Classroom atmosphere was also observed. Goodman found that the key determinants of achievement were the number of special staff, instructional expenditures, teachers' experience, and classroom atmosphere.

A superficial reading of such research would seem to lead to optimistic conclusions. In fact, policy makers incorporated these conclusions in their practice, with increased vigor. However, others criticized the generalizability of this research, given that the model of school effectiveness used was predominantly an input-output one and the measures of student achievement may not have actually identified performances which were outcomes of schooling. Mollenkopf and Melville completely overlooked the processes of schooling by concentrating on pupil-staff ratios instead of the nature of the transactions involved. It is also doubtful whether their controls for

out of school influence were adequate (Collard, 1984). Goodman's classroom atmosphere measure is also suspect.

The belief that the characteristics of a given school, particularly input variables, determine the achievement of its students has been questioned since the mid sixties. Coleman et al. (1966) did an extensive study in the United States involving 645,000 students in 3,000 schools, gathering data from teachers, principals, school district superintendents and pupils, as well as student achievement data on several standardized tests, and characteristics of the schools and their neighborhood. They found: (a) that minority group pupils performed at lower levels than white pupils; (b) the average quality of available school services varied widely both within and among regions, with the South being the most disadvantaged; and (c) school characteristics appeared to exert little influence upon achievement, which instead was highly dependent upon the pupils' social background.

Jencks et al. (1972) re-analyzed the Coleman and Project Talent data. His objective was to determine what makes for "success" in the pupil's adult life. The criteria of success which were examined included cognitive skill, educational attainment, occupational status and subsequent income. The variables examined to see if they determined success were: intelligence, social background, school quality, segregation in the school, and academic tracking. They found: (a) that inequalities in educational opportunity are widespread; (b) native intelligence and social background are the main factors which determine life success, with "luck" being another important variable; (c) no measurable school policy or resource showed a consistent relationship to the school's effectiveness in boosting student achievement or eventual attainment; (d) school factors have relatively little to do with life successes; and (e) equality cannot be achieved through schooling.

The Coleman and Jencks studies, along with others, basically concluded that schools have little effect on a child's achievement that is independent of his background and social context, and that variations in achievement scores are more likely to be a result of background factors rather than schooling. Such conclusions were a contributing factor to the proliferation of research on school effectiveness during recent years.

The more recent literature on school effectiveness concludes that differences among schools do affect students' academic achievement. Studies on the determinants of achievement have been concerned with variables relating (a) how schools and districts are structured and make decisions; (b) the process of change in schools and school districts; and (c) the way in which classrooms and schools can increase the amount of time spent on productive instruction (Purkey and Smith, 1982, p. 428).

Weber (1971) was one of the first to test the hypothesis that schools can make a difference. He studied four effective schools from a nomination list of 96 throughout the United States. He visited each of the schools, administered additional achievement tests and interviewed and observed principals and staffs. From his case study reports on each school he found the following factors common to each school: (a) strong leadership; (b) high expectations; (c) orderly climate; and (d) stress on reading, especially in the primary grades.

Shoemaker and Fraser (1981) describe the Office of Education Performance Review for New York case study of two contrasting Manhattan elementary schools, conducted during 1974. The schools were matched for median family income, percentage of families on welfare, pupil ethnicity, and pupil mobility. The study was designed to identify factors that influence reading achievement. Factors associated with the high achieving school were as follows: (a) positive pupil/teacher interaction; (b) frequent informal classroom observations by the principal; (c) a set of school-wide

practices for reading instruction; (d) attention to atmosphere conducive to learning; and (e) open communications with parents and community.

Austin (1978) studied 18 high achieving and 12 low achieving schools in Maryland. One of the major factors identified that accounted for differences among schools was the impact of the principal. Principals in the higher achieving schools were stronger leaders; participated more fully in instruction; had high expectation for themselves, teachers and students; and were oriented toward cognitive rather than affective goals.

Edmonds (1979; 1981), based on his own studies and those of other researchers such as Weber (1971), Averch, Carroll, Donaldson, Kiesling, and Pincus (1972), Brookover, Beady, Flood, Schweitzer, and Wiesenbaker (1979) and Brophy and Good (1979), lists five factors of an effective school: (a) strong administrative leadership; (b) high expectation for student achievement; (c) an orderly atmosphere conducive to learning; (d) an emphasis on basic-skill acquisition; and (e) frequent monitoring of pupil progress.

Brookover and Lezotte (1979) conducted an in-depth analysis of eight elementary schools, with six being 'improving' schools and two being declining schools. Some of their findings include: (a) improving schools accept and emphasize the importance of basic skills mastery; (b) staff and principal believe that *all* students can achieve and are committed to it; (c) principals of improving schools are assertive instructional leaders, are disciplinarians, and assume responsibility for the evaluation of the achievement of basic skills; and (d) teachers at improving schools are not satisfied with the status quo.

Rutter, Maughan, Mortimore, Quston, and Smith (1979) studied twelve London secondary schools over a three year period. They gathered data through interviews with 219 staffs, interviews and questionnaires of 2730 pupils, and observations of 402

actual lessons. Some of their findings included: (a) outcomes were better in schools where teachers expected the children to achieve well; (b) outcomes were better in schools that provided pleasant working conditions for the pupils; (c) outcomes were better in schools where praise and approval were obvious; (d) a school's atmosphere is influenced positively by the degree to which it functions as a coherent whole, with agreed ways of doing things that are consistent throughout the school and that have the general support of all staff; and (e) outcomes were better in schools where teachers presented themselves as positive role models. Although Rutter and his team did not study the influence of the principal, some members of the team did make the following observation:

"Having found evidence of considerable differences in both the overall climates and the particular practices of schools, it is now important to go on to inquire how such climates become established and then maintained or changed... Obviously the influence of the head teacher (principal) is very considerable. We did not look in any detail at the particular styles of management and leadership which worked best; this is an issue which it is now important to investigate" (p. 202, 203).

The Phi Delta Kappan study (1980) included case studies of eight exceptional elementary schools, aggregate data from 59 case studies, aggregate data from 40 research and evaluation studies, and judgments from 11 experts. Findings from this study included the following: (a) successful schools are characterized by clearly stated curricular goals and objectives; (b) the leaders' attitudes towards expectations for school or program success determine the impact of the leader on exceptional schools; (c) the behavior of the school leader is crucial in determining school success; (d) structured learning environments are particularly successful in urban classrooms; (e) successful schools are characterized by high levels of parental contact with the school; and (f) successful schools frequently use staff development or in-service training sessions to realize their objectives.

Glenn (1981) conducted case studies of four urban elementary schools, all predominantly poor and minority, and also did a more generalized study of a school system. Her findings showed that effective schools: (a) have an emphasis on the importance of explicit goals (basic skill acquisition); (b) have discipline and order in a supportive atmosphere; (c) hold high expectations for student achievement; and (d) have strong leadership from the principal. In addition she suggested that school effectiveness is enhanced by joint planning by the staff, by having staff development activities, and by having efficient, coordinated scheduling and planning of activities, resources, and people.

As with the more general organizational effectiveness literature, the school effectiveness research area has not been without its critics. Gray (1981) issues a caution to those who would uncritically embrace the school effectiveness research and embark on expensive school improvement projects. He identifies a number of key areas for future research as follows: (a) better evidence for the size and stability of school effects; (b) closer attention to the values and assumptions underlying particular measures of outcomes, as well as more research into the relationships between them; (c) more appropriate strategies for controlling for differences in intakes to different schools; (d) larger samples of schools; and (e) more open-ended approaches to the study of differences in school processes, employing qualitative techniques to complement quantitatively-defined frameworks. Despite these weaknesses of past studies, Gray does note that he believes that schools do have effects, but what is at issue is how large and consistent these effects are and the extent to which they may be linked to what schools have done to or for their pupils.

Rowan, Bossert, and Dwyer (1983) discuss a number of conceptual and methodological shortcomings that are justification for practitioners or school improvement efforts to be cautious. They note the following problems: (a) the narrow,

goal-oriented measure of effectiveness which has usually been the standardized achievement tests; (b) problematic research design, with the practice of using "contrasted groups", which has identified factors that co-vary with school effectiveness but has provided little information about the casual relationships among variables; and (c) the tendency for global comparisons, where data are aggregated to the school level, thus ignoring the important variations in school organizations and outcomes that occur within schools. They suggest that for future studies researchers must begin to employ multivariate data analysis strategies, and also that theoretical considerations call for a more careful analysis of interaction effects. Despite the cautions raised, they agree with Edmonds (1979) and Clark, Lotto, and McCarthy (1980) that there are tractable aspects of school organization and culture that affect instructional outcomes, and that research should continue to investigate how to make schools more effective.

The critical review by Purkey and Smith (1983) is probably one of the best known of the school effectiveness literature. They note the following weaknesses of school effectiveness research to date: (a) small and unrepresentative samples; (b) possible errors in identifying effective schools because of uncontrolled student body characteristics such as social class; (c) achievement data aggregated at the school level; (d) inappropriate comparisons if any comparisons are made at all; and (e) the use of subjective criteria in determining school success. They note that for the future there should be more emphasis on longitudinal studies in a variety of schools, a fuller investigation of the process by which schools increase, decrease, or maintain effectiveness, and more attention paid to using school effectiveness research for school improvement efforts, especially with respect to implementation. However, Purkey and Smith (1983) conclude with the following:

Specific criticisms of particular studies and methodologies notwithstanding, and disregarding a number of inconsistencies in findings, there remains an intuitive logic to the results of the research...
(p. 66)

Having expressed our reservations about the available research and writing on school effectiveness, we nevertheless find a substantive case emerging from the literature. There is a good deal of common sense to the notion that a school is more likely to have relatively high reading or math scores if the staff agree to emphasize those subjects, are serious and purposeful about the task of teaching, expect students to learn, and create a safe and comfortable environment in which students accurately perceive the school's expectations for academic success and come to share them... (p. 67)

The research findings discussed above, as well as many others which can be associated with the effective school research, delineate a number of factors as having importance for school effectiveness as follows: strong leadership on the part of the principal; high expectations by the principal and staff for student achievement; a positive, orderly climate; emphasis on basic skills development; clearly stated, well defined goals; frequent and systematic evaluation of students; and good home, school relations. These common factors constituted the components from which an overall school effectiveness measure was determined for the purpose of this study.

The Principal as Leader

As can be seen from a review of the school effectiveness literature, the school principal plays an important leadership role. Wright and Renihan (1985) note that school leadership, that is, principal leadership, is critical in influencing how effective a school will be. There is a well-documented body of literature in educational administration which shows the importance of the school principal on many varied aspects of school operations.

Lipham (1977), a major theorist in the management of educational change, examined the role of the principal in change efforts involving an innovation from outside the school. He concluded that the principal is a significant internal change agent and a crucial linkage agent for the school.

Youngs and Brooks (1980) suggested that in the society of today, change is occurring at a very rapid rate creating the need for a stabilizing factor in the school. They indicated that the establishment of a school philosophy is crucial for stability and that the principal must assume responsibility for its development.

Geering (1980) stated that the principal is "pivotal" to the success of the school. In making decisions, establishing communication patterns, setting school climate, introducing innovations, supervising curriculum, maintaining physical facilities, and establishing good school-community relations, it is the principal who is primarily responsible for teacher morale and for pupil and staff performance.

Hoy and Henderson (1982) examined the authenticity of principals in relation to its influence on school climate and pupil-control. They demonstrated clearly that "the principal is the single most important individual in setting the tone of relationships in an elementary school" (p. 125).

Wright and Renihan (1985) state that one of the most recurring themes in the description of the role of the principal is that the only way instructional programs improve in schools is for the principal to provide teachers with sound instructional leadership.

Fullan (1982) presents a summary of the related research and suggests that the principal is not only the key to successful curriculum implementation in schools, but that there are a number of direct actions which principals must take to insure success including establishing the change as a priority for the school, communicating the curriculum, clarifying roles in the change effort and providing adequate supervision.

Leithwood and Montgomery (1981) addressed the role of the principal in program improvement. They suggested that the principal is the key to program improvement because of the effect exercised on factors related to student classroom and school-wide experiences such as materials and resources, time management, and the physical environment.

Lieberman and Miller (1981) stated without question that in efforts to improve the quality of schooling "the principal is the critical person in making change happen" (p. 583).

Clark, Lotto, and McCarthy (1980) did a review of 97 research studies, focusing on six clusters of variables generally thought to influence school performance: leadership; personnel; finance; curriculum and instruction; resources and facilities; and the community. School success was defined as positive change in any one of a combination of student achievement, student attitude toward school, teacher attitude toward school and students, and community-parent attitude toward school. They found that leadership style or behavior was one of the strongest identified variables. They noted that leaders are important because they influence the behavior of subordinates and other school participants. They initiate programs, set policy, and obtain material and fiscal resources. Principals are important because they are the designated leaders of schools. The research studies noted that leaders and leader behavior related strongly to school success. Leadership style and leader attitude were the variables mentioned as explanations for leader effect.

Sapone (1983) did a study involving principals, superintendents, and board members where they were asked to respond to a questionnaire containing a number of major characteristics of effective schools, by rating the ideal and realistic characteristics which should be included in the local school. One of the major findings showed that there was almost universal agreement of the need for schools to have a strong principal. He noted that this finding gives credence to the important leadership role that the principal must provide as he strives to merge the necessary links between the management and leadership of the school and the learning that is associated with that performance.

