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THE CONTINGENCY MODEL: A STUDY OF
SCHOOL PRINCIPAL EFFECTIVENESS

By

HAROLD AARON GREENWOOD

Bachelor of Arts in Education
Central State University
Edmond, Oklahoma
1965

Master of Education
Central State University
Edmond, Oklahoma
1970

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THESIS APPROVED:

Kenneth H. Davis
Thesis Adviser

Kenneth J. Kiser

Ray R. Anderson

Russell D. Brown

Norman D. Deukhan
Dean of the Graduate College

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If I have seen further...it is by standing upon the shoulders of giants. (Sir Isaac Newton, February 5, 1675/6)

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CHAPTER I

INTRODUCTION

* Many public school administrators subscribe to the notion that as a prerequisite to being promoted to the position of principal, an individual must have served in a lower leadership or supervisory position, usually that of assistant principal. The reasoning that supports this logic seems to be based on the contention that a positive relationship exists between leadership training and leadership effectiveness, † irrespective of an individual's leadership style (the underlying need-structure of the individual that motivates his behavior in various leadership situations) and the circumstances in which the individual has been placed. A review of the literature and relevant abstracts reveals no research which directly addressed itself to a test of this widely held notion. Consequently, the current method utilized by many school systems to fill principal vacancies may need to be re-evaluated.

The present research investigation, conducted in two large suburban school districts, ^{in S, A} will attempt to test Fiedler's Contingency Model of Leadership Effectiveness which states that leadership effectiveness is contingent upon the leader's style and the favorableness of the situation. †

Significance of the Study

* It goes without saying that the success or failure of a public

school system is contingent upon the quality of leadership that is exerted by the principal in each of its various schools. As the one individual who assists in formulating goals relevant to a particular school and seeks to motivate his teachers toward the achievement of these goals, the principal plays a role of paramount importance. His leadership ability is central to that role.

The essential significance of the present study is an attempt to identify or make known recognizable group-task situations within a particular school so that principals can be selected for positions which are appropriate for their leadership style, which condition, according to the contingency model, would make them more effective.

Problem

One of the most pressing needs facing the public schools, not only in the State of Oklahoma, but throughout the United States, is that of "grooming" men and women to assume positions of leadership. "Grooming" is another term for leadership training. The concern is: what is the most effective and efficient method of meeting this need. At the present time, in many public schools, an individual qualifies for a promotion to a leadership position only by having been an expert teacher. The fallacy in this logic is that technical mastery in a specific field is not prima-facie evidence that an individual will be an effective leader in another. Moreover, once a promotion occurs it is usually to an assistant principalship to be groomed for a principal's position if one becomes available. The underlying assumption appears to be that leadership training is positively correlated with leadership effectiveness which in turn will improve organizational performance.

In studies conducted by Campbell, Dunnett, Lawler, and Weick (1970) and by Fiedler (1967), it was found that leadership training appears to have no effect on organizational performance. Fiedler goes on to infer that leadership is situational. That is, leadership which is effective in one situation may be ineffective in another, depending upon the situation. This theory is the basis of Fiedler's Contingency Model of Leadership Effectiveness which the present research study will test using secondary and elementary principals in two large suburban school districts as the target population.

Purpose

The present research study attempts to determine if there is a significant interaction between the principal's "leadership effectiveness," situational favorableness and leadership style of the principal using Fiedler's Contingency Model as a theoretical base. A three-part null hypothesis is investigated.

Definitions

¹ Contingency Model: A theory of leadership effectiveness proposed by Fiedler, which assumes that the leader's contribution to his group's performance depends upon both the characteristics of the leader and the favorableness of the situation for the leader.* Specifically, this model postulates an interaction between the leader's style of leadership (task-oriented versus relationship-oriented) and the favorableness of the situation for the leader (relationship of the leader and members, the leader's position power and the amount of task structure).

Position Power: The degree to which an organization invests the leader with power to reward and punish, and the degree to which it gives the leader prestige. It represents the actual power at the leader's disposal, irrespective of one's ability or willingness to use it (French, 1956).

* Leadership Effectiveness: Leadership effectiveness is measured on the basis of how well the group (in this study, teachers) performs the major task it seeks to accomplish. The effectiveness of the leader in the present study will be measured by students' standardized achievement test scores over a three-year period.

High LPC Principal (Least Preferred Coworker): A high LPC principal is primarily motivated to seek "relatedness" with others (human relations oriented).

Low LPC Principal (Least Preferred Coworker): A low LPC principal is primarily motivated by explicit competition for material and tangible rewards in the work setting, including praise and recognition for good work by superiors or the feeling of accomplishment derived from the knowledge that the job was well done. He is more task- than human relations-oriented.

* Leadership: A personal relationship in which one person directs, coordinates, and supervises others in the performance of a common task.*

Task Structure: The degree to which the task (1) is spelled out step by step for the group, and if so, the extent to which it can be done according to a detailed set of standard operating instructions or (2) must be left nebulous and undefined.

* Leadership Style: The underlying need structure of the individual that motivates his behavior in various leadership situations.*

Favorable Situation: The ease with which the leader is able to influence the group members, that is, the degree to which the group task and group organization facilitates or inhibits the leader's ability to exert influence without incurring resistance.

Situation: A complex of events occurring at any given time within an organizational setting.

Hypothesis

As stated previously this study investigated a three-part null hypothesis.

- 1.0 There is no significant interaction between the principal's "leadership effectiveness," situational favorableness and leadership style of the principal.
- 1.1 In either a very favorable or unfavorable situation there will be no significant difference between "effectiveness scores" of low- and high-LPC principals.
- 1.2 In an intermediate situation there will be no significant difference in the "effectiveness scores" of high- and low-LPC principals.

Scope

The data on which this research venture is based were gathered from a selected group of secondary and elementary principals and a proportional random sampling of teachers from two large suburban school districts in Oklahoma. A group of teachers was selected from each school to which a subject principal in the study was assigned.

Instrumentation

Three questionnaire-type instruments were utilized in collecting the appropriate data for this study. Two were completed by the principal, one of which attempted to index a principal's leadership style and the other assessed the principal's position power as perceived by the principal. The third instrument, completed by teachers, was designed to assess the professional climate or principal-teacher relations of the school to which a subject principal was assigned as perceived by his teachers.

Assumptions

For the purpose of the present research the following assumptions were accepted by this investigator.

1. Effective leadership is a necessary element in the operation of a public school.
2. Individuals can be arranged on a continuum at the poles of which two "types" can be identified.
3. Principal effectiveness is contingent upon the favorableness of the principal-teacher relations.
4. Leadership effectiveness can be accurately determined by the instrumentation.
5. The scores that are reported by the LPC Scale, the Position Power Scale and the Professional Climate Scale represent the true attitudinal responses of the subjects.
6. The process of randomization used to select the teachers results in an accurate representation of that population.

Limitations

In most research studies there are factors over which the researcher has no control, factors which could affect the outcome. The present research study is not unique in this sense; its limitations are:

1. The population was selected exclusively from two large suburban school districts in Oklahoma which restricts the generalizability of the results. If any generalization is done beyond the present sample, it should be done with caution.
2. The validity of the responses on the instruments was dependent on the truthfulness of the respondents; whereas, the reliability of the measuring instruments is inherent in their construction.
3. In a study of this type, there is always the possibility of bias in the findings because of the absence of information from nonrespondents.

CHAPTER II

REVIEW OF LITERATURE

‡ In this chapter a review of literature is presented. The review is divided into three primary sections: (1) a brief overview of leadership; (2) a review of Fiedler's Contingency Model of Leadership Effectiveness including the basic concept of the theory as well as its relationship to empirical studies; and (3) a summary. ‡

In this research effort, it was readily observed that much of the literature and research dealing with the contingency model has been conducted in organizations other than public schools. This is especially true of research in the United States. There have been, however, a limited number of studies of the contingency model conducted in selected public schools in Canada (McNamara and Enns, 1966; McNamara, 1968; Martin, Isherwood and Lavery, 1976). These studies do not wholly relate to the present study being conducted in the two school districts previously mentioned.

Leadership--A Brief Overview

* The term leadership is indeed an expression that is difficult to define succinctly. In reviewing the literature, one finds virtually as many different definitions of leadership as there are writers dealing with the subject. †

* Stodgill (1950, p. 4) defines leadership "as the process of influencing group activities toward goal setting and goal achievement." * * According to Hemphill, "Leadership is the initiating of acts that result in a consistent pattern of group interaction directed toward the solution of mutual problems" (Fiedler and Chemers, 1974, p. 13). Doll (1972) defines leadership as:

...a function requiring human behaviors which help a school achieve its constantly changing purposes, some of which are oriented toward productivity of task-interpersonal relationship, within the school's own social climate and conditions (p. 17). ✕

Fiedler's (1967) concept of a leader is:

...the individual in the group given the task of directing and coordinating task-relevant group activities or who, in the absence of a designated leader, carries the primary responsibility for performing these functions in the group (p. 8). ✕

In its 1960 yearbook the Association for Supervision and Curriculum Development (AASA, 1960) indicated that in a free society such as ours leadership is situationally centered. Moreover, outside the context of a specific situation a certain mode of leadership cannot operate with any success; a successful leadership style in one situation may not be effective in another. Thus, to be viewed as a leader by certain people does not warrant that all people will hold the same view.

The message conveyed by all of these definitions is that leadership is goal oriented with the implication that before one leads there must be those who explicitly or implicitly consent to follow.

Prior to the late 1940's leadership was thought of as a personality trait that some individuals naturally possessed while others who were destined to follow were less fortunate. To select a leader one needed a certain amount of ingenuity to recognize the person who had these

special qualities. Little agreement, however, could be reached as to exactly what the personality leadership traits were.

* This early view of leadership was laid to rest by the findings of Stodgill (1948) and Hemphill (1950). Their studies made it apparent that traits describing leadership in some outstanding persons were not the same as those which described leadership in others. In the review of the literature Stodgill (1948) concluded:

A person does not become a leader by virtue of the possession of some combination of traits, but by the pattern of personal characteristics, activities, and goals of the followers.... It becomes clear that an adequate analysis of leadership involves not only a study of leaders, but also of situations (p. 64). *

Group Influence

As the concept of leadership became redefined after the trait theory was refuted, greater emphasis was placed on the group's influence and structure in determining leadership success rather than the personality of one individual. Leadership came to be viewed more as a structure, less as a person.

Cartwright and Zander (1953) described leadership as "the performance of those acts which help the group achieve its objectives." They suggest further that:

Leadership consists of such acts by group members as those which aid in setting group goals, moving the group toward its goals, improving the quality of the interactions among group members, building the cohesiveness of the group, and making resources available to the group (p. 538).

* Thelan (1954, p. 3), in his writings about leadership, suggests that leadership is a team approach. He stated that "the ideal team for leadership is the total group." *

In essence this second concept of leadership suggests that leadership is in the nature of a group property. Leadership does not reside primarily and exclusively in an individual leader. Rather, leadership is viewed as a function of group structure.

Subsequently, Mann (1959) found an apparent correlation between the leader's personality and leadership status in groups. Especially, intelligence, adjustment and extroversion appeared to be related to leadership status, but the correlation appeared to be very low. Even the intelligence score which was widely used during World War I and II to select military leaders was found to be poorly related to leadership performance.

Based on the evidence derived from several studies which compared some leaders with others on different leadership tasks, the leadership trait theory was substantially weakened. It seems logical to infer that if certain people do possess unique attributes or traits which make them effective leaders, then these people should be effective regardless of the situation. This logic does not appear to withstand the test of research as evidenced by several significant studies. One such study by Fiedler (1966) showed that ratings of navy officers while on shore duty were not related to the ratings of these same officers while on shipboard duty.

In a related study of bomber crew performance during the Korean War, Knoell and Forgays (1952) found that there were no consistently effective commanders on such similar tasks as visual bombing and radar bombing and no relationship between bomber crews in effectively performing such tasks as navigating accurately, bombing or maintaining the plane. According to the implication of these studies, leadership

performance in one situation is not necessarily related to leadership performance in another situation. Thus, the leadership trait theory cannot be accurately utilized in selecting a person for a leadership position since leadership performance appears to be situationally based.

This is also the basic premise of Fiedler's Contingency Model Theory, with which the present research study is concerned.

Contingency Model

The contingency model postulates that a group's performance is contingent upon two interacting variables: (1) the leader's basic motivation to either relate to members of the group or to achieve task success and (2) the degree to which the leadership situation is favorable in allowing the leader to exercise power and influence.

The situational favorableness dimension, manifesting the extent of power and influence the situation gives the leader, is revealed by three sub-dimensions. In order of importance they are: (1) leader-member relations, whether the leader feels or is accepted by the group; (2) task structure, the degree to which the task is clearly spelled out, one goal rather than many, etc., and (3) position power, the degree to which an organization invests the leader with power to reward and punish and the degree to which it gives the leader prestige.

A very favorable situation would be one in which the leader is accepted by the group, has a structured task and high position power (e.g., a well-liked principal telling the teachers how to prepare for open house). A very unfavorable situation would be one in which a disliked principal with little position power has an unstructured task (e.g.,

a disliked principal who is the chairperson of a strictly volunteer teacher committee developing a new school bussing policy).

* According to Fiedler's Contingency Model (1967) the leader's motivational system is indexed by the Least Preferred Co-Worker (LPC) Score which is obtained by asking a person to think of those with whom he has worked during his career and then to describe the one person with whom he could work least well. This person can either be one with whom one is presently working or a person with whom one has worked in the past. The individual who describes one's least preferred co-worker in relatively favorable terms, a high-LPC, is motivated to develop close personal relations with others. The person who describes one's LPC in unfavorable terms, a low-LPC, has a basic orientation in the direction of task accomplishment.*

The results of a study by Hawkins (1962) showed that low-LPC leaders were described by others as more task- than relationship-oriented. Graham (1968) tested 116 life insurance agents from 18 agencies to determine the leader behavior of high- and low-LPC leaders. The results of his study supported the notion that high-LPC leaders tend to be more relationship oriented.

A study by McNamara (1968) in the Canadian Public Schools showed that when the principal had high position power as well as high structure in a favorable situation, leadership effectiveness of low-LPC principals was enhanced, but high-LPC principals were less effective. In contrast, high-LPC principals with high position power, a less-structured task and a situation of intermediate favorableness were more effective as measured by a province-wide student achievement test, while similar conditions tended to decrease the effectiveness of low-LPC principals.