Finn (1984) felt so strongly about the importance of the principal as a characteristic contributing to school effectiveness that he stated "if policy makers could do only one thing to improve a school, they would be wise to hire the best principal they could find, and give that person wide authority" (p. 521). He went on to outline nine directions for implementing an effective school model.

Summary

The preceding studies conducted on the role of the principal demonstrated that the principal plays an important leadership role in the school. The literature review on school effectiveness also noted that one of the characteristics of school effectiveness was that a school have a strong leader as principal. Different studies draw different conclusions on just where the principal should place his emphasis with some, for example, saying instructional leadership and others saying administrative leadership. Few studies have mentioned the situational context of the principal and staff in a school. Rowan, Bossert, and Dwyer (1983) come closest to noting this omission in the literature in discussing the problems of generalization with respect to some of the school effectiveness literature. They state:

Theoretical considerations also call for a more careful analysis of interaction effects. For example, several prominent contingency theories in the literature on organizational effectiveness discuss the varying effects of organizational structures in different settings (e.g. Fiedler, 1967; Lawrence and Lorsch, 1967), and some of these seem immediately relevant to effective schools research.

As noted earlier in the chapter when discussing the Rutter, Maughan, Mortimore, Quaston, and Smith (1979) study (p. 44), members of that study noted the obvious importance of the leadership style of the headmaster (principal). Clark, Lotto, and McCarthy (1980) also found that leadership style or behavior was one of the strongest identified variables related to school effectiveness. This present study, then was an attempt to provide information in an area that has been noted in the literature to be deficient.

Fiedler's Contingency theory states that the effectiveness of a particular leader will be contingent upon the leader's style of interacting with his group members and the favorability of the situation in which the leader finds himself. The favorability of the situation is the degree to which it provides the leader with control and influence over the group (Fiedler, Chemers, and Mahar, 1976). In an updated explanation of his theory Fiedler stated:

This theory holds that the effectiveness of a group or an organization depends on two interacting or "contingent" factors. The first is the personality of the leaders which determines their leadership style. The second factor is the amount of control and influence which the situation provides the leaders over their group's behavior, the task, and the outcome. This factor is called "situational control" (Those familiar with the Contingency Model will recall this as "situational favorableness", a term which was confusing to some) (Fiedler, Chemers, and Mahar, 1976, p. 3).

In his theory Fiedler treats the different situational categories as a continuum rather than eight separate categories. He makes three differentiations in terms of situational control, namely high, moderate, and low. Furthermore, he gives leader-member relations a weighting of double that of task structure and four times that of position power, under usual circumstances. Fiedler explains leader behavior in terms of need satisfaction of primary and secondary goals for two different motivational systems under stressful or non-stressful conditions as perceived by the leader.

The high LPC leader under stressful conditions, that is, under situations of high or low situational control, seeks to satisfy his primary need which is good interpersonal relations. Under non-stressful conditions, that is, under situations of moderate control, when the leader feels quite secure and relaxed because the major goal of having close relations with subordinates has been achieved, the high LPC leader seeks the secondary goal of esteem and admiration of others.

On the other hand, the low LPC leader, in a stressful leadership situation, that is, under situations of moderate situational control, seeks to satisfy his primary need,

accomplishment of some tangible evidence of his worth, and emphasizes completing the task. Under non-stressful conditions, that is, under situations of high or low situational control, when the low LPC leader knows the task will get done, he will seek his secondary motivational goal need, that is, good interpersonal relations, and will be concerned with subordinates' feelings and satisfaction.

For Fiedler's theory, octants I, II, and III are high, octants IV, V, VI and VII are moderate, and octant VIII is low, in terms of situational control.

This study attempted to determine if a relationship existed between the principal's leadership style and group effectiveness, as determined by measuring school effectiveness, under varying conditions of situational favorability. Within the school context there is some question as to whether task is structured or unstructured, with a number of Canadian studies assuming the unstructured task situation, while some of the American studies have found both structured and unstructured task situations. Fiedler (1971) stated that schools had a structured task situation. The principal is deemed to have high position power, although none of the Canadian studies measured this variable for the elementary school situation. The principal-staff relations can be good or poor. Because of the discrepant results for task structure in previous studies, each of the situational variables was measured in this study. Consequently, the study provided a test of Fiedler's theory for the octants identified. Also, an analysis was made to determine if there was a relationship between leadership style and principal perceptions of position power and between leadership style and principal perceptions of task structure. Fiedler has stated that LPC is not related to any of the situational variables. Although Garland and O'Reilly (1976) tested this assumption for LPC and group atmosphere and found a significant curvilinear relationship, there was no evidence that previous studies in schools had tested these assumptions with respect to LPC and task structure and LPC and position power.

Statement of the Problem

This research studied the relationship between the leadership style of elementary principals and school effectiveness, under varying conditions of situational favorability or control. The relationship between leadership style and principal perceptions of position power and between leadership style and principal perceptions of task structure was also explored. The theoretical rationale for the study is based on Fiedler's Contingency theory and on the findings from the organizational and school effectiveness literature which shows the importance of the principal as one of the factors contributing to school effectiveness.

For schools, Fiedler's Contingency theory states that group effectiveness is determined by a combination of the leadership style of the principal and the situational favorability for the principal. Situational favorability, or the degree to which the principal controls the situation, is defined by Fiedler to consist of three factors: principal-staff relations, task structure, and principal position power. Principal-staff relations refers to the leader's affective relations with group members, to the acceptance which he can obtain, and to the loyalty which he can engender and is measured using a Group Atmosphere Scale. Task structure, the degree to which the task is structured or unstructured, is determined by decision verifiability, goal clarity, goal path multiplicity and solution specificity and is measured using the Task Structure Rating Scale. Principal position power, which refers to the degree to which the position itself permits the leader to gain compliance from the staff, is measured using the Position Power Rating Scale. Leadership style, based on an inner need structure which Fiedler explains using a motivational hierarchy interpretation, is measured by a Least Preferred Co-worker Scale.

As it applies to the school context, Fiedler's theory predicts that low LPC principals are more effective than high LPC principals when the situation is favorable

or unfavorable and that high LPC principals are more effective than low LPC principals when the situation is moderately favorable. Group effectiveness is a school effectiveness measure using the following components as identified from the school effectiveness literature: strong leadership on the part of the principal; high expectations by the principal and staff for student achievement; a system for monitoring student progress; a positive, orderly climate; emphasis on basic skill achievement; clearly stated, well-defined goals; and good home-school relations. These components are generally recognized as prerequisites for school achievement. That is, effective schools have been found to have these characteristics. Most of the studies from which these characteristics have been identified have used student achievement as the major criterion in identifying effectiveness. Consequently, the measure of group effectiveness for this study was indirect since there was no direct measure of student achievement.

The specific questions of the study were as follows:

1. What is the relationship between elementary principal LPC scores and school effectiveness when the situational favorability for the principal is high? (Octants I, II, III)
2. What is the relationship between elementary principal LPC scores and school effectiveness when the situational favorability for the principal is moderate? (Octants IV, V, VI, VII)
3. What is the relationship between elementary principal LPC scores and school effectiveness when the situational favorability for the principal is low? (Octant VIII)

4. Is there a relationship between elementary principal LPC scores and position power as perceived by the principals?
5. Is there a relationship between elementary principal LPC scores and task structure as perceived by the principals?
6. What is the effect of leadership style (LPC), principal-staff relations (GA), and task structure (TS) on school effectiveness?

The hypotheses of the study were as follows:

1. There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is high.
2. There will be a positive correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is moderate.
3. There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is low.
4. There is no relationship between elementary principal LPC scores and position power as perceived by the principals.
5. There is no relationship between elementary principal LPC scores and task structure as perceived by the principals.
6. For the effect of leadership style (LPC), principal-staff relations (GA) and task structure (TS) on school effectiveness:

6.1 There is no effect attributable to LPC.

6.2 There is no effect attributable to GA.

6.3 There is no effect attributable to TS.

6.4 There is no effect attributable to the interaction of LPC and GA.

6.5 There is no effect attributable to the interaction of LPC and TS.

6.6 There is no effect attributable to the interaction of GA and TS.

6.7 There is no effect attributable to the interaction of LPC, GA, and TS.

Research Design

In this chapter, information on the design of the study is presented. The first section outlines the design rationale and give a description of the sample, as well as an explanation of the procedure used in collecting the data. The second section gives information relative to the instruments used in the study, with a description given of the procedure used to validate the modified version of the school effectiveness instrument. Other sections give the limitations and delimitations of the study. The plan for the statistical analysis is outlined in the final section of this chapter.

1. Design Rationale and Sample

This study was a non-experimental type of investigation carried out in the elementary schools in Newfoundland and Labrador. It examined the relationship between the leadership style of the principal and school effectiveness, under differing conditions of situational favorability. The study was of the hypothesis-testing type of field studies. There was no control over the independent variables, namely leadership style and the situational variables of principal-teacher relations, task structure, and position power. Also, there was no possibility for random assignment to groups or experimental manipulation. These are weaknesses of ex post facto research as recognized by Kerlinger (1973). However, this type of research continues to play a crucial role in educational research, because the many interesting problems to be identified and solved in those fields are not always amenable to experimentation.

The data were collected from the elementary school population in the province of Newfoundland and Labrador. Superintendents of the 34 school districts in the province were written and permission requested for involvement of the schools in their district. The complete list of principals, with school addresses, by district was available from the *Directory of Schools* published by the Newfoundland and Labrador Department of Education, 1986-87. Superintendents were requested to provide the names and addresses of principals who had not been in their position for two years, since these principals were excluded from the sample. The decision to exclude the principals was based on the evidence by Likert (1961) that approximately two years are required for a change in administrative variables to affect output variables. Also, Fiedler (1972b) suggested that the first two years of the principalship are less favourable than subsequent years in relation to his theory. Thirty-three of the Superintendents responded, all giving permission for principals to be contacted. A copy of the letter to the Superintendents is included in Appendix A.

Principals of schools with more than four teachers on staff were written and their cooperation solicited for participation in the study, resulting in 281 schools being contacted. One copy of each of the LPC Scale, Group Atmosphere questionnaire, Task Structure Scale and Principal Position Power questionnaire was included for the principal to complete. A minimum of four and maximum of eight School Effectiveness questionnaires were sent to schools, dependent on school size. Principals were requested to randomly assign questionnaires to K-6 teachers, ensuring representation of teachers across the grades. A copy of the letter to principals is included in Appendix B.

From the 281 schools contacted, 184 returned packages, for a return rate of 65.5 percent. Of the packages returned, eight could not be used because of incomplete principal data. This resulted, then, in 176 schools being used in the study.

2. The Instruments

The Least Preferred Co-worker Scale

The Least Preferred Co-worker (LPC) score was obtained by asking the principal to think of all the people with whom he has ever worked, then to focus on the one person with whom he found it the most difficult to cooperate. This person is known as the least preferred co-worker, and can be someone with whom the principal is presently working, or with whom he has worked at some time in the past.

Describing that one person, the principal completes a 16 item semantic differential eight point scale. The LPC score is obtained by simply summing the item scores on the scale sheet. A person with a high LPC score tends to see even a poor co-worker in a relatively favorable manner. A low LPC person perceives his least preferred co-worker in a highly unfavorable, rejecting manner. LPC scores have a high internal consistency, with split-half coefficients of over .90. The scores are reasonably stable over time, at least as stable as other attitude measures (Fiedler, 1964, p. 155).

Gruenfeld, Rance, and Weissenberg (1969) reported a test-retest coefficient of .85 ($n=126$) over a five-week period. McNamara obtained a test-retest coefficient of .45 ($n=32$) for elementary principals over a period of eighteen months (McNamara, 1968, p. 195).

A copy of the Least Preferred Co-worker Scale is found in Appendix C.

The Group Atmosphere Scale

The Group Atmosphere scale (GA) was used to measure principal-teacher relations. This scale was developed by Fiedler to test the degree to which a leader feels accepted by the group, and the loyalty which he can engender (Fiedler, 1967). The instrument, modeled after the Least Preferred Co-worker scale, consists of 10

bipolar adjective items which are highly intercorrelated (Fiedler, 1967, p. 32). Each of the items is scored by assigning a value ranging from eight at the positive end to one at the negative end. The GA is calculated by summing the item scores, indicating the leader's perception of his acceptance by the group.

The internal consistency of Group Atmosphere scores appears high. Fiedler (1967) reported intercorrelations of scores among three sessions with Belgian naval leaders at .76, .73, and .83. Corrected split-half reliability of the scale was .90. McNamara (1968) reported a test-retest coefficient of .42 ($n=31$) for elementary principals over a period of one and one half years, while Garland and O'Reilly (1976) reported a test-retest coefficient of .67.

A copy of the Group Atmosphere Scale is found in Appendix D.

Principal Position Power Questionnaire

Hunt's instrument (1967) derived from Fiedler's original questionnaire contains 13 items that are answered "yes" or "no". The average interrater agreement among four judges rating 35 positions was .95 (Fiedler, 1967).

Bobner (1982) adapted the instrument language to an educational setting. Specifically, the changes in wording made are: supervisor to principal, subordinate to teacher, and subordinate's jobs to teacher's tasks.

One other modification of the instrument was made. The last question asks if the company official filling out the instrument is given a title by the organization which differentiates him from his subordinates. All principals are differentiated by title from their staffs; therefore, the instrument as presented to the principals did not have this question included.