Martin, Isherwood and Lavery (1976) conducted a study in Montreal using elementary teachers as a unit of analysis, to test Fiedler's Contingency Theory. The study involved forty-one English-language elementary schools. The findings showed that relationship-oriented leaders appear to be more effective in unfavorable situations and task-oriented leaders seemed to be more effective in favorable situations, thus supporting the contingency model.

A study by Nealey and Blood (1968) in the psychiatric nursing ward of a large Veteran's Administration hospital showed that in a structured situation with task motivated supervisors, head nurses (supervising psychiatric aides in specific tasks) were rated as performing better than relationship-motivated head nurses. On the other hand, the unit supervisors whose task was less structured performed more effectively when relationship oriented.

Howley (1969) investigated the behavior of elementary principals by comparing their LPC score to scores derived from the Leadership Behavior Description Questionnaire - Form Twelve (Stodgill and Coons, 1957). Teachers in 37 elementary schools completed the LBDQ - XII, which examines leader behavior in terms of twelve dimensions. He found low-LPC principals to be rated high on Initiation of Structure (clearly defines his own role and makes known what is expected by others) and Role Assumption (actively exercising the leadership role).

McKague (1968) found that low-LPC principals tend to behave in a manner which emphasizes production and yet promotes member satisfaction. Such principals were controlling and managing in their relations with others and expected a high level of performance from them.

Shaw and Blum (1966) attempted to determine the effects of leadership style upon group performance. Their study dealt with three tasks. One was highly structured and the other two were moderately unstructured. There were 18 groups with 5 students per group. All groups worked uniformly on each of the three tasks. The leader was appointed and all groups had a favorable atmosphere. In 9 of the groups the leaders were highly structured (low-LPC) in working with the members and the leaders in the other 9 groups were nondirective and permissive (high-LPC). As per the contingency model the results showed that the directive leader was more effective than the nondirective leader only on the structured task and on both the unstructured tasks the nondirective leader was more effective.

Summary

↓ Much of the research and literature dealing with the contingency model has been conducted in organizations other than public schools. This is especially the case in the ^{S.A} United States. † McNamara and his associates have tested and supported the contingency model in the Canadian Public Schools.

† The term leadership is an expression that is difficult to define in concise terms. This is borne out in the review of the literature where one finds virtually as many definitions as there are writers dealing with the subject.

† Fiedler's Contingency Model postulates that leadership is situationally centered, coupled with the leader's motivational system which is indexed by one's LPC score. †

In a series of studies by Hawkins (1962), Fiedler (1967) and other researchers, the contingency model has been supported.

CHAPTER III

DESIGN AND METHODOLOGY OF THE STUDY

Introduction

∩ In reviewing the literature one finds that the concept of leadership has changed over the year. Theorists in the second quarter of this century, Bernard (1926) and Killbourne (1935) advanced the notion that leadership was based on personal qualities or traits that an individual possessed, which made one superior to those who were destined to follow. Earlier theorists, however, can be differentiated from more recent ones because they failed to consider the interaction between the individual and the situation. ✕

Fiedler (1967) proposed a contingency theory of leadership which postulates that leadership effectiveness is contingent upon the demands imposed by the situation. Moreover, the socially distant (task-oriented) leader has a tendency to be more effective in very favorable and very unfavorable situations. The human relations oriented (highly sociable) leader tends to be more effective in situations that impose intermediate leadership demands.

∩ The major objective of the present study is to test Fiedler's Contingency Model of Leadership Effectiveness in the public schools on both the elementary and secondary levels. ✕

Described in this chapter is the method by which the population was determined, the sampling procedure used, the design of the instrument, and the method of data collection and analysis.

Description of the Population and Sample

To test the contingency model the attempt was made to locate school systems that had working conditions comprising both favorable and unfavorable situations as well as principals in both the high- and low-LPC categories.

^{will}
~~4~~ The group utilized to test the research hypothesis consisted of ^x twelve elementary and ^y six secondary school principals and ^N 210 elementary and secondary teachers from two large suburban school districts in ^{S.A} Oklahoma. Given the variations in the number of teachers employed at each of the ~~18~~ schools to which the principals were assigned, to achieve a greater representativeness in the teachers selected, proportional random sampling (approximately 35 percent of each school's teachers) was the procedure used in selecting the portion of the sample. ~~4~~ The 210 respondents were selected from a total of approximately 600. The procedure utilized in selecting the 18 principals (out of 37 total in both districts) was non-random in nature. Essentially each principal was nominated by central office officials in his respective district. In participating in this research each principal had the option of accepting or rejecting. From District A, out of the original 15 named, only 4 rejected after conferring with this researcher. In District B all of the original 7 named chose to participate.

Instruments Used in
Data Collection

There were three instruments utilized in the data collection procedure. They are the Esteem for the Least Preferred Co-Worker Scale, the Position Power Scale, and the Professional Climate Scale. The first two instruments, which have been used quite extensively in studies by Fiedler, et al. (1967), and the latter in field studies by the NTL Institute in Bethel, Maine, are discussed below.

Esteem for the Least Preferred
Co-Worker Scale (LPC)

The LPC scale indexes an individual's leadership style in different situations. It is similar to Osgood's Semantic Differential Scale (1957). The LPC used in the present research consists of 25 items, each consisting of a pair of bi-polar adjectives describing a personality characteristic such as listed below.

Accepting: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 : Rejecting

Each item is scored along an 8-point continuum from most to least favorable, with the total score being the aggregate of all the responses to the 25 items. According to studies conducted by Fiedler (1966, 1971), Hunt (1967), and Hardy (1975) leaders who describe their least preferred co-worker in favorable terms (score above the mean on the LPC Scale, high-LPC leaders) tend to be primarily human-relations oriented and leaders who describe their least preferred co-worker in unfavorable terms (low-LPC leaders, score below the mean on the LPC

scale) tend to be more work or task oriented. The implication is that high- and low-LPC leaders seek to fulfill different needs in different leadership situations.

Studies by Fiedler (1967) have shown that LPC scores show a high degree of internal consistency. Split half coefficients have been around .90 to .95.

Position Power Scale

✓ As the name implies this instrument is used to assess the authority the principal has over his teachers. The position power one has may affect the favorableness of the situation.✕ The instrument under discussion consists of 18 true-false statements to determine the scope of the principal's authority in administering his or her respective school. In scoring, all false items are not scored and all true responses are given one point. According to Fiedler (1966), position power is the extent to which an organization allows the leader to reward and punish members of one's group and the degree to which it gives the leader prestige. Here position power represents the actual authority the leader has, regardless of one's ability or willingness to use it. Fiedler (1967) felt that position power was the least important of the sub-dimensions of situational favorableness. Based on his research he felt that if it affected group performance it was due to its effect on the interpersonal relationship between the leader and the group members.

✕ Professional Climate Scale

This instrument, which was developed in connection with the National Principalship Study initiated by Howard University in 1959, operationally

defines teacher-principal relationships within a school. It is a twenty-four item sociometric questionnaire in which a teacher is asked to circle a number along a continuum that best describes the teacher-principal relationship or situational favorableness of the school. According to Fishbein, Landy and Hatch (1969) and Mitchell (1970), leader-member relations are considered to be the most important sub-dimension in determining the favorableness of the situation. In field studies involving elementary principals, McNamara (1967) found that the correlation between a principal's LPC and performance in high group atmosphere schools (good principal-teacher relations) was $-.48$ ($n = 11$) while the low group atmosphere schools (poor principal-teacher relations) was $.31$ ($n = 12$).

Collection of Data

The initial contact to gain permission to conduct this research study was made at the central administration level of the respective districts. To gain permission in District A, this researcher personally contacted the Director of Personnel via a phone call; the Director requested a copy of the study proposal for inspection by certain members of the central administrative staff. One week after this contact, this researcher conferred approximately one hour with the Directors of Elementary and Secondary Education and the Director of Personnel in District A: (1) to answer pertinent questions regarding the study, (2) to explain what the study attempted to determine, and (3) to list the procedures that were to be utilized in the data gathering phase of the study, as well as to learn the constraints, if any existed, that were to be placed upon the researcher while collecting the data in the

various schools. Permission was granted by District A for the research project to be conducted in six elementary and five secondary schools. Essentially the same procedure was followed to receive approval to conduct the study in District B as was used in District A, with one exception. Rather than meeting with certain central administration individuals, this researcher contacted the Director of Research via a phone call for approval after the Director himself had reviewed the study proposal and consulted with key persons at the central administration level. Permission was granted by District B to conduct the study in six elementary schools and one secondary school.

Subsequent to receiving permission from both districts to conduct the study, this researcher visited personally with the principal in each of the eighteen schools for approximately thirty minutes explaining the procedures that must be followed in completing the LPC and Position Power Scales. Both instruments were given the principal after the meeting along with a stamped, addressed envelope for mailing after he had fully completed the instruments. Each instrument had been individually coded to allow the researcher to match each instrument with the appropriate principal.

Also, during the meetings with the principals they were informed that a random sampling of their teachers would receive an instrument, sent by U.S. mail to their home addresses. No mention was made regarding the measurement aspect of the teacher instrument.

The second data gathering venture of this study was conducted by way of the Professional Climate Scale completed by a proportional random sampling of teachers from each of the principal's respective schools. This instrument was mailed to teachers accompanied by an introductory

letter explaining the purpose of the study and how a participant, by completing the enclosed instrument, could render a service to education by furthering research in the field (See Appendices A and B). Accompanying the introductory letter was a metered, self-addressed envelope. The letterhead as well as the self-addressed envelope contained the name and address of the Oklahoma Public School Research Council whose full support has made this research study possible. The Council is a non-profit research organization affiliated with Oklahoma State University and the University of Oklahoma.

In an attempt to insure a high response on the first mailing, an additional enclosure accompanied the introductory letter. Twenty cents in the form of two dimes was attached to a short, informal note (See Appendix A) which, in essence stated what the mailing packet contained and what items should be placed in the pre-addressed envelope and returned. The note concluded with the remark, "Now you deserve a break (after completing the instrument), so go have a cup of coffee on me!"

A second mailing was sent to each participant, accompanied by another instrument, asking the participants to return it in completed form if they had not already done so. The timetable for mailing the original and follow-up letters was as follows:

- (1) Original mailing of materials, April 11, 1977;
- (2) Follow-up letter, May 1, 1977.

These mailings yielded 109 responses from District A out of a total of 131 mailings, a response of approximately 83 percent. In District B a total of 63 responses were received out of a total of 88 mailings, a 75 percent response (See Tables I and II). Each instrument was

individually coded according to each school to allow the researcher to match teachers with their particular principal.

TABLE I
PERCENTAGE OF RESPONSES TO
MAILINGS IN DISTRICT A

School	Number Teachers	Number Mailings	Number Returns	Percent* Returns
1	44	15	12	80
2	19	7	7	100
3	30	10	10	100
4	38	12	10	83
5	30	13	10	77
6	27	10	8	80
7	39	14	11	79
8	26	9	7	78
9	37	14	14	100
10	39	13	10	77
11	43	14	10	71

*Rounded to the nearest percentage point

TABLE II
 PERCENTAGE OF RESPONSES TO
 MAILINGS IN DISTRICT B

School	Number Teachers	Number Mailings	Number Returns	Percent* Returns
1	27	15	10	67
2	26	15	11	73
3	22	10	10	100
4	26	11	8	73
5	15	8	7	88
6	25	13	10	78
7	20	11	7	64

*Rounded to the nearest percentage point

Securing Test Data

The contingency model postulates that leadership effectiveness is determined by how well the leader motivates his group members to perform the assigned task. In the present research study the principal occupies the leadership role and his effectiveness is measured by how well his teachers perform their assigned task, which is promoting the academic growth of the students under their tutelage. The criteria utilized in the present study to measure the academic growth of students are students' standardized scores from the schools to which the principals in the study are assigned. In pursuit of this, the researcher secured the necessary test data from a central administration person

in both Districts A and B. In District A the test data were raw scores based on student performance on the Comprehensive Basic Test Skills (CBTS) published by the McGraw-Hill Company. Student CBTS scores represented the extent that they have mastered reading, math and language skills. By means of the appropriate CBTS norm tables, raw scores were first transformed into percentile scores and then were transformed into Normal Curve Equivalent Scores (See Appendix C), herein referred to as NCEs. More will be said about NCEs in the succeeding section of this chapter.

Student standardized test scores in District B were based on the results of student performance on the SRA Achievement Series Test, published by Science Research Associates. This test, similiar to CBTS, measures the student's cognitive growth in the areas of reading, math and language. The reported test results of student performance on the SRA in District B were based on the composite percentile score of each school in this study. Using the appropriate NCE table, the percentile scores for District B were transformed into NCE scores.

Normal Curve Equivalents (NCEs)

NCEs are normalized standardized scores (ESEA, Title I, 1976). They share these characteristics with T-scores and stanines. NCEs have a mean of 50, as do T-scores, and a score of 50 on both scales is equal to the 50th percentile of the national distribution. Generally, one NCE equals one percentile, but in specific instances this equality may not exist because NCEs form an equal-interval scale (assuming that the measured characteristic is normally distributed nationally). A growth of ten NCEs represents the same amount of

improvement for students irrespective of their location on the achievement distribution, whether they be low achievers or of average ability. A percentile scale does not possess this characteristic (See Figure 1 for a comparison of NCEs and percentiles). In viewing the illustration in Figure 1, one can see that percentiles have a wider range at the ends than in the middle, while NCEs are the same size throughout the range of the scale. Being an equal-interval scale, NCEs can legitimately be aggregated and averaged. This is not the case with percentiles because they are not equal-interval scales.

An NCE of 50 is at grade level regardless of the time of year at which testing is done and the grade level tested. A properly derived NCE score of 50 will always be the national average for that grade level. Average represents being exactly at grade level. NCEs below 50 represent below-average achievement levels or below-grade level performance. An NCE of 20 is precisely the same distance below grade level at every grade while being "a year below grade level" as it is typically used, has a different meaning at each grade. Moreover, an NCE of 30 is always twice as far below grade level as an NCE of 40, while being "two years below grade level" in the traditional sense, is not twice as much as being one year below grade level.

An NCE gain of zero does not indicate that students learned nothing. It simply indicates that the amount of learning was exactly what would have occurred had the students been without adequate instruction (ESEA, Title I, 1976).