A copy of the Principal Position Power Questionnaire is found in Appendix E.

Task Structure Rating Scale

The Task Structure Rating Scale used in this study was developed by Fiedler and Chemers (1984). This questionnaire consists of ten items under the following four questions:

Is the goal clearly stated?

Is there only one way to accomplish the task?

Is there only one correct answer or solution?

Is it easy to check whether the job was done right?

Responses can range from 0 to 20, with a score of 6 or below being unstructured, a score of 7 to 13 being moderately structured, and a score of 14 or above being structured.

The Task Structure Rating Scale makes an adjustment for leaders with little training for the job and little experience for moderate to high structure. Since principals were excluded who were not in their position for at least the second year, it was assumed that all principals in the sample would have at least a moderate amount of experience. This required reducing the Task Structure score by two points. Given the competition for administrative positions over the past decade or so, coupled with tremendous efforts by Districts on professional development for their administrative personnel, it was assumed that principals in the sample would have a moderate amount of training. This required reducing the Task Structure score by one additional point (Fiedler and Chemers, 1984).

A copy of the Task Structure Rating Scale is found in Appendix F.

The School Effectiveness Questionnaire

From the review of the organizational and school effectiveness literature outlined in Chapter one, the following components of school effectiveness were identified as being frequently delineated as necessary for an effective school:

1. Strong leadership
2. High expectations by the principal and staff for student achievement
3. A positive, orderly climate
4. An emphasis on basic skill development
5. Frequent and systematic evaluation of students
6. Clearly stated, well defined goals
7. Good home-school relations

A measure of school effectiveness, then, should contain items reflecting these components.

A review of a report by Guzzetti (1983) identified several instruments in use by school districts in the U.S., mainly for school improvement purposes. However, many of these had recently been developed and had little reliability and validity measures reported.

After an extensive examination of school effectiveness instruments, it was decided to use a modified version of Bohac's School Effectiveness Questionnaire.

Bohac (1985) developed her questionnaire based on the conceptual framework developed by Steers (1977), as well as on criteria identified from the organizational and school effectiveness literature. Using a panel of judges, she reduced an initial list of over 100 criteria to 60. Because of this large number of criteria, two forms of the questionnaire were developed and tested. Each questionnaire consisted of seven major categories as follows: managerial policies; managerial behavior; school climate (students); school climate (teachers); teacher outcomes; the teaching process; and the school plant. Each category contained three to six criteria. Each form of the questionnaire was tested using a sample of 144 principals from 12 school districts in Alberta, in an attempt to identify the criteria of school effectiveness as perceived by Alberta principals, and to obtain an assessment of their school's performance on those

criteria. Reliability and validity of the questionnaire were judged to be satisfactory. Form A of the questionnaire was deemed to be reliable based on a reliability coefficient of .81 (Cronbach Alpha), and t-test performed on the answers of both groups of principals on a common ranking question. The questionnaire was validated directly by the respondents with 81.5% indicating that they use the criteria contained in the questionnaire to judge the effectiveness of their own schools. The criterion ranking and factor analysis yielded comparable results. Form B of the questionnaire was deemed reliable based on a reliability coefficient of .81 (Cronbach Alpha), and t-test performed on the answers of both groups of principals on a common ranking question. The questionnaire was validated directly by the respondents with 82.9% indicating that they use the criteria contained in the questionnaire to judge the effectiveness of their own schools. The criterion ranking and factor analysis yielded comparable results. Analysis revealed that Form A and Form B were reasonably parallel, and could be used for the purpose of pre-test and post-test.

A breakdown of the items of Bohac's questionnaires into the school effectiveness components identified for this study can be seen in Table 1.

Based on the validity and reliability data given by Bohac, and given that it was a current questionnaire developed and validated with a random sample of rural and urban Canadian principals, it was decided to use a modified version of the Bohac questionnaire for this study.

Some items were dropped or modified because they were deemed inappropriate. For example, one item asked what the organizational abilities of the principal were. Additional items were added to the questionnaire so that the first draft of the modified questionnaire contained 49 items with a breakdown as shown in Table 2.

Table 1

Frequency of Items of the Original Bohac Questionnaires for
the School Effectiveness Components

Components	Number of Items
1.Principal Leadership	14
2.High Expectations	2
3.Positive, Orderly Climate	14
4.Emphasis on Basic Skills	1
5.Frequent/Systematic Evaluation of Students	3
6.Clearly Stated Goals	2
7.Good Home-School Relations	1

Table 2

Frequency of Items of Draft 1 of the School Effectiveness
Questionnaire for each of the School Effectiveness Components

Components	Number of Items
1.Principal Leadership	12
2.High Expectations	4
3.Positive, Orderly Climate	15
4.Emphasis on Basic Skills	4
5.Frequent/Systematic Evaluation of Students	5
6.Clearly Stated Goals	4
7.Good Home-School Relations	5

Validation of the School Effectiveness Instrument

Content validity was determined by having seven doctoral students in education at the University of Ottawa act as judges. They were asked to categorize each item into the appropriate seven components of school effectiveness, and were also asked to identify any ambiguous items. This process resulted in rewording a number of the items and eliminating 12 items. Only those items with six or more judges agreeing were included in the revised version.

A second draft of the questionnaire had 37 items with a breakdown as shown in Table 3.

The revised questionnaire was administered to a class of eight graduate students in education at the University of Ottawa, all of whom were teachers. These teachers were asked to complete the questionnaire in relation to their school. They were also asked to note any ambiguity of items, to judge each item as to its applicability as a measure of school effectiveness, and were given an opportunity to add any specific items which they felt important as an indicator of school effectiveness. This process did not result in any changes to the questionnaire.

Reliability of the School Effectiveness Instrument

The questionnaire was administered to two classes of graduate students in education at the University of Ottawa, a total of 24, all of whom were teachers.

Internal consistency reliability was determined using Cronbach's alpha (α) coefficient. The overall reliability coefficient of the questionnaire was 0.95.

Reliability coefficients (α) were calculated for each of the seven components of school effectiveness, with the results as shown in Table 4.

Table 3

Frequency of Items of Draft 2 of the School Effectiveness
Questionnaire for each of the School Effectiveness Components

Components	Number of Items
1.Principal Leadership	7
2.High Expectations	4
3.Positive, Orderly Climate	9
4.Emphasis on Basic Skills	4
5.Frequent/Systematic Evaluation of Students	4
6.Clearly Stated Goals	4
7.Good Home-School Relations	5

Table 4

Reliability Coefficients for Draft 2 of the School Effectiveness Questionnaire for each of the School Effectiveness Components

Components	Reliability
1.Principal Leadership	.84
2.High Expectations	.47
3.Positive, Orderly Climate	.91
4.Emphasis on Basic Skills	.76
5.Frequent/Systematic Evaluation of Students	.56
6.Clearly Stated Goals	.77
7.Good Home-School Relations	.83

The item-total statistics for the high expectations component revealed that the alpha could be increased by eliminating one item (#10). Similar statistics for the frequent and systematic evaluation of students component revealed that the alpha could be increased by eliminating one item (#9).

Reliability coefficients (α) were calculated again for each of the components of school effectiveness with items #9 and #10 eliminated. The results for the third draft of the School Effectiveness Questionnaire were as shown in Table 5.

The overall reliability coefficient of the questionnaire was 0.95.

The school effectiveness questionnaire used in the study, then, had 35 items, with a breakdown as shown in Table 6.

A test-retest reliability measure was computed to assess the stability of the questionnaire over time. The questionnaire was administered to 32 graduate students in education at the University of Ottawa, with four weeks between administrations. A Pearson product moment correlation of .90 was obtained.

A copy of the School Effectiveness Questionnaire is found in Appendix G.

3. Limitations

There are a number of limitations of this study. Each of the instruments used in the study is subject to limits of validity and reliability. Each of the variables measured is limited in scope. The Least Preferred Co-worker score is but one aspect of a principal's personality. The Group Atmosphere score is not all-encompassing in describing the principal-teacher relations. The School Effectiveness Questionnaire may not be completely comprehensive as a school effectiveness measure for all types of schools in the sample.

Table 5

Reliability Coefficients for Draft 3 of the School Effectiveness Questionnaire for each of the School Effectiveness Components

Components	Reliability
1.Principal Leadership	.84
2.High Expectations	.58
3.Positive, Orderly Climate	.91
4.Emphasis on Basic Skills	.76
5.Frequent/Systematic Evaluation of Students	.75
6.Clearly Stated Goals	.77
7.Good Home-School Relations	.83

Table 6

Frequency of Items for the School Effectiveness Questionnaire
for each of the School Effectiveness Components

Components	Number of Items
1.Principal Leadership	7
2.High Expectations	3
3.Positive, Orderly Climate	9
4.Emphasis on Basic Skills	4
5.Frequent/Systematic Evaluation of Students	3
6.Clearly Stated Goals	4
7.Good Home-School Relations	5

The data were collected by a mail survey, with not all of the schools that were contacted replying. Also, the data generated were from untrained personnel, that is, the sample respondents were not trained to answer the specific instruments used.

Finally, this study measured the group effectiveness by looking at the pre-requisites of school effectiveness as reported by teachers rather than the more traditional approach of looking at student achievement scores. This more indirect measure may, to some degree, be considered a limitation of the study.

4. Delimitations

The data collected were from 176 schools housing elementary students (K-6) in 33 school districts in Newfoundland and Labrador. Data were requested from schools with experienced principals who were in their present position for at least the second year. Only schools with more than four teachers on staff were included in the sample.

5. Plan of Statistical Analysis

Spearman rho correlation coefficients were calculated to determine the relationship between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal was high, and between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal was moderate.

Pearson product moment correlation coefficients were calculated to determine the relationship between LPC scores and position power and LPC scores and task structure, as perceived by the principals.

A three-way analysis of variance was computed to determine the effect of leadership style (LPC), principal-teacher relations (GA), and task structure (TS) on school effectiveness.

Descriptive data were calculated for each of the independent variables of least preferred co-worker scores, group atmosphere scores, task structure scores, and position power scores, and for the dependent variable, school effectiveness scores.

Presentation and Discussion of Results

This chapter begins with a presentation of the descriptive statistics for each of the variables in the study. Additional reliability data are given for the dependent variable, school effectiveness. The distribution of schools into the situational favorability octants is presented. The results of the tests of the hypotheses are presented, followed by a discussion of the results of the study. The final section considers the implications of the results of the study.

1. Statistical Analysis

The mean, median, mode, standard deviation, and range for each of the independent variables of leadership style (LPC), group atmosphere (GA), task structure (TS), and position power (PP) for the total data are presented in Table 7. Similar descriptive statistics are presented in Table 8 for the dependent variable, school effectiveness. Individual school scores for the complete data can be found in Appendix H.

Leadership Style

This variable was measured using the 16 item Least Preferred Co-worker Scale (LPC), with each item scored from one to eight. Each principal's score was calculated by summing the scores on the 16 items. Scores on the LPC scale ranged from 16 to 125 with a mean of 60.90. Principals who obtained LPC scores of 64 or above were considered high LPC leaders while those who obtained LPC scores of 57 or below were considered low LPC leaders. Principals who obtained LPC scores of between 58 and

Table 7

Descriptive Statistics for Leadership Style (LPC), Group Atmosphere, Task Structure, and Position Power (N=176)

Variable	Mean	Standard Deviation	Median	Mode	Range
Leadership Style	60.90	18.54	62	62	16-125
Group Atmosphere	65.49	8.28	66	70	37-80
Task Structure	10.39	3.31	11	11	0-17
Position Power	8.69	1.57	9	10	4-12

Table 8

Descriptive Statistics for the Dependent Variable,
School Effectiveness (N=176)

Variable	Mean	Standard Deviation	Median	Mode	Range
School Effectiveness	163.78	22.41	166	175	64-210

63 were considered intermediate (Fiedler, Chemers, and Mahar, 1976) or neither high nor low LPC leaders. The intermediate scores were not used to test the hypothesis which required that the leadership style variable be dichotomized.

Group Atmosphere

The 10 items of the group atmosphere scale were scored on an eight-point scale. The GA for the school, as reported by principals, was obtained by summing the scores on the 10 items. Scores on the GA scale ranged from 37 to 80 with a mean of 65.49. The suggested median score of 65 as reported by Posthuma (1970) in his normative study was used in this study to differentiate between schools having good or poor leader-member relations. Crehan (1984) notes that while no specific recommendation is given regarding the method of dividing GA scores, it would seem appropriate to use a median split, since the median split is suggested for the sociometric preference rating, the alternate method of measuring leader - member relations. All schools scoring 65 or below were considered to have low GA or poor leader-member relations. Schools scoring 66 or above were considered to have high GA or good leader-member relations.

Task Structure

The task structure questionnaire consisted of 10 questions, each with three possible answers of usually true (2 points), sometimes true (1 point), and seldom true (0 points). Each task structure score was calculated by summing the scores of the 10 questions and adjusting the score to account for qualifications and experience for all scores above 5, as recommended by Fiedler and Chemers (1984). Scores on the questionnaire ranged from 0 to 17 with a mean of 10.39. For schools obtaining a score of 6 or below the groups' task was considered to be unstructured. A score of 14 or above was considered to represent a structured situation. These cut-off points are consistent with that suggested by Fiedler and Chemers (1984).