Treatment of Data

All data from the three instruments were coded on IBM data cards

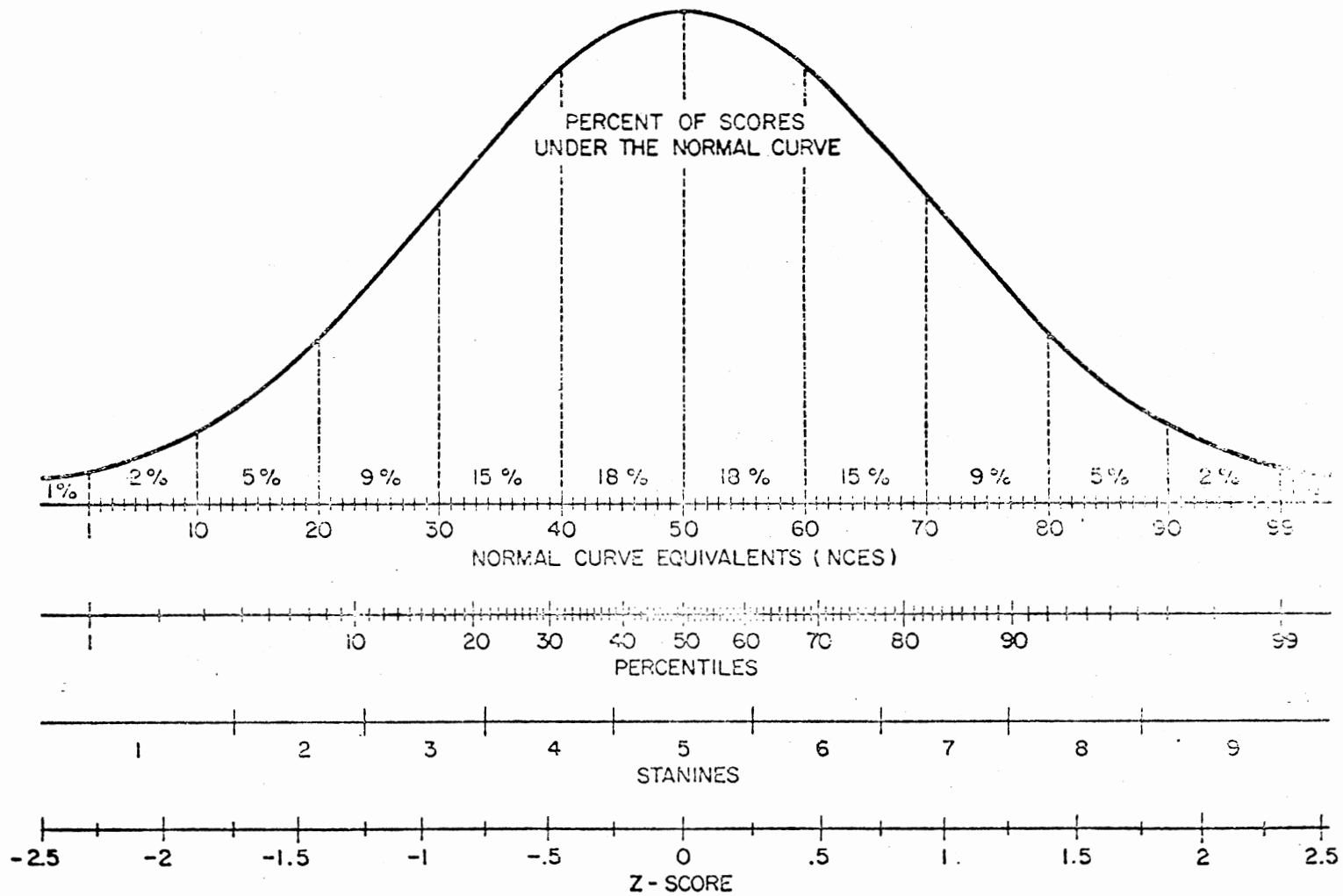


Figure 1. Comparison of NCEs and Percentiles

for use in computer tabulations. In an attempt to determine the leadership style and the position power of each individual principal, the numerical responses to all items in the LPC instrument and the Position Power Scale were aggregated by computer to arrive at a separate mean score for each subject on each instrument. The maximum obtainable score on the LPC instrument is 8.0. If a principal's LPC mean score falls at the mid-point (4.5) or below he is considered to be task oriented, whereas if a principal's LPC mean score is above the mid-point it is assumed that he is human relations oriented. On the Position Power Scale the maximum obtainable score is 1.0. A mean score above .5 on the Position Power Scale would place a principal in the high position power category. Conversely, a score at or below .5 would categorize a principal as having weak or low position power. In assessing principal-teacher relations in a particular school, the numerical responses of all teachers on the Group Climate Scale were aggregated and a composite mean calculated via the computer. The maximum mean score obtainable on the Professional Climate Scale is 120. If the composite mean of all respondent teachers in a school is 60 or below on the Professional Climate Scale, the principal-teacher relations are considered to be less than desirable or poor. If the respondent teachers' mean score on the Professional Climate Scale is above 60, the principal-teacher relations are desirable or good.

Statistical Treatment of the Data

The t test is a statistical model designed to determine if two groups, as represented by their means, are significantly different. According to Popham (1967), the t test is employed to determine whether

the mean performance on two different measures is great enough to establish that a significant change had occurred between the pre-test and post-test situations. The standardized NCE scores of students for the school years 1974-75, 1975-76, and 1976-77 will be the criterion utilized in the present study to evaluate the pre-test and post-test situations in each of the eighteen schools.

There are three important factors to consider before describing a mean difference between two sets of scores as significant: (1) the amount of difference between the two means, (2) the variability of each group, or the amount of overlap between the two sample groups, and (3) the size of the two sample groups. To interpret these three factors, a general statement of clarity might be made. Ordinarily as the difference between the two means increases, as the size of the sample increases, and as the size of the variance decreases, a smaller t value is required to indicate a statistically significant difference between the two groups under study.

The t test formula according to Popham (1967) and the one employed for this study is presented below.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} - 2r \left(\frac{S_1}{n_1}\right)\left(\frac{S_2}{n_2}\right)}}$$

The interpretation of this formula is:

t = the value by which the statistical significance of the mean difference will be judged

X_1 = the mean of group 1

X_2 = the mean of group 2

S_1^2 = the variance of group 1

S_2^2 = the variance of group 2

N_1 = the number of subjects in group 1

N_2 = the number of subjects in group 2

Summary

This chapter has described the research and design of the study. A description of the population and sample involved, and the data collection procedures was also provided. The chapter concludes with an explanation of the statistical procedure used to analyze the descriptive data and to test the basic hypothesis.

CHAPTER IV

ANALYSIS OF DATA

The data presented in this chapter were obtained from two primary sources using three different instruments. The first of these was a Likert-type scale--The Least Preferred Co-Worker Scale (LPC). The second and third data gathering instruments utilized were the Position Power and the Professional Climate Scales. The instruments were constructed according to the standards outlined in Chapter Three. As stated in Chapter Three, the purpose of these three instruments was to describe the principal's leadership style, his perceived position power in performing his administrative duties (LPC and Position Power Scales) and the principal-teacher relations (Professional Climate Scale) as viewed by the teacher. According to Fiedler's Contingency Model, which this study attempted to investigate, these three variables interact in determining the principal's leadership effectiveness; here effectiveness will be measured by students' gain scores on standardized achievement tests over a three-year period. The selected respondents were building principals and classroom teachers from the principal's respective schools.

In this chapter the data collected during the research study and an analysis of that data will be reported. A correlated t test was the statistical tool employed to analyze the data. The significance for testing each hypothesis was placed at the .05 level.

Modification of Statistics

The initial statistical design proposed for this study was an analysis of variance and a correlated t test. The expected findings from the relevant data, however, did not materialize, reasons for which will be discussed in Chapter Five.

To fully test the contingency model in a study similar to the present one, there must be both high- and low-LPC principals, both strong and weak position power levels and both good and less than desirable principal-teacher relations as well as structured and unstructured tasks. As was first proposed an analysis of variance procedure and a t test were to be run in an attempt to determine which combination of variables related to principal effectiveness or ineffectiveness. As stated on preceding pages, in this study effectiveness relates to students' gain on standardized achievement tests over a three-year period. Notwithstanding the effort to gain all of the necessary variables to complete present research as originally proposed, the data revealed only task oriented principals with relatively strong position power and relatively good principal-teacher relations. Consequently, the analysis of variance technique had to be discarded and only the correlated t test utilized.

Analysis of Data

^{in the future tense}
 *The analysis of data is presented in two sections. Section I, analysis of descriptive statistics, is presented in an attempt to provide a statistical picture of various data which index (1) principal's leadership style, (2) principal's position power, and (3) principal-teacher relations. * Popham (1967, p. 132) describes

descriptive statistics as "...statistical techniques which are used to describe data...useful to summarize sets of numerical data such as test scores."

Section II, analysis of inferential statistics, examines the findings relating to the relevant hypothesis of this study. Given the three independent variables of leadership style, position power and leader-member relations, a correlated t test was used to measure degree of gain made by students as per standardized achievement scores from 1974-75 through the 1976-77 school year.

Section I: Descriptive Statistics

Findings Related to Principals'

Leadership Style

The LPC instrument (Appendix B) consisting of 25 like and unlike statements on a continuum from 1 to 8, with a maximum mean of 8.0 and a minimum mean 1.0, indexed each principal's leadership style. Leadership style was dichotomized at 4.5 which is the mid-point of the mean range. A principal who scored above the mid-point was indexed as a human relations oriented leader and a mean at or below the mid-point was categorized as task oriented.

Table III contains a listing of each principal's mean score on the LPC instrument. The data reported a high of 3.96 for number 14 principal and a low of 1.72 for principal number 2. Obviously none of the 18 principals had a score which placed them in the human relations category (a mean of 4.5 or above). The table also contains a standard deviation and a standard error of the mean for each principal's mean score.

TABLE III
 DESCRIPTIVE STATISTICS RELATING TO THE
 LEADERSHIP STYLE OF PRINCIPALS

Principal	N	Mean	Standard Deviation	Standard Error of Mean
1	25	3.60	1.22	.244
2	25	1.72	1.59	.318
3	25	3.12	0.83	.165
4	25	3.56	1.87	.374
5	25	3.08	1.07	.215
6	25	3.00	0.91	.182
7	25	2.64	1.81	.364
8	25	3.32	1.62	.325
9	25	3.12	0.97	.194
10	25	3.60	2.23	.447
11	25	3.32	2.17	.434
12	25	3.16	1.31	.262
13	25	3.12	1.78	.357
14	25	3.96	3.20	.641
15	25	2.72	1.30	.261
16	25	2.80	0.95	.191
17	25	3.16	1.70	.340
18	25	3.40	1.63	.326

Findings Related to Principals'

Position Power

The position power scale contains 18 true-false statements to which a principal responds based on his perception of the power he wields in administering his school. A score of 1 was given each true statement and each false statement was given a score of 0. The maximum and minimum mean possible score is 1.0 and .0 respectively.

With the mid-point of the mean range being at the .5 level on the Position Power Scale, a principal's mean score above .5 manifests strong position power. Conversely, a mean score at or below .5 indicates that a principal has weak position power in administering his respective school.

Table IV lists each principal's mean score on the Position Power Scale as well as the standard deviation and the standard error of the mean. Among the 18 principals the data revealed a high mean of .94 for principal 10 and a low of .55 for principal number 6. No principal obtained mean score below .5, which places all 18 principals in the high position power category.

Findings Related to Principal-

Teacher Relations

The Professional Climate Scale (PCS) (See Appendix B) consists of 24 statements describing principal-teacher working relations as perceived by the teacher. Along a seven-step scale teachers circle the number that best represents the perceived behavior of their principal. For any one group of teachers in any one of the 18 schools, a maximum and minimum mean possible was 120 and 0 respectively. A score

TABLE IV
 DESCRIPTIVE STATISTICS RELATING TO
 PRINCIPALS' POSITION POWER

Principal	N	Mean	Standard Deviation	Standard Error of Mean
1	18	.66	.48	.114
2	18	.83	.38	.090
3	18	.88	.32	.076
4	18	.83	.38	.090
5	18	.88	.32	.076
6	18	.55	.51	.120
7	18	.61	.50	.118
8	18	.77	.42	.100
9	18	.66	.48	.114
10	18	.94	.23	.055
11	18	.66	.48	.114
12	18	.72	.46	.108
13	18	.83	.38	.090
14	18	.83	.38	.090
15	18	.83	.38	.090
16	18	.72	.46	.108
17	18	.88	.32	.076
18	18	.83	.38	.090

above 60, which is the mid-point of the maximum mean possible, manifests good principal-teacher working relations. Whereas, a mean score of 60 or below indicates less than desirable principal-teacher relations.

As shown in Table V, the results of the data from the PCS among the 18 schools lists a high mean of 102 for school 6, good principal-teacher relations, and a low mean of 55 for number 11 school, less than desirable principal-teacher relations. As can be seen in Table V, only school 11 scored below the mid-point of 60. Table VI presents a composite view of the leadership style of all 18 principals with the accompanying variables of position power, principal-teacher relations and standardized test scores from 1974-75 through 1976-77.

Section II: Inferential Statistics

The independent variables in this study were leadership style of the principal as well as position power, task structure and principal-teacher relations which make up the situational favorableness dimension. The mean score on the various instruments was utilized to dichotomize each of these as strong/weak or high/low. The dependent variables were students' standardized test scores from year 1974-75 (Year I) through the 1976-77 (Year III) school term.

The data were analyzed by using a correlated t test, given the independent variables of this study, to determine if there were significant gains manifested in students' standardized test scores over the three-year period.