Position Power

The principal position power questionnaire consisted of 12 questions answered yes or no. Each principal position power score was calculated by adding the number of positive responses. Scores on the questionnaire ranged from 4 to 12 with a mean of 8.69. Principals who obtained a score of 6 or above were considered to have high position power. Principals who obtained a score of 5 or below were considered to have low position power. This cut-off is consistent with that of Hunt (1967) and Bobner (1982).

School Effectiveness

The school effectiveness questionnaire consisted of 35 items with each item ranging from low degree, represented by one, to high degree, represented by six. The school effectiveness score was obtained by taking the mean of the total teacher scores for each school. The school effectiveness scores ranged from 64 to 210 with a mean of 163.78.

An internal consistency reliability was repeated using the total data ($N=899$), using Cronbach's alpha (α) coefficient. The overall reliability coefficient of the questionnaire was .95, which is the same reliability coefficient found when using the pilot group ($n=24$).

Reliability coefficients (α) were calculated for each of the seven components of school effectiveness. The results are presented in Table 9.

Situational Favorability

Situational favorability is defined as the degree to which the situation provides the leader with control and influence over the group (Fiedler, Chemers, and Mahar, 1976). Fiedler dichotomized the situational variables into good and poor leader-member relations, structured and unstructured tasks, and strong and weak position

Table 9

Internal Consistency Reliability by Component for
the School Effectiveness Questionnaire (N=899)

Component	Reliability
1. Principal Leadership	.86
2. High Expectations	.71
3. Positive, Orderly Climate	.83
4. Emphasis on Basic Skills	.78
5. Frequent/Systematic Evaluation of Students	.61
6. Clearly Stated Goals	.80
7. Good Home-School Relations	.81

power. These were then combined to yield the eight different octants as shown in Figure 1 (p. 18). The eight octants were then arranged such that octants I, II, and III represented high favorability or control, octants IV, V, VI, and VII represented moderate favorability or control, while octant VIII represented low favorability or control for the leader.

Figure 3 gives the number of schools falling into each octant. Since there were only four schools where the principal rated the position power as weak, and these were distributed over three octants, these scores were eliminated from the analysis. Consequently, the schools were distributed into octants I, III, V, and VII with a frequency as seen in the graph. Therefore, there were 31 schools rated as having high favorability and 24 schools rated as having moderate favorability.

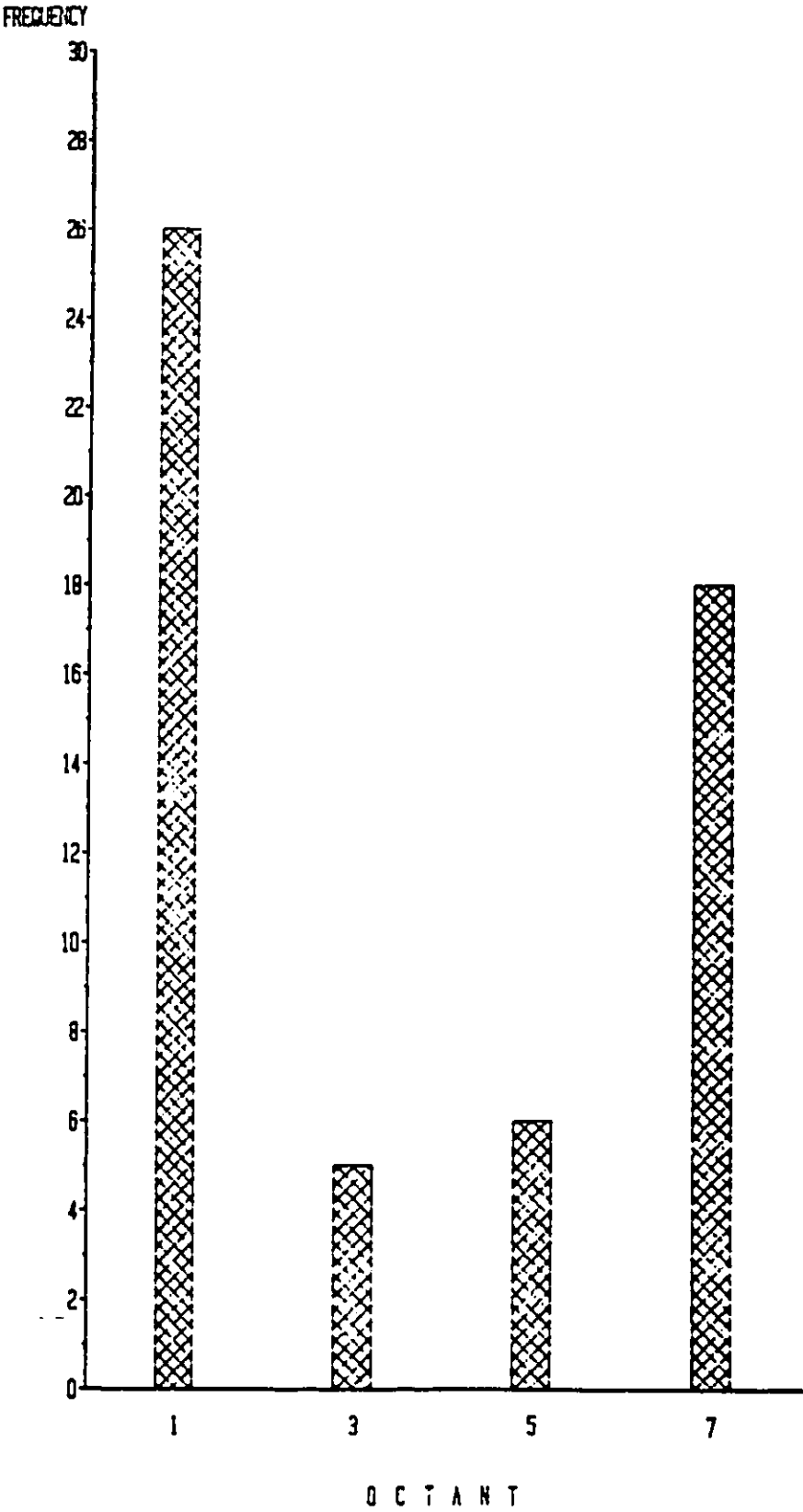


Figure 3
Distribution of Schools by Octant

Hypotheses

HYPOTHESIS 1.

There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is high.

A Spearman rho correlation of .19 ($n=31$) was obtained which was not significant. The hypothesis was not supported.

HYPOTHESIS 2.

There will be a positive correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is moderate.

A Spearman rho correlation of .29 ($n=24$) was obtained which was not significant. The hypothesis was not supported.

HYPOTHESIS 3.

There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is low.

This hypothesis pertains to octant VIII of Fiedler's theory where leader member relations are poor, task is unstructured and position power of the principal is weak. This hypothesis could not be tested because there were only two schools falling in this octant.

HYPOTHESIS 4.

There is no relationship between elementary principal LPC scores and position power as perceived by the principal.

A Pearson product moment correlation of $-.11$ ($N=176$) was obtained. The eta coefficient was .18. The F test of linearity yielded a F-ratio of 2.18, with 1 and 170

degrees of freedom. The probability associated with the F statistic was .14.

Therefore, there is no significant relationship between principals' LPC scores and principals' perceptions of position power. Hypothesis 4 is supported.

HYPOTHESIS 5.

There is no relationship between elementary principal LPC scores and task structure as perceived by the principal.

A Pearson product moment correlation of .03 ($N=176$) was obtained. The eta coefficient was .20. The F test of linearity yielded a F-ratio of .04, with 1 and 164 degrees of freedom. The probability associated with the F statistics was .85.

Therefore, there is no significant relationship between principals' LPC scores and principals' perceptions of task structure. Hypothesis 5 is supported.

The Pearson correlation for each of the independent variables is displayed in Table 10.

HYPOTHESIS 6.

For the effect of leadership style (LPC), principal-staff relations (GA) and task structure (TS) on school effectiveness:

- 6.1 There is no effect attributable to LPC;
- 6.2 There is no effect attributable to GA;
- 6.3 There is no effect attributable to TS;
- 6.4 There is no effect attributable to the interaction of LPC and GA;
- 6.5 There is no effect attributable to the interaction of LPC and TS;
- 6.6 There is no effect attributable to the interaction of GA and TS;
- 6.7 There is no effect attributable to the interaction of LPC, GA, and TS.

Table 10

Pearson Correlation Coefficients for the Least Preferred Co-worker (LPC), Group Atmosphere (GA), Task Structure (TS), and Position Power (PP) ($N=176$)

Components	LPC	GA	TS	PP
LPC	1.000	0.003	0.029	-0.112
GA		1.000	0.327**	0.182*
TS			1.000	0.291**
PP				1.000

* $p < .05$

** $p < .01$

A three way ANOVA was computed using a Statistical Analysis System program to test these hypotheses. There was no significant effect for hypotheses 6.1, 6.3, 6.4, 6.5, 6.6, and 6.7. Hypothesis 6.2 was significant at the .05 level. That is, there was a significant relationship between group atmosphere and school effectiveness. Table 11 gives the results of the MANOVA computed to test this hypothesis.

Table 11

Three Way ANOVA to Test the Effect of Leadership Style (LPC), Group Atmosphere (GA), Task Structure (TS), and the Interactions on School Effectiveness

Summary of ANOVA

Source of Variation	SS	df	MS	F	PR>F
LPC	354.91	1	354.91	1.82	0.185
GA	1027.74	1	1027.74	5.26	0.027
TS	6.27	1	6.27	0.03	0.859
LPCxGA	168.19	1	168.19	0.86	0.359
LPCxTS	6.44	1	6.44	0.03	0.857
GAXTS	621.85	1	621.85	3.18	0.082
LPCxGAXTS	2.15	1	2.15	0.01	0.917
Residual	8005.37	41	195.25		
Total	11491.05	48			

2. Discussion of Results

A discussion and interpretation of the results of the study are presented in this section. The results of each of the independent variables are discussed first, followed by a discussion of the results of each of the hypotheses.

Fiedler's Contingency theory states that the group's performance will be contingent upon the appropriate matching of leadership style and the degree of favorableness of the group situation for the leader, that is, the degree to which the situation provides the leader with influence over his group members. Leadership style is measured using the least preferred co-worker scale (LPC), obtained by asking the principal to focus on the one person with whom he found it the most difficult to cooperate and to rate that person on a 16 point scale. The situational variables considered important in determining situation favorability or control are: leader-member relations which refers to the principal's affective relations with teachers, to the acceptance and loyalty which he can obtain, and is measured using the group atmosphere scale; task structure, the degree to which task requirements are delineated, and is measured using a 10 item questionnaire; and principal position power, viewed as the power vested in the leader, and is measured using a 12 item questionnaire.

Leadership Style

Scores for this variable ranged from the lowest possible score of 16 to 125, close to 128, the maximum score possible. There was a normal distribution with a mean of 60.90. The LPC mean was very close to that suggested by Fiedler (1978) who reported that LPC should be normally distributed with a mean of 60. Faulkner (1981) reported a mean of 62.2. Posthuma's (1970) normative mean score for LPC was 59. So it can be seen that LPC scores for this sample closely parallel that found in other studies.

When the parameters for categorizing low and high LPC principals were applied, the breakdown of each type was relatively close, with 38.1% of the principals falling at or below 57 and 43.2% of the principals falling at or above 64. The remaining 19.7% fell between these scores and were discarded when testing hypothesis six.

Group Atmosphere

Scores for this variable ranged from a low of 37 to the highest possible, 80. The mean of 65.49 was very close to that found in other studies. McKague (1968) found a mean of 64, while Faulkner (1981) found a mean of 68.3 Posthuma (1970) using his normative data found a mean of 65. Crehan (1984) notes that while no specific recommendation is given regarding the method of dividing the GA score, it would seem appropriate to use a median split, since the median split is suggested for the sociometric preference rating, the alternate method of measuring leader-member relations.

It should be remembered that the measure of group atmosphere in this study was made by the principal. One issue which deserves attention is the possibility that the perception of leader-member relations differs between leaders and members. Posthuma (1970) reported that there was no significant difference between leaders' and group members' perceptions of leader-member relationships in experimental groups. However, Fiedler (1967) found that the relationship between the leaders' and members' perception of group atmosphere tends to be low. At the same time, Fiedler (1967) reported a study in which the results provided stronger support for the Contingency theory when the leader rated the group atmosphere than when the members rated the group atmosphere. Fiedler stated that leader behavior will depend on how the leader thinks his subordinates feel about him rather than how the subordinates really feel about him. Thus, the leader's perception of group atmosphere appears to be more valid in attempts to test the theory. It should also be noted that Fiedler considers

group atmosphere to be the most important of the situational variables. More will be discussed on this topic later when discussing the results of the hypotheses.

Task Structure

The structure of the task which the group is required to perform is the second most important situational variable. This variable determines leader influence over group performance in the sense that a structured task enables the leader to impose organizational controls on the work process. The extent to which a task is structured is determined by decision verifiability, or the degree to which the correctness of the solution can be determined; goal clarity, or the degree to which the requirements of the task are clearly stated or known; goal path multiplicity, or the degree to which the task can be solved by a variety of procedures; and solution specificity, or the degree to which there is more than one solution. A structured task is characterized by high decision verifiability, high goal clarity, goal path simplicity, and high solution specificity. Fiedler (1967) says that task structure and position power are organizationally determined while group atmosphere is interactionally determined. Garland (1973) states that the two variables which are organizationally determined would be expected to remain constant within types of organizations, whereas leader-member relations would be expected to vary from poor to good within types of organizations.

Earlier studies conducted in schools in Canada either assumed the task to be unstructured (McNamara, 1967; McKague, 1968; Garland, 1973; Faulkner, 1981) or had the task rated as unstructured by a panel of judges (McNamara, 1968). This contrasted with Fiedler and Chemers (1974) who felt that the task in schools was structured. At least two studies conducted in schools in the United States (Mellor, 1974; Bobner, 1982) measured task structure and found that some principals rated the task to be structured and some rated it to be unstructured.

The results from this study agree with the latter two studies in that principal perceptions of the task structure of the group varied from school to school. However, principals rated task to be structured rather than unstructured by more than a three to one ratio. At the same time, more than one half of the scores in the study fell between structured and unstructured, a situation which Fiedler and Chemers (1984) call moderately structured. The mean of 10.39 for task structure in this study was close to the mean of 10.86 for schools quoted by Fiedler and Chemers (1984). Given the results of previous studies, and that this study was conducted in elementary schools, it was surprising that only 23 principals rated the task structure to be low compared with 32 principals who rated the task structure to be high.

One possible explanation for this result might be found by looking at the type of education system found in the province of Newfoundland and Labrador. This province is unique in Canada in that it has a denominational education system, which means that although reduced, there remains a strong church influence in education. The Denominational Education Councils, appointed by the churches, control the allocation of capital funding to school districts, and are responsible for the religious education programmes offered in the province's schools. At the same time, the province has a highly centralized and controlled curriculum which is administered by the Department of Education. This means that at the elementary level programmes in reading, mathematics, science, social studies, french, and so on are prescribed by the Department of Education. Text materials which accompany programs, and in many cases are themselves the "programs" are distributed to schools, through school districts, by the Department of Education. Often, all of the schools throughout the province would be using the same program and/or text material. Most of these programs would be accompanied by a teacher guidebook where very prescriptive lesson plans and teaching strategies would be given. Although there is provision made by the

Department of Education for alternative programs upon school district request and substantiation, such programs are limited.

Such a system has tended to produce a high proportion of "textbook oriented" teachers, and principals who probably perceive the task in a fairly mechanical way. As found elsewhere, there has been a flurry of inservice activity conducted for teachers by the various constituent bodies charged with such responsibility. Concepts such as resource based teaching and integration of skills and concepts are becoming more readily accepted by kindergarten and many primary teachers. However, the church influence, the centralized system, the loss of highly qualified, younger teachers due to the declining enrollment faced by most districts and the human attribute of resistance to change, have allowed many of the "textbook bound" teachers to remain. This may result in such schools being much less loosely coupled (Weick, 1976). Managerial level activities may be linked to technical-level activities much more than in a more loosely coupled system.

In recent years, many educational systems have moved towards a more tightly coupled, more highly controlled system. Peterson, Murphy, and Hallinger (1987) note that some educators are now arguing that curriculum and even instruction can be adequately specified and reliably monitored. Bennett (1976) and Rutter, Maughan, Mortimore, Quston, and Smith (1979) provide evidence that teaching may be a structured task. Murphy, Hallinger, and Mesa (1985) state that some of the findings from the school effectiveness research are best effected at the state level. Using the construct of a "tightly coupled curriculum" they state that maintaining curricular validity is primarily a job of the state (province), while ensuring instructional validity is basically a role for districts and schools.

It is possible that the above factors operating in Newfoundland and Labrador may account for the fact that the majority of principals perceive the task to be moderately or highly structured.

Position Power

The position power of the principal is viewed by Fiedler as the least important of the situational variables. This variable is the degree to which the position itself permits the principal to gain compliance from his staff. The power is organizationally determined. Earlier studies conducted in Canada either assumed the principal position power to be high (McKague, 1968; Garland, 1973; Faulkner, 1981) or had the principal position power rated as high by a panel of judges (McNamara, 1968). A study by Martin, Isherwood, and Lavery (1976) supported that principals have high position power. Studies conducted in schools in the United States (Mellor, 1974; Bobner, 1982) measured principal position power and found it to be high. The majority of principals in this study perceived their position power to be high, with only four principals rating position power as low. This might be expected, since the Newfoundland and Labrador Education Act clearly and unequivocally gives the school principal a strong power base.

Situational Favorability

As shown in Figure 3, schools in this study were distributed into octants I, III, V, and VII. There was considerable variation in the number of schools in each octant. It is interesting to note that principals who perceived the group atmosphere of their staff to be good and their position power strong, rated the task structure as high compared to low task structure by better than five to one. Principals who perceived the group atmosphere of their staff to be poor and their position power strong, rated the task structure as low compared to high task structure by three to one. In terms of situational favorability or degree of control for the leader there was a greater number of principals who perceived their situation to be favorable than principals who perceived their situation to be moderately favorable (31 in octants I and III compared with 24 in octants V and VII). A majority of principals who perceived their situational

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favorability to be favorable, saw it to be highly favorable (octant I). A majority (but to a lesser degree) of principals who perceived their situational favorability to be moderately poor saw it to be extremely moderately poor (octant VII).

As discussed earlier in chapter one, McNamara (1967) in his first study assumed the task to be unstructured and the principal position power to be weak. This meant that he tested the Contingency theory using octants IV and VIII and found results opposite to that predicted by the theory. He reconsidered his assumption with respect to position power and changed it to strong, which changed the octants to III and VII. This then meant that his results agreed with the prediction of the theory. McNamara (1968) in his second study had task structure and position power rated by a panel of judges, who found the task to be unstructured and the position power of the principal to be strong.

Other studies conducted in Canada (McKague, 1968; Garland, 1973; Faulkner, 1981) assumed that task was unstructured and position power was strong, which meant that the situational favorability fell in octants III and VII. At least two studies conducted in the United States (Mellor, 1974; Bobner, 1982) measured task structure and position power. Both found that task could be structured or unstructured and the principal position power was strong. This meant that situational favorability for these two studies fell into octants I, III, V, and VII.

This study, then, agrees with the results found by Mellor and Bobner with respect to the distribution of schools falling in octants I, III, V, and VII. The study questions the assumptions made with respect to task structure by earlier Canadian studies, and by Fiedler (1971) who made an a priori prediction that schools classify into octant I (good group atmosphere, structured task, and strong position power) and octant V (moderately poor atmosphere, structured task, and strong position power). The situational favorability or degree of control by the principals in this study was good

(good group atmosphere, structured or unstructured task, and strong position power) or moderately poor (poor group atmosphere, structured or unstructured task, and strong position power).

Discussion of Hypotheses

Hypothesis 1: There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situation favorability for the principal is high.

Hypothesis 2: There will be a positive correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is moderate.

These two hypotheses represent essentially the main predictions of Fiedler's Contingency theory with respect to the school situation. Since the position power of the principal was strong in this study, it was not possible to test the other main prediction with respect to LPC scores and low situational favorability. For this study high situational favorability represented a situation where the principal had a great deal of control and influence, exemplified by good group atmosphere, high position power, and either a structured or unstructured task. From an octant perspective, this represented octants I and III respectively. Moderate situational favorability represented a situation where the principal had much less control and influence, where the group atmosphere was poor, position power was high, and the task was either structured or unstructured. From an octant perspective, this represented octants V and VII respectively.

Fiedler's Contingency theory states that low LPC principals will have higher group effectiveness than high LPC principals when there is high situational favorability,

whereas high LPC principals will have higher group effectiveness than low LPC principals when the situational favorability is moderate. This is really another way of stating hypotheses 1 and 2. Neither of these hypotheses had a correlation which was statistically significant. From an inferential statistics perspective, no confidence can be placed in these two correlations. Similar results could have been obtained by chance. However, when considering correlations within the context of Fiedler's theory, Crehan (1984, p. 38) notes that it has been customary in practice to consider the direction and magnitude of the correlation, without any reference to a generally acceptable level of statistical significance (e.g. $p < .05$). Graen, Alvares, and Orris (1970), Ashour (1973), and Schriesheim and Kerr (1977), in their respective critical reviews of the theory have noted this problem. Fiedler (1973, p. 357) has defended this practice by stating that nonsignificant results can be meaningfully interpreted when a "sufficient number of correlations from comparable studies are high enough and in the same direction." One of the reasons for using directional congruency as the standard for successful replication of one or more octants of the theory has to do with the problem of small sample sizes frequently associated with the use of groups (schools) as the unit of analysis. Such small sample sizes need a very high correlation in order to be statistically significant. Hypotheses 1 and 2 will now be discussed considering the directional congruence and magnitude of the correlations, fully recognizing that this discussion is not within the inferential statistics parameter.

The correlation obtained for hypothesis 1 was .19, which was directionally incongruent with that predicted by the Contingency theory. Fiedler's theory predicts negative correlations of -.52 for octant I and -.33 for octant III, the two octants which comprise the high favorability situation. It could be expected that the correlation for this situation would fall somewhere between -.33 and -.52, dependent on the number of schools falling in each of octants I and III. For the present study, with 26 schools

falling in octant I compared with 5 schools falling in octant III, the correlation should have been negative and closer to the magnitude predicted by the theory for octant I, if the theory has predictive power for schools as organizations.

There is some evidence to suggest that studies conducted in the field (often referred to as non developmental, validation type studies) have a lower incidence of conformity with the theory (Peters, Harke, and Pohlmann, 1985). Crehan (1984) compared 249 octant tests found in 38 primary studies. She found support (directional congruence only) for octants I and III, the high favorability situation, for 58 tests (60.4%) compared to 38 tests (39.6%) which showed non-support. For these primary studies she found that the median correlation for tests using both the Pearson r and Spearman ρ for octant I and III was $-.16$ ($n=52$) and $-.05$ ($n=44$) respectively, considerably lower than that predicted by Fiedler's theory. She found further that when comparing octant median correlations for tests conducted in different organizational settings, for schools the median correlation was $-.02$ ($n=11$) and $-.04$ ($n=14$) for octants I and III respectively. Considering the tremendous reduction in median correlations for the theory compared to that of schools, and also that the significance level has not been considered, the result of hypothesis 1 does not appear to be quite as discrepant. Nevertheless, the magnitude and direction of the correlation of hypothesis 1 is atypical and puzzling.

McNamara (1967) in his initial study using elementary schools found a correlation of $-.48$ in octant I. Octant III was not tested. McNamara (1968), using elementary and secondary schools, found a correlation of $-.07$ for octant III. Octant I was not tested. Mellor (1974), using elementary and secondary schools, found correlations of $-.36$ and $-.10$ for octants I and III respectively when using achievement tests as the effectiveness measure, while he found correlations of $-.02$ and $-.21$ for octants I and III respectively when using school environment as the effectiveness

measure. More will be discussed with respect to the incongruent result for the favorable situation after the discussion of hypothesis 6.

Hypothesis 2 had a correlation of .29 which is directionally congruent with that predicted by the Contingency theory. Fiedler's theory predicts positive correlations of .42 for octant V and .05 for octant VII, the two octants which comprise the moderate favorability situation. It could be expected that the correlation for this situation would fall somewhere between .42 and .05, dependent on the number of schools falling in each of octants V and VII. For the present study, with 6 schools falling in octant V compared with 18 schools falling in octant VII, the correlation should possibly be closer to the magnitude predicted by the theory for octant VII.

The result of hypothesis 2 is consistent with a number of studies conducted previously in the school setting. McNamara (1967) found a correlation of .31 for octant V. Octant VII was not tested. His 1968 study found a correlation of .05 for octant VII. Octant V was not tested. Bobner (1982), using secondary schools, found directional congruence for both octants V and VII, with octant VII being statistically significant. He did not report the magnitude of his correlations. However, Mellor (1974) found correlations of -.22 and -.39 for octants V and VII respectively, using school environment as the effectiveness measure. Mellor, then, found inconsistent results in his study, with the results being directionally congruent with Fiedler's theory for the highly favorable situation and directionally incongruent with the theory for the moderately favorable situation. His results were the reverse of the results obtained in this study for hypotheses 1 and 2. There will be additional discussion on the implications of the results of hypotheses 1 and 2 for Fiedler's Contingency theory after discussing the results of hypothesis 6.

Hypothesis 4: There is no relationship between elementary principal LPC scores and position power as perceived by the principal.

Hypothesis 5: There is no relationship between elementary principal LPC scores and task structure as perceived by the principal.

Hypotheses 4 and 5 were tested in this study to verify one of the assumptions made by Fiedler, namely, that LPC is not related to either of the situational variables (Fiedler, 1967, p. 152). A review of earlier studies in education found that this assumption had been tested for group atmosphere only (Garland, 1973). Of course, the Canadian studies could not have tested this assumption since task structure and position power were not measured. Of the studies reviewed that had data on these two variables (Mellor, 1974; Bobner, 1982), there was no indication that the relationship between LPC and PP and LPC and TS had been tested.

The results of hypotheses 4 and 5 supported Fiedler's assumption in that the correlations (Pearson r) of LPC and PP and LPC and TS were very low and not significant, as can be seen in Table 10. The eta coefficient and test of linearity were calculated to determine whether or not there was a non linear correlation between LPC and each of these situational variables. The correlation and F ratio for both hypotheses were low and not significant.