The original hypothesis proposed for this study was a three-part null hypothesis presented in Chapter I; however, as previously alluded

TABLE V
DESCRIPTIVE STATISTICS RELATING TO
PRINCIPAL-TEACHER RELATIONS

School	Mean	Standard Deviation	Standard Error of Mean
1	71	19	6
2	89	18	5
3	86	25	9
4	94	24	7
5	69	25	9
6	102	19	5
7	86	11	3
8	80	17	5
9	76	22	7
10	67	25	7
11	55	16	5
12	64	19	7
13	79	17	5
14	67	27	9
15	69	18	7
16	72	14	5
17	69	24	8
18	100	12	4

TABLE VI

RELATIONSHIP BETWEEN SITUATIONAL FAVORABLENESS,
LEADERSHIP STYLE, AND PRINCIPAL EFFECTIVENESS
AS PER STANDARDIZED SCORES

Principals	Situation Category			Leadership Style	Standardized Test Scores*		
	Prof. Climate	Task Structure	Position Power		1974-75	1975-76	1976-77
1	Good	High	Strong	Task	40.0	49.07	49.02
2	Good	High	Strong	Task	43.46	49.9	53.68
3	Good	High	Strong	Task	45.26	54.42	54.14
4	Good	High	Strong	Task	43.76	52.2	55.26
5	Good	High	Strong	Task	44.06	50.78	52.78
6	Good	High	Strong	Task	52.73	58.68	61.72
7	Good	High	Strong	Task	54.8	53.7	54.06
8	Good	High	Strong	Task	55.9	56.2	57.3
9	Good	High	Strong	Task	54.2	52.6	51.06
10	Good	High	Strong	Task	61.7	59.9	60.26
11	Poor	High	Strong	Task	50.8	51.8	51.43
12	Good	High	Strong	Task	53.33	55.86	67.0
13	Good	High	Strong	Task	58.7	54.8	49.5
14	Good	High	Strong	Task	56.8	64.16	68.5
15	Good	High	Strong	Task	57.0	54.8	69.56
16	Good	High	Strong	Task	55.7	58.33	67.56
17	Good	High	Strong	Task	55.86	53.63	66.83
18	Good	High	Strong	Task	55.9	53.2	67.36

*Percentile ranks corrected to normal curve equivalent scores

to in the present chapter, the data did not reveal the expected independent variables, consequently only a portion (H_0 1.0) of the original hypothesis will be tested.

Analysis of Findings

According to Fiedler's Contingency Model (1967), a task oriented leader (principal as it relates to the present study) in a favorable situation, i.e., high position power, task structure, and good leader-member relations, will successfully lead his group toward completing the major assigned task. Data revealed that, with the exception of principal 11, whose principal-teacher relations were less than desirable, all principals met the above criteria. Therefore, they should display effective leadership. As stated previously, principal effectiveness in this study will be judged according to gains made in students' standardized test scores.

Hypothesis 1.0 Examined

H_0 1.0 - There is no significant relationship between the principal's leadership effectiveness, the favorableness of the situation and the leadership style of the principal.

Since a t test can only be used with two groups at a time, three tests have been computed, as evidenced by Tables VII, VIII, and IX. The total mean scores of the students in all of the eighteen schools each year were compared by the correlated t test to determine if there had been a significant change in scores from Year I (1974-75) through Year III (1976-77).

As Table VII shows a t score of -1.42 was obtained for Year I through Year II (1975-76). At the .05 significance level, it was not

sufficient to reject H_0 1.0, thus there appeared to be no significant gain in the mean of students' scores between these two years. In order to reject H_0 at the .05 level it would be necessary for the score to be 2.03 or higher. (H_0 1.0 accepted.)

TABLE VII
T SCORES REFLECTING GAINS IN STUDENTS' STANDARDIZED
TEST SCORES FROM YEAR I (1974-75)
THROUGH YEAR II (1975-76)

Year	No.	\bar{X}	SD	Df	t	Sig. Level
I	18	52.2	6.20	34.0	-1.42	$\leq .05$
II	18	54.6	3.77	34.0	-1.42	$\leq .05$

t sig. = 2.03

Analysis was made to determine whether there were gains in students' test scores from Year II through Year III. Table VIII indicates that a correlated t score of -2.08 was obtained which, at the .05 level, lends support for rejection of H_0 1.0. In order to accept H_0 at the .05 significance level the t score needed to be -2.03 or lower. (H_0 1.0 rejected.)

TABLE VIII

T SCORES REFLECTING GAINS IN STUDENTS' STANDARDIZED
TEST SCORES FROM YEAR II (1975-76)
THROUGH YEAR III (1976-77)

Year	No.	\bar{X}	SD	Df	t	Sig. Level
II	18	54.6	3.77	34.0	-2.08	$\leq .05$
III	18	58.7	7.35	34.0	-2.08	$\leq .05$

t sig. = 2.03

Table IX shows that a t score of -2.86 was obtained when the correlated t test was used with significance at the .05 level. The data in Table X reflects considerable gains in students' scores over the three years from Year I through Year III, which is strong evidence for rejecting H_0 . (H_0 1.0 rejected.)

Summary

This chapter has presented the findings of this study in two sections. Section I dealt with the descriptive statistics and Section II presented the inferential statistics of this research.

From the descriptive statistics relating to principal's leadership style and situational favorableness, it was found that all eighteen principals were indexed by the three instruments utilized as task oriented, with high position power and (with the exception of principal 11 who had less desirable principal-teacher relations), each one appeared to relate well with his teachers.

TABLE IX

T SCORES REFLECTING GAINS IN STUDENTS' STANDARDIZED
TEST SCORES FROM YEAR I (1974-75)
THROUGH YEAR III (1976-77)

Year	No.	\bar{X}	SD	Df	t	Sig. Level
I	18	52.2	6.20	34.0	-2.86	.05
III	18	58.7	7.35	34.0	-2.86	.05

t sig. = 2.03

Since the data did not reveal the necessary variables to test H_0 as originally proposed, the research only dealt with a portion of H_0 , H_0 1.0.

In Section II of this chapter the inferential statistics revealed no significant gains in student NCE scores in the eighteen schools from Year I to Year II as manifested by t scores. From Year II to Year III and from Year I to Year III, however, this was not the case. There were significant gains posted in students' scores from Year II through Year III as determined by a t test at the .05 level. Even greater gains in scores were shown to have occurred over the three years from Year I through Year III.

The findings in Table VII support H_0 1.0 and in Tables VIII and IX the results provide evidence for rejection of H_0 1.0.

As stated on prior pages the independent variables (effectiveness variable) in this study are student achievement scores. Therefore, (given the correct combination of variables which this study possessed)

to be considered effective principals, they (the eighteen principals) must lead their teachers in accomplishing the major assigned task. The task described is that of promoting the academic growth of students. Based on this premise, when students failed to post academic gains the principals are considered ineffective leaders. Consequently, from 1974-75 through 1975-76 students' NCE scores in the eighteen schools to which the eighteen principals were assigned did not manifest significant gains, thus the principal's leadership efforts were ineffective. From 1975-76 through 1976-77, there were significant gains made in students' NCE scores in the eighteen schools, which according to the contingency model manifests leadership effectiveness. When analyzing the principals' effectiveness data over the three years from 1974-75 through 1976-77, overall, the principals according to Fiedler's Model (1967) appeared to manifest effective leadership. There were significant gains posted in students' achievement scores during these periods.

Chapter Five includes the summary, conclusion, discussion, and recommendations for the present research study.

CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

Summary

The purpose of the present investigation was to determine if there is a significant interaction between the principal's "leadership effectiveness," situational favorableness and leadership style of the principal using Fiedler's Contingency Model of Leadership Behavior has a base. Specifically an attempt was made to assess the leadership effectiveness of 18 public school principals in two large suburban school districts in Oklahoma; the effectiveness criterion being gains made in students' standardized test scores.

Originally the study proposed a three-part H_0 , but failure to obtain the proper combination of independent variables from the data, restricted the investigation to testing only one phase of the initial H_0 , H_0 1.0.

It was hypothesized there would be no significant relationship between the principal's "leadership effectiveness," situational favorableness and leadership style.