Although the relationships between LPC and group atmosphere and between the situational variables themselves were not hypothesized, the results were interesting. The relationship between LPC and GA using the Pearson r was extremely low. Garland (1973) had found a low result for the Pearson r (.02, $n=211$) indicating that there was not a linear relationship. However, the eta coefficient for his data was .47 with a test of linearity being significant at the .05 level. Therefore, he found that there was a curvilinear relationship between LPC and GA. Garland and O'Reilly (1976) reanalyzed Thomson's raw data and found that the Pearson r between principals' LPC and GA scores was .12 ($n=92$) and the eta coefficient was .47. The test of linearity

was significant beyond the .05 level. Considering the discrepancy found in these studies, an eta coefficient and test of linearity were computed post hoc. The eta coefficient was found to be .41 with the test of linearity being non significant ($F=.001$, d.f 1,140, $p=.97$). It is clear that these results for LPC and GA support Fiedler's assumption that leadership style (LPC) is not related to group atmosphere.

It was also interesting to note that there was a significant relationship between each of group atmosphere and position power, group atmosphere and task structure, and task structure and position power. Fiedler (1967) found a high correlation between TS and PP ($r=.75$), noting that "although the result might be peculiar to the particular tasks used in the studies reported, it is possible that this relationship is fairly general" (p. 152). The results of this study support this contention. That is, principal position power is higher in those situations in which the task is more highly structured. For the same series of studies reported by Fiedler (1967), he found low and non significant results for correlations between GA and PP and GA and TS, and did not discuss these results further. In the present study it is clear that there was a relationship between GA and PP and GA and TS. That is, both position power and task structure were higher when group atmosphere was higher.

Hypothesis 6: For the effect of leadership style (LPC), principal-staff relations (GA), and task structure (TS) on school effectiveness:

- 6.1 There is no effect attributable to LPC
- 6.2 There is no effect attributable to GA
- 6.3 There is no effect attributable to TS
- 6.4 There is no effect attributable to the interaction of LPC and GA
- 6.5 There is no effect attributable to the interaction of LPC and TS

6.6 There is no effect attributable to the interaction of GA and TS

6.7 There is no effect attributable to the interaction of LPC, GA, and TS.

The three way ANOVA was computed to determine whether or not the independent variables, namely LPC, group atmosphere and task structure, with their respective interactions, contributed significantly to the variance of the dependent variable, school effectiveness. Position power was strong for all cases and therefore was not included in the analysis. As can be seen from Figure 4, a favorable situation is found for the principal when the group atmosphere is good, while a moderately favorable situation is found for the principal when the group atmosphere is poor. With respect to favorability, task structure does not have an impact if the principal position power is strong for all cases. That is, according to the Contingency theory, the impact of high or low task structure with respect to situational favorability is found only when the position power is strong or weak. For example, for the present study, the only impact of task structure when group atmosphere was good was to create cases in either octants I or III. Both of these octants belong in the favorable situation. Likewise, task structure created cases when group atmosphere was poor in either octants V or VII. Both of these octants belong in the moderately favorable situation.

According to the Contingency theory, high LPC principals will have higher school effectiveness scores than low LPC principals under moderately favorable conditions, while low LPC principals will have higher school effectiveness scores than high LPC principals under favorable conditions. Therefore, for this study where principal position power did not vary, meaning that task structure did not affect the degree of favorability, a significant interaction between LPC and GA was expected. At the same time, implicit in the theory is the assumption that neither LPC nor each of the situational variables *alone* will influence group effectiveness.

	Favorable Situation		Moderately Favorable Situation	
	Good Group Atmosphere		Poor Group Atmosphere	
	Task Structure		Task Structure	
	High	Low	High	Low
High LPC	Low Group Effectiveness Octant I	Low Group Effectiveness Octant III	High Group Effectiveness Octant V	High Group Effectiveness Octant VII
Low LPC	High Group Effectiveness Octant I	High Group Effectiveness Octant III	Low Group Effectiveness Octant V	Low Group Effectiveness Octant VII

Figure 4

Summary of Fiedler's Contingency Theory
(Position power is strong in all cases)

As shown in Table 11, the only significant effect found in the ANOVA was group atmosphere. That is, group atmosphere was shown to affect school effectiveness. The Contingency theory does not predict any direct relationship between group atmosphere and group effectiveness. Fiedler (1966; 1967, p. 256) discussed a number of studies showing that the performance of a group does not decrease as the conditions become less favorable. Other research findings dispute this claim by Fiedler. Garland (1973) found a significant relationship between group atmosphere and group performance. Hunt (1967) found that group atmosphere alone accounted for almost as much variance as did the interaction of the variables implied by the theory. Hunt surmised that in some cases, a simpler model could be used or that variables other than those suggested by Fiedler could be used, depending upon the type of organization being studied. This study, then, supports the findings of Garland and Hunt showing that group atmosphere does have a significant effect on group performance.

The interaction of LPC and group atmosphere, which the Contingency theory predicts, was not significant in this study. Garland (1973) also found that the group atmosphere variable accounted for more variance in school environment than leadership style. He stated that his results strengthened the argument that leadership style, by itself, has a minimal influence on staff performance and that the group atmosphere variable has a differentiating effect. The results of this study substantiate his conclusion.

3. Implications of the Study

The results of this study did provide support for some of the assumptions made with respect to the Contingency theory in that no relationship was found between the

leadership style of the principal and each of the situational variables of group atmosphere, task structure, and position power. The results obtained from testing the predictions of the theory for the favorable and moderately favorable situation were not significant. That is, no significant correlations were obtained when considering the relationship between LPC and group effectiveness under favorable and moderately favorable situations. The Contingency theory predicts that under favorable conditions, low LPC principals will have higher school effectiveness scores than high LPC principals, while under moderately favorable conditions, high LPC principals will have higher school effectiveness scores than low LPC principals. If the results are viewed outside of the inferential statistics framework, a common practice for studies testing Fiedler's theory, then the correlation of LPC and school effectiveness under the favorable situation for the principal was directionally incongruent with the prediction of the theory. The correlation of LPC and school effectiveness under the moderately favorable situation for the principal was directionally congruent with the prediction of the theory. Such results provide only marginal support for the theory. However, it must be realized that the results were not significant statistically, despite having a relatively large sample size ($n=31$ for the favorable situation; $n=24$ for the moderately favorable situation). Therefore, these results could have been obtained by chance.

The analysis of variance showed that one of the situational variables, group atmosphere, was significantly related to school effectiveness. This is incongruent with the Contingency theory. The interaction of leadership style and group atmosphere, which is predicted by the theory, was not significant. It appears that group atmosphere has much more of an effect on school effectiveness than does leadership style or the interaction of leadership style and group atmosphere.

These results have important implications for Fiedler's concept of organizational engineering. According to this concept, school effectiveness can be

improved by placing high LPC principals in moderately favorable situations and low LPC principals in highly favorable situations. Organizational engineering, as defined by Fiedler (1967, p. 255), is based on the assumption that the favorableness dimension is independent of group performance. Therefore, changing this component would not increase group effectiveness unless it results in an appropriate match with the leadership style. However, the results of this study indicated that group atmosphere was related to school effectiveness. Thus, the appropriate change strategy for the schools involved in this study, namely, elementary schools, would involve improving the group atmosphere rather than matching principals with situations on the basis of their leadership style.

When the results of a study do not support the theory which it is testing it is necessary to reexamine the instruments used and the methodology employed in the study, before questioning the theory. With respect to the actual scoring of the data received from each school, during the initial scoring of the data the questionnaires were scored and checked by this investigator. These scores were rechecked by this investigator and another individual as they were being coded for computer analysis. After entry into the computer file, scores were rechecked and any missing values were corrected.

Each of the questionnaires associated with the Contingency theory was used as recommended. The LPC and GA scales were completed by principals as recommended by Fiedler (1967). The reliability of each scale is well documented. The task structure questionnaire was taken from Fiedler and Chemers (1984), and was completed by the principal. The position power questionnaire had been used by previous researchers (Hunt, 1967; Bobner, 1982) and was completed by the principal. As noted earlier in this chapter, cut off points for LPC and each of the situational variables either were as recommended by Fiedler, or where there was no

recommendation by Fiedler, as established by previous researchers, especially Posthuma (1970).

The school effectiveness questionnaire was developed after an extensive review of the school effectiveness literature. Validation and reliability procedures were employed as discussed in Chapter 2. This questionnaire represented items from seven major areas considered to be important in determining school effectiveness. It was assumed that schools scoring high on these prerequisites would be effective on the typical organizational effectiveness criteria. The school effectiveness literature gives widespread support to defining an effective school in terms of the degree to which student achievement is maintained and increased (Weber, 1975; Edmonds, 1979, 1981; Phi Delta Kappan, 1980). There is also some support that in addition to achievement, an effective school can be defined on the basis of high attendance rates, low delinquency rates and generally good behavior and attitudes (Rutter, Maughan, Mortimore, Quston, and Smith, 1979; Brookover and Lezotte, 1979).

It appears to this investigator that the methodology employed was as recommended and was not a contributing factor to the incongruent results of the study compared to that predicted by the Contingency theory. The limitation of the least preferred co-worker scale, used to measure leadership style, could have been a contributing factor. The nature of the LPC scale could explain the failure to obtain significant results. The explanation of what the LPC scale measures has been problematic. Fiedler (1967) claims that it measures the inner need structure of the leader. Given the complexity of schools in terms of organizational structure, maybe it should not be surprising to find that one facet of the principal's personality has only a minimal influence on staff performance.

It is conceivable that either one or more of the situational variables considered important by Fiedler is not relevant for the school context, or that there are other

important variables missing from the theory which should be included when the theory is used in schools. Other researchers have raised this possibility (Hunt, 1967; Garland, 1973). Fiedler himself stated that leader-member relations, task structure, and position power are not the only factors which determine the amount of control and influence for the leader (Fiedler, 1967, p. 151; 1978, p. 66; Fiedler and Chemers, 1974, p. 70), but that he considered these three to be the most important.

As discussed in Chapter 1 when describing the task structure variable, Fiedler has identified two kinds of task groups: (1) those in which the task requires interdependent action by the group members, known as interacting groups; and (2) those in which the group members work relatively independently, known as coacting groups. According to Fiedler, the teaching process falls in the coacting group category. Crehan (1984) notes that it may be that teaching is both a structured and an unstructured task depending upon the nature not only of what is being taught but also the pupils to whom it is being taught. If this is the case, then there is no way of designating the task as either structured or unstructured. Given this view point, the task structure variable is inappropriate to coacting groups. This may partially explain the results of this study with respect to task structure. Principals may have perceived task structure based on the type of teaching approach used primarily in their school, based on the type of pupil which predominates their school, or based on a combination of both. With varying conditions in schools, it is plausible to assume that some principals would perceive the task to be structured, while others would perceive the task to be unstructured.

This chapter has presented the results of the study, discussed these results, and considered some of the implications of these results for the Contingency theory as it may apply to the school context. The following chapter summarizes the study, and offers ideas for future research.

Summary and Conclusions

This study examined the effect of leadership style of the elementary school principal on school effectiveness under favorable and moderately favorable situations. The rationale for the study was based on the leadership theory developed by Fiedler and on the findings from the school effectiveness literature.

Fiedler's Contingency theory of leadership states that the effectiveness of a particular leadership style is dependent on the favorability of the situation, or the degree of control for the leader. In schools, since principal position power is perceived to be strong by principals, the favorability of the leadership situation is determined by the group atmosphere, which varies from good to poor, and by the task structure of the teachers, which varies from structured to unstructured. According to Fiedler's Contingency theory, high LPC principals are more effective than low LPC principals in moderately favorable situations, while low LPC principals are more effective than high LPC principals in favorable and unfavorable situations. Group effectiveness was measured by using a modified version of Bohac's school effectiveness questionnaire. An extensive review of the school effectiveness literature revealed the following components of school effectiveness: strong leadership by the principal; high expectations by the principal and staff for student achievement; a system for monitoring student progress; a positive, orderly climate; emphasis on basic skills achievement; clearly stated, well-defined goals; and good home-school relations. Bohac's questionnaire was modified to ensure that each of these components was measured adequately. Validation and reliability procedures were employed and changes made, until the final version of the questionnaire was deemed valid and reliable.

This study provided a partial test of Fiedler's Contingency theory. The unfavorable situation was not tested, since there were only four principals who perceived position power to be weak. In addition to partially testing the theory, the research measured each of the situational variables, namely, group atmosphere, task structure, and position power. A review of the literature had indicated that over the past twenty years a number of studies had used the Contingency theory in research on both secondary and elementary schools. In all instances in the studies conducted in Canada, task structure had either been assumed or rated by judges to be unstructured. Fiedler has said task is structured in schools. Two studies conducted in the United States had found both structured and unstructured situations. Clearly there was a need to measure the task structure situational variable. Also, Fiedler has assumed that LPC and each of group atmosphere, task structure, and position power are not related. Garland had found a curvilinear relationship between LPC and GA. Such discrepancies identified a need to examine the relationship between LPC and TS and LPC and PP. Therefore, the questions addressed in the study were as follows:

1. What is the relationship between elementary principal LPC scores and school effectiveness when the situational favorability for the principal is high? (Octants I, II, III)
2. What is the relationship between elementary principal LPC scores and school effectiveness when the situational favorability for the principal is moderate? (Octants IV, V, VI, VII)
3. What is the relationship between elementary principal LPC scores and school effectiveness when the situational favorability for the principal is low? (Octant VIII)
4. Is there a relationship between elementary principal LPC scores and position power as perceived by the principals?

5. Is there a relationship between elementary principal LPC scores and task structure as perceived by the principals?
6. What is the effect of leadership style (LPC), principal-staff relations (GA), and task structure (TS) on school effectiveness?

The hypotheses of the study were as follows:

1. There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is high.
2. There will be a positive correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is moderate.
3. There will be a negative correlation between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal is low.
4. There is no relationship between elementary principal LPC scores and position power as perceived by the principals.
5. There is no relationship between elementary principal LPC scores and task structure as perceived by the principals.
6. For the effect of leadership style (LPC), principal-staff relations (GA) and task structure (TS) on school effectiveness:
 - 6.1 There is no effect attributable to LPC.
 - 6.2 There is no effect attributable to GA.
 - 6.3 There is no effect attributable to TS.
 - 6.4 There is no effect attributable to the interaction of LPC and GA.
 - 6.5 There is no effect attributable to the interaction of LPC and TS.
 - 6.6 There is no effect attributable to the interaction of GA and TS.

6.7 There is no effect attributable to the interaction of LPC, GA, and TS.

The data were collected from schools in 33 of the 34 school districts in the province of Newfoundland and Labrador. Principals were asked to complete the least preferred co-worker scale, the group atmosphere scale, the task structure questionnaire and the position power questionnaire. Teachers were asked to complete the school effectiveness questionnaire. These questionnaires were mailed to 281 schools, with 184 schools responding. Because of incomplete data, eight schools had to be discarded, leaving a sample of 176 schools. School effectiveness questionnaires were returned by 899 teachers.

Hypotheses 1 and 2 were analyzed using the Spearman rho correlation formula. Hypothesis 3 could not be analyzed because there were too few cases falling into the unfavorable situation category. Hypotheses 4 and 5 were analyzed using the Pearson product moment correlation formula. Hypothesis 6 was analyzed using a three way analysis of variance.

The conclusions of the study were as follows:

1. There was no significant relationship between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal was high.
2. There was no significant relationship between LPC scores of elementary principals and school effectiveness when the situational favorability for the principal was moderate.
3. The relationship between LPC and school effectiveness when the situational favorability was low was not determined, due to insufficient data in this category.

4. There was no significant relationship found between elementary principal LPC scores and position power as perceived by the principal.
5. There was no significant relationship found between elementary principal LPC scores and task structure as perceived by the principal.
- 6.1 Leadership style, as measured by the LPC scale, had no significant effect on school effectiveness;
- 6.2 Group atmosphere did have a significant effect on school effectiveness ($p < .05$);
- 6.3 Task structure had no significant effect on school effectiveness;
- 6.4 The interaction of leadership style (LPC) and group atmosphere had no significant effect on school effectiveness;
- 6.5 The interaction of leadership style (LPC) and task structure had no significant effect on school effectiveness;
- 6.6 The interaction of group atmosphere and task structure had no significant effect on school effectiveness;
- 6.7 The interaction of leadership style (LPC), group atmosphere, and task structure had no significant effect on school effectiveness.

The results of the study provided only marginal support for Fiedler's Contingency theory. Fiedler's assumptions with respect to there being no relationship between LPC scores and task structure and LPC scores and position power were supported. Based on post hoc analysis, Fiedler's assumption with respect to there being no relationship between LPC scores and group atmosphere was also supported. However, Fiedler's assumption that group atmosphere and group effectiveness were independent was not supported. The main predictions of the theory with respect to low

and high LPC leaders and group effectiveness under favorable and moderately favorable conditions respectively, were not supported.

The results of the research provide a basis for challenging the use of Fiedler's theory within the school context. The Contingency theory is based on the strategy of fitting leaders to situations rather than changing situational variables such as group atmosphere. The results of this study imply that school effectiveness can be improved by increasing the group atmosphere to make the situation more favorable for the principal, whether the principal's leadership style is high or low.

Schools can be considered complex organizations. There is considerable evidence to support the fact that leadership is essential if an organization is to be effective. Despite the numerous studies on leadership in organizations generally, and more specifically of the principal as leader in the school setting, there remains a tremendous amount to be learned. This study was one attempt to provide some insight into the nature of the relationship between leadership style and group effectiveness, using one of the most developed and best tested leadership theories to date. Although a number of the assumptions of Fiedler's theory tested in this study were supported, the results from this study did not support the predictions of Fiedler's theory. A number of other studies conducted in schools found inconsistent results with Fiedler's theory. With these observations in mind, the following suggestions are made for further research.

There can be no doubt about the importance of the principal as a leader in the school. The concept of leadership style, however, needs to be re-examined. Is there more to leadership style than is measured by the least preferred co-worker scale? Given the problems with respect to explaining what the LPC scale really measures, it appears that research in this area would be productive.

It is difficult to dispute the claim by theorists that the situation within which a leader and subordinates interact is important. Are there other situational variables important in determining group effectiveness beside those incorporated in the Contingency theory? Are the three situational variables applicable when using the Contingency theory within the school context? There is a need to assess whether or not schools have co-acting task groups, and the implications of such results for the Contingency theory and schools. Is task structure relevant for the school situation?

Research thrusts in the area of organizational theory have considered the environmental milieu in which organizations operate to be more important as organizations become more open. The school effectiveness literature has recognized the importance of home-community relations. There is a need to research how the external environment of the school affects the principal and his staff with respect to school effectiveness.

The organizational effectiveness literature notes the problems associated with determining the criteria by which organizations can be judged to be effective. This problem is particularly valid with respect to school effectiveness. Research focusing on the criteria by which the effectiveness of schools can be measured should be productive for the study of leadership and staff performance.

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Appendix A: Letter Sent to School District Superintendents

616 Chadburn Avenue
Ottawa, Ontario
K1G 0Y7

As you are probably aware, this year I am attending the University of Ottawa, working on a Ph.D program in educational administration. Needless to say, the year has been a very refreshing one, far removed from the multiplicity of problems faced by Central Office administrators. I am presently in the process of completing my dissertation proposal. My research is entitled 'A Study of the Relationship Between the Leadership Style of the Principal and School Effectiveness, Under Varying Conditions of Situational Favorability.' Basically, my study is an application of Fiedler's Contingency theory of leadership to the education area, specifically to primary-elementary schools.

For Fiedler's theory, leaders of different styles (as measured by the Least Preferred Co-worker scale) are more effective or less effective as leaders depending upon the favorability of the situation for the leader. This favorability of the situation can be determined by measuring three factors, group atmosphere, task structure, and principal position power. For my study, the measure of effectiveness will be school effectiveness, based on components identified from the school effectiveness literature.

I am most interested in collecting my data from school Districts in Newfoundland and Labrador. Consequently, I am requesting your permission to contact a random sample of elementary principals in your District, to seek their cooperation in participating in this study. The principals in the schools selected will be asked to complete four short scales as follows: the Least Preferred Co-worker Scale; the Group Atmosphere Scale; the Principal Position Power Scale; and the Task-Structure Scale. A random sample of teachers within each school will be asked to complete the School Effectiveness Questionnaire. A copy of each of these instruments is attached for your perusal. There may be some minor changes in the School Effectiveness Questionnaire, since I am presently in the process of validating it. As you can see, involvement by your principals and teachers would not require any more than twenty minutes of their time.

The nature of the analysis of the study requires that I have a large sample size. Therefore, I may need to select up to 50% of the primary-elementary schools in your District. Of course, all data collected will be strictly confidential. Since the survey will involve some 250 schools throughout the province, and all data will be pooled, comparisons between individual schools and/or principals are not intended or of concern for this study.

I already have the relevant information required for the primary-elementary schools in your District (name of principal, school address, school size), taken from the School Directory, 1986-87, published by the Department of Education. If you are prepared to grant your permission for the study, could you please inform me of those schools that have principals in their position for only one year, that is, any schools with a new principal starting in September, 1986 or later. These schools will be discarded from the sample since Fiedler's Theory requires that the leader be in his/her position for at least the second year. Also, should there be a reason why any other school in your District should not be included, please inform me of the name of the school.

I do hope that you are able to approve my request. Any endeavour on your part to facilitate a high return rate from your District would be greatly appreciated. While I am not able to promise you data specific to your District as a result of this study, I would be more than pleased to provide you with any information that I have on the school effectiveness area, upon my return to work at the Avalon Consolidated School Board in August. Should you have any queries about any of the instruments, or any aspect of the study, please do not hesitate to contact me at my home address above. Recognizing how quickly the school year is passing, I hope to receive your approval in the very near future.

Yours sincerely

Wayne Oakley

c.c. Dr. I. Dow

Appendix B: Letter Sent to Elementary School Principals

616 Chadburn Avenue
Ottawa, Ontario
K1G 0Y7

I am an Assistant Superintendent with the Avalon Consolidated School Board presently on leave to complete my Ph.D. program at the University of Ottawa. I am doing a study for my dissertation entitled 'A Study of the Relationship Between the Leadership Style of the Principal and School Effectiveness, Under Varying Conditions of Situational Favorability'. I have recently received approval from your Superintendent to contact you to solicit your support, and that of your teachers, for my study. As you can see from a quick perusal of the enclosed questionnaires, involvement would not require more than fifteen minutes of your time. Of course, all data collected will be strictly confidential. Questionnaires for each school are coded, merely to ensure that data for each school can be kept together. Since the survey will involve some 250 schools throughout the province, and all data will be pooled, comparisons between individual schools are not intended or of concern for the study.

The following questionnaires are to be completed by the principal: a) the LPC Scale; b) the Group Atmosphere Questionnaire; c) the Task Structure Rating Scale; and d) the Principal Position Power Scale. The School Effectiveness Questionnaires are to be completed by primary-elementary teachers only. If your staff is larger than the number of questionnaires provided, please assign the questionnaires to teachers in a random manner, spread over the grades. For example, take the alphabetized list of your K-6 teachers and select every second teacher until you have a sufficient number of teachers to complete the questionnaires provided. Please return all questionnaires for your school in the self-addressed, stamped envelope provided.

The nature of my study requires that I have a large sample. Since many of the elementary schools in our province are very small, and thus not suitable for my study, it is all the more important that I receive a positive response from principals and teachers of schools such as yours.

In anticipation of a positive response, I do thank you and your teachers for taking your valuable time to help me with this study. Recognizing how quickly the school year is passing, I would appreciate receiving your questionnaires at your very earliest convenience.

Yours sincerely,

Wayne Oakley

Appendix C: Least Preferred Co-worker Scale

LPC SCALE

Think of the person with whom you can work least well. She/he may be someone you work with now, or may be someone you knew in the past. She/he does not have to be the person you like least well, but should be the person with whom you had the most difficulty in getting a job done. Describe this person as she/he appears to you by checking the appropriate number on each scale.

Pleasant	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Unpleasant
	8 7 6 5 4 3 2 1	
Friendly	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Unfriendly
	8 7 6 5 4 3 2 1	
Rejecting	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Accepting
	1 2 3 4 5 6 7 8	
Helpful	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Frustrating
	8 7 6 5 4 3 2 1	
Unenthusiastic	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Enthusiastic
	1 2 3 4 5 6 7 8	
Tense	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Relaxed
	1 2 3 4 5 6 7 8	
Distant	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Close
	1 2 3 4 5 6 7 8	
Cold	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Warm
	1 2 3 4 5 6 7 8	
Cooperative	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Uncooperative
	8 7 6 5 4 3 2 1	
Supportive	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Hostile
	8 7 6 5 4 3 2 1	
Boring	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Interesting
	1 2 3 4 5 6 7 8	
Quarrelsome	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Harmonious
	1 2 3 4 5 6 7 8	
Self-assured	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Hesitant
	8 7 6 5 4 3 2 1	

LPC SCALE

Efficient	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Inefficient
	8 7 6 5 4 3 2 1	
Gloomy	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Cheerful
	1 2 3 4 5 6 7 8	
Open	: <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> : <u> </u> :	Guarded
	8 7 6 5 4 3 2 1	

Appendix D: Group Atmosphere Questionnaire

GROUP ATMOSPHERE QUESTIONNAIRE

Please describe the group atmosphere of your present staff by checking the number indicating your rating of the relative position of your staff on each scale.

- | | | |
|-----------------|---|----------------|
| 1. Friendly | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Unfriendly |
| 2. Accepting | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Rejecting |
| 3. Satisfying | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Frustrating |
| 4. Enthusiastic | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Unenthusiastic |
| 5. Productive | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Nonproductive |
| 6. Warm | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Cold |
| 7. Cooperative | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Uncooperative |
| 8. Interesting | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Boring |
| 9. Supportive | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Hostile |
| 10. Successful | : $\frac{\quad}{8}$: $\frac{\quad}{7}$: $\frac{\quad}{6}$: $\frac{\quad}{5}$: $\frac{\quad}{4}$: $\frac{\quad}{3}$: $\frac{\quad}{2}$: $\frac{\quad}{1}$: | Unsuccessful |

Appendix E: Principal Position Power Questionnaire

PRINCIPAL POSITION POWER QUESTIONNAIRE

Directions: Please circle 'yes' or 'no' after each item to indicate the answer you have chosen.

- | | | | |
|-----|--|-----|----|
| 1. | Can the principal recommend teacher rewards and punishment to his/her superiors? | YES | NO |
| 2. | Can the principal punish or reward teachers on his/her own? | YES | NO |
| 3. | Can the principal recommend promotion or demotion of teachers? | YES | NO |
| 4. | Can the principal promote or demote teachers on his/her own? | YES | NO |
| 5. | Does the principal's special knowledge allow him/her to decide how teachers are to proceed on their jobs? | YES | NO |
| 6. | Can the principal give teachers a general idea of what they are to do? | YES | NO |
| 7. | Can the principal specifically instruct teachers concerning what they are to do? | YES | NO |
| 8. | Is an important part of the principal's job to motivate his/her teachers? | YES | NO |
| 9. | Is an important part of the principal's job to evaluate teacher performance? | YES | NO |
| 10. | Does the principal have a great deal of knowledge about the jobs under him/her but require his/her teachers to do them? | YES | NO |
| 11. | Can the principal supervise and evaluate teacher tasks? | YES | NO |
| 12. | Does the principal know both his/her own and his/her teachers' tasks so that he/she could finish their work himself/herself if it were necessary and he/she had enough time? | YES | NO |

Appendix F: Task Structure Rating Scale

TASK STRUCTURE RATING SCALE

Please consider the task of your teachers. Circle the number in the appropriate column.

	Usually True	Sometimes True	Seldom True
<u>Is the Goal Clearly Stated or Known?</u>			
1. Is there a blueprint, picture, model or detailed description available of the finished product or service?	2	1	0
2. Is there a person available to advise and give a description of the finished product or service, or how the job should be done?	2	1	0
<u>Is There Only One Way to Accomplish the Task?</u>			
3. Is there a step-by-step procedure, or a standard operating procedure which indicates in detail the process which is to be followed?	2	1	0
4. Is there a specific way to subdivide the task into separate parts or steps?	2	1	0
5. Are there some ways which are clearly recognized as better than others for performing this task?	2	1	0
<u>Is There Only One Correct Answer or Solution?</u>			
6. Is it obvious when the task is finished and the correct solution has been found?	2	1	0
7. Is there a book, manual, or job description which indicates the best solution or the best outcome for the task?	2	1	0
<u>Is It Easy to Check Whether the Job Was Done Right?</u>			
8. Is there a generally agreed upon understanding about the standards the particular product or service has to meet to be considered acceptable?	2	1	0
9. Is the evaluation of this task generally made on some quantitative basis?	2	1	0
10. Can the leader and the group find out how well the task has been accomplished in enough time to improve future performance?	2	1	0

Appendix G: School Effectiveness Questionnaire

SCHOOL EFFECTIVENESS QUESTIONNAIRE

All of the following criteria contribute to school effectiveness. Please indicate the degree to which each item is performed in your school by CIRCLING one number from the numbers across from each item. The numbers range from **LOW DEGREE** (Number 1) to **HIGH DEGREE** (Number 6).

	LOW	HIGH
1. Is there an appropriate degree of decentralization of decision-making?	1. 2. 3. 4. 5. 6.	
2. To what degree is the principal involved in coordination of instructional programs?	1. 2. 3. 4. 5. 6.	
3. To what degree does the principal and staff emphasize achievement to students?	1. 2. 3. 4. 5. 6.	
4. To what degree are there positive student attitudes?	1. 2. 3. 4. 5. 6.	
5. To what degree is the principal effective in supervising teachers?	1. 2. 3. 4. 5. 6.	
6. To what degree does your school have high expectations, that is, high norms and academic standards?	1. 2. 3. 4. 5. 6.	
7. To what degree does the school have parental contact and interest?	1. 2. 3. 4. 5. 6.	
8. To what degree is there a policy reflecting a uniform academic standard throughout the school?	1. 2. 3. 4. 5. 6.	
9. To what degree does the staff assume responsibility for teaching basic skills?	1. 2. 3. 4. 5. 6.	
10. To what degree is there openness in staff-principal communications?	1. 2. 3. 4. 5. 6.	
11. To what degree does the school have clearly stated curricular goals and objectives?	1. 2. 3. 4. 5. 6.	
12. To what degree is pupil progress frequently monitored by teachers?	1. 2. 3. 4. 5. 6.	
13. To what degree do students have a sense of ownership about the school?	1. 2. 3. 4. 5. 6.	
14. To what degree do students in the school abide by school rules?	1. 2. 3. 4. 5. 6.	

		LOW						HIGH					
15.	To what degree is there a policy established showing improved academic achievement as a major goal of the school?	1.	2.	3.	4.	5.	6.						
16.	To what degree is there an attempt to provide parents with meaningful information about their child's progress?	1.	2.	3.	4.	5.	6.						
17.	To what degree is the principal well organized?	1.	2.	3.	4.	5.	6.						
18.	To what degree does the principal have an ability to encourage individual participation?	1.	2.	3.	4.	5.	6.						
19.	To what degree is the school building neat, bright, clean and comfortable?	1.	2.	3.	4.	5.	6.						
20.	To what degree is there consensus of the staff with respect to their responsibility for basic skill achievement?	1.	2.	3.	4.	5.	6.						
21.	To what degree is student assessment information regularly used to give specific student feedback?	1.	2.	3.	4.	5.	6.						
22.	To what degree are parents encouraged to take an active role in the education of their children?	1.	2.	3.	4.	5.	6.						
23.	To what degree do teachers and the principal together frequently review and analyze test results to plan instructional program modification?	1.	2.	3.	4.	5.	6.						
24.	To what degree do teachers have a positive attitude towards their work?	1.	2.	3.	4.	5.	6.						
25.	To what degree are community members encouraged to participate in and support school activities?	1.	2.	3.	4.	5.	6.						
26.	To what degree has the priority of basic skills achievement increased in your school over the last few years?	1.	2.	3.	4.	5.	6.						
27.	To what degree is there fairness in allocating funds within the school?	1.	2.	3.	4.	5.	6.						
28.	To what degree is there a school spirit—close, warm atmosphere?	1.	2.	3.	4.	5.	6.						
29.	In your opinion, to what degree do parents have respect for the school?	1.	2.	3.	4.	5.	6.						
30.	To what degree are teachers concerned for the emotional well-being of students?	1.	2.	3.	4.	5.	6.						
31.	To what degree are students in the school told what objectives they are expected to achieve?	1.	2.	3.	4.	5.	6.						
32.	To what degree is the janitorial service adequate?	1.	2.	3.	4.	5.	6.						

		LOW				HIGH		
33.	To what degree is there a strong feeling in your school to 'Get Things Done', especially with respect to basic skills?	1.	2.	3.	4.	5.	6.	
34.	To what degree is there positive reinforcement for students' efforts within the school?	1.	2.	3.	4.	5.	6.	
35.	To what degree is there a specific plan in place for improving academic achievement?	1.	2.	3.	4.	5.	6.	

**Appendix H: School Scores for School Effectiveness, Least Preferred
Co-worker, Group Atmosphere, Task Structure, and Principal Position
Power**

School Scores for School Effectiveness, Least Preferred Co-Worker (LPC),
Group Atmosphere (GA), Task Structure (TS), and Position Power (PP)

SCHOOL	SCHOOL EFFECTIVENESS	LPC	GA	TS	PP
1	132.250	60	60	13	10
2	143.167	47	61	14	9
3	167.000	85	61	9	6
4	177.857	44	67	10	6
5	171.625	76	70	14	11
6	172.000	51	58	12	10
7	151.250	72	58	11	9
8	164.000	63	67	11	10
9	189.667	27	73	10	9
10	135.250	67	73	11	10
11	174.833	71	75	9	8
12	151.000	50	70	7	7
13	126.200	87	66	8	7
14	181.400	42	77	11	9
15	178.200	62	74	11	9
16	173.000	60	61	10	9
17	174.600	47	73	14	5
18	145.750	46	64	11	10
19	159.000	64	66	14	8
20	158.167	91	70	11	9
21	179.333	77	70	16	10
22	163.125	37	80	14	10
23	160.500	51	64	5	6
24	161.000	54	68	8	11
25	172.750	59	72	7	8
26	193.000	66	70	14	10
27	152.286	31	70	14	12
28	160.000	55	66	12	10
29	162.000	55	66	7	9
30	173.714	95	80	15	9
31	133.167	62	52	5	9
32	182.250	77	67	10	8
33	155.333	80	56	8	7
34	159.857	52	64	10	9
35	174.250	67	62	10	8
36	147.333	56	63	5	6
37	177.375	64	67	10	11
38	150.000	69	68	8	9
39	134.000	26	65	13	9
40	147.000	63	58	10	9
41	137.600	66	68	17	11
42	186.250	58	77	14	10
43	157.833	72	69	13	8
44	170.667	75	70	12	11
45	189.333	66	69	11	10
46	158.500	49	76	14	10
47	152.667	78	77	12	9
48	158.333	45	70	14	8
49	179.750	44	76	6	9
50	168.250	46	67	12	9
51	177.000	78	72	10	8
52	164.000	56	53	9	10
53	159.833	41	66	17	10
54	152.000	34	44	5	8
55	137.500	42	71	9	9
56	147.125	36	68	9	9
57	162.571	64	65	5	11
58	173.500	61	64	12	10
59	199.750	125	67	17	8
60	128.750	78	58	8	8
61	171.250	91	71	14	8
62	174.750	65	80	15	9
63	173.500	99	71	7	10
64	157.000	67	70	10	9
65	177.667	65	73	14	11
66	190.500	32	74	13	8
67	168.250	100	74	12	7
68	175.000	80	58	11	7
69	156.750	61	58	13	4
70	163.375	35	69	13	10
71	173.500	49	65	5	8
72	158.429	46	71	11	11
73	168.500	62	68	7	8
74	150.500	49	65	9	9
75	131.000	83	66	10	9

SCHOOL	SCHOOL EFFECTIVENESS	LPC	GA	TS	PP
76	167.500	16	63	8	8
77	173.500	55	65	7	11
78	169.500	37	73	6	8
79	156.000	75	72	10	8
80	148.000	35	63	9	7
81	161.667	76	64	7	4
82	177.125	73	63	12	8
83	170.500	63	54	7	9
84	192.250	60	69	16	10
85	188.000	16	70	17	7
86	173.000	81	47	8	6
87	166.333	68	69	17	8
88	186.000	99	73	9	10
89	161.500	35	63	10	11
90	182.000	44	69	15	10
91	165.250	68	52	4	8
92	178.750	60	57	13	9
93	151.750	48	72	13	10
94	168.250	59	70	14	8
95	176.000	44	67	16	10
96	171.750	76	80	13	10
97	152.250	54	65	7	5
98	150.000	61	62	9	9
99	136.000	76	49	11	9
100	173.167	73	62	6	6
101	145.875	61	39	9	9
102	162.667	76	63	12	11
103	135.000	75	71	12	11
104	147.857	75	60	7	8
105	136.000	52	55	6	10
106	145.500	59	65	10	7
107	136.750	62	51	11	6
108	160.500	40	70	14	10
109	176.750	57	72	15	9
110	185.750	54	68	11	6
111	179.250	31	76	11	6
112	190.000	47	80	5	9
113	180.000	60	39	14	9
114	155.286	79	61	10	10
115	177.250	55	62	13	10
116	172.500	62	63	7	8
117	163.625	22	55	7	11
118	139.000	77	63	5	7
119	169.125	25	58	7	6
120	171.667	62	64	12	10
121	156.714	69	50	12	10
122	158.000	58	60	9	8
123	175.200	64	63	13	10
124	184.500	70	72	8	8
125	176.000	62	75	6	9
126	174.250	75	64	6	7
127	145.000	56	57	6	6
128	137.000	73	72	11	7
129	150.000	83	56	5	6
130	170.667	66	65	5	10
131	183.750	67	68	8	7
132	177.250	71	68	9	6
133	180.600	85	67	13	10
134	170.250	57	65	17	11
135	153.250	67	61	10	10
136	165.500	94	73	13	9
137	160.750	44	65	10	7
138	173.750	58	73	13	9
139	148.667	60	68	10	9
140	163.000	86	73	11	8
141	171.333	70	63	14	11
142	165.167	66	65	13	10
143	150.286	64	56	7	10
144	184.000	113	67	7	8
145	160.000	35	70	9	9
146	170.000	63	61	10	8
147	157.750	59	70	11	10
148	169.833	16	80	15	10
149	145.500	41	66	11	10
150	181.750	70	74	12	9

SCHOOL	SCHOOL EFFECTIVENESS	LPC	GA	TS	PP
151	172.250	66	63	6	10
152	172.000	58	79	9	8
153	170.000	60	55	9	9
154	171.500	37	63	15	10
155	174.857	36	33	7	9
156	178.857	42	70	14	9
157	178.375	71	56	15	8
158	159.000	70	53	11	8
159	175.500	42	65	11	8
160	180.500	64	67	6	6
161	184.625	68	76	13	11
162	158.333	91	70	13	8
163	134.625	45	55	10	8
164	123.667	32	37	0	6
165	162.400	62	46	5	10
166	130.429	52	71	13	10
167	149.667	38	66	10	7
168	162.500	40	75	11	10
169	152.833	90	62	13	8
170	173.333	95	58	11	6
171	160.857	95	58	11	6
172	146.667	54	80	7	10
173	160.667	76	70	13	8
174	179.000	58	72	8	9
175	170.333	51	60	2	10
176	173.667	75	64	7	9