Relevant data were collected from principals and teachers via three instruments. The LPC Instrument which indexed a principal's leadership style as either task- or human relations-oriented and the Position Power Scale which assessed the principal's authority, as

perceived by the principal in administering his school, were completed by each principal in the study. The Professional Climate Scale which evaluated principal-teacher relations was completed by a random sampling of teachers from each school. The two instruments completed by the principals were delivered to each individual personally by this researcher. All 36 instruments were accurately completed and returned to this researcher's Oklahoma State University address within one week of the delivery date. The Professional Climate Scale was mailed to each individual teacher's home address accompanied by an introductory letter explaining the purpose of the study and a stamped addressed envelope for return mailing. From District A, 83 percent of the teacher responses were received (109 out of 131) and of the 83 mailings sent to teachers in District B, 63 were returned, representing a 75 percent yield.

The data from the 18 principals and 172 teachers were card punched and a computer program established to ascertain the mean, standard deviation, and standard error of the mean in an attempt to assess each principal's leadership style, position power and principal-teacher relations. With the exception of principal 11 whose relations with his teachers appear to be relatively less desirable, the data indicated that all principals were task-oriented leaders, with high position power and all experienced relatively good relations with their teachers. Based on the gains in students' standardized test scores during the three school terms from year one through year three, the attempt was to determine if this homogeneous group of principals was effective or ineffective leaders. A correlated t test, significant at the .05 level, was utilized to analyze this phase of the study and a summary of the findings is

reported in the sub-section which follows.

Summary of Findings

A correlated t score of -1.42 with 34.0 degrees of freedom revealed that from Year I through Year II, gains made in students' scores were not significant. From Year II through Year III, however, there were significant gains posted by students' standardized test scores within the 18 principals' schools as indicated by a t score of -2.08 with 34.0 degrees of freedom. These data reported even greater gains in students' standardized test scores from Year I compared to Year III evidenced by a t score of -2.86 with 34.0 degrees of freedom.

Conclusions

According to the contingency model, given the combination of independent variables secured from the data in this study, i.e., task leadership style, strong position power, a specific task, and good principal-teacher relations, a principal should be an effective leader. Effectiveness was defined as the group's performance on the group's primary assigned task, e.g., teachers promoting the academic growth of their students as measured by standardized test scores.

Within the limits of this study established by H_0 1.0, it can be tentatively concluded from the data analysis that a principal whose leadership style is task-oriented, who has high position power, a specific task to accomplish, and good relations with his teachers, will be an effective leader. Thus, the results of this study suggest support for Fiedler's Contingency Model of Leadership Effectiveness.

Discussion

Perhaps because the findings of this research venture did not allow a full test of the hypothesis under investigation, there appeared to be additional questions generated. For example, why the homogeneity in leadership style and relatively favorable situations among the 18 principals which prevented this researcher from fully testing H_0 as originally proposed? This may have been caused by the non-random procedures used in selecting the principals (they were selected by central office personnel in their respective districts with the option to participate or not to participate in the study) or perhaps the principals have been able to attract those teachers who enjoy working with a task-oriented principal. This desire promotes a more favorable situation and allows the principal to be a more effective leader.

A second question was raised regarding the effects of students' IQ or ability scores and ultimately the principal's leadership effectiveness. Everything being equal, would a principal whose students are of average ability be as effective as a principal with an above-average student body? According to the contingency model, ability would not be a factor given a competent staff and equal facilities in both schools.

A third question could be posed in regard to how much influence do teacher-student relations have on the students' standardized test scores, thus the effectiveness criterion of the principal? Based on Fiedler's Theory (1967) one could hypothesize, given a competent staff, good principal-teacher relations, the teachers' satisfaction with their work situation would cause them to build good rapport with their students, which in turn would promote learning. On the other hand what

effect would a task oriented principal with poor teacher relations have on students' academic growth, thus principal's leadership effectiveness? If we stay within the logic supported by the contingency model the principal should demonstrate effective leadership. The teachers would not be remiss for fear of retaliation from the principal.

Even though each question posed in this section has received a probable answer, to fully and perhaps accurately respond to each, the need for empirical research is in order.

Failure of the data to corroborate H_0 may have implications for those who are responsible for selecting individuals for the principalship. It seems that circumspection must be exercised by school officials to bring together the proper combination of leadership style and situational favorableness in order to effectively achieve the established educational goals. Situational favorableness includes position power of the principal, the task to be achieved and principal-teacher relations. This may require those responsible for selecting principals to be able to diagnose group task situations so that they can select principals for schools best suited for their leadership style or transfer principals in existing positions to situations which will allow them to be more effective leaders.

Recommendations for Further Research

The findings of this study appear to warrant the following recommendations for further research.

1. Replication of this research inquiry, involving a larger population sample, randomly chosen, from a variety of districts in an attempt to identify the full range of independent variables

necessary to test every aspect of Fiedler's model. Perhaps a pilot study would be helpful in this respect.

2. Construct a research model that will assist school officials in identifying the leadership style and task group situation that is conducive to an individual principal's leadership effectiveness.
3. Research to determine the effects of teacher-student relations on principal leadership effectiveness.
4. Further research to determine the effects of leadership training on a principal's leadership effectiveness.
5. Replicate this study using the evaluation of principals by their supervisors as the effectiveness criterion in addition to student standardized test scores.
6. Replicate the study using the evaluation of principals by their supervisors as the sole effectiveness criterion.
7. Research using the students' evaluation of the principal and teacher as the effectiveness criterion in assessing a principal's leadership effectiveness.

Concluding Statement

It is the desire of this researcher that this inquiry has added insight into a portion of the conditions that must exist for a principal to effectively promote the academic growth of the students to whom he is responsible.

The results of this study are comparable with other studies supporting Fiedler's Theory during the last two decades.

BIBLIOGRAPHY

- Bernard, L.L. An Introduction to Social Psychology. New York: Holt, 1926.
- Campbell, J.P., M.D. Sunnett, E.E. Lawler, III, and K.E. Weick. Managerial Behavior, Performance and Effectiveness. New York: McGraw Hill Co., 1970.
- Cartwright, Dorwin and Alvin Zanders. Group Dynamics, Research and Theory. Evanston, Illinois: Row and Peterson Company, 1953.
- Conran, Patricia C. and George A. Beachamp. "Relationships Among Leadership, Teachers and Student Variables in Curriculum Engineering." April, 1975.
- Doll, Ronald C. Leadership to Improve Schools. Worthington, Ohio: Charles A. Jones, Co., 1972.
- Fiedler, F.E. "The Effects of Leadership and Cultural Heterogeneity on Group Performance: A Test of the Contingency Model." Journal of Experimental and Social Psychology, 1966, 2, 237-64.
- Fiedler, F.E. and M.M. Chemers. Leadership and Effective Management. Glenview, Illinois: Scott Foresman and Co., 1974.
- Fiedler, F.E. A Theory of Leadership Effectiveness. New York: McGraw-Hill Co., 1967.
- Fiedler, F.E. "Validation and Extension of the Contingency Model of Leadership Effectiveness: A Review of Empirical Findings." Psychological Bulletin, 1971, 76, 128-48.
- Fishbein, M.E. Landy and G. Hatch. "Consideration of Two Assumptions Underlying Fiedler's Contingency Model for the Prediction of Leadership Effectiveness." American Journal of Psychology, 1969, 4, 457-73.
- French, J.R.P. "A Formal Theory of Social Power." Psychological Review, 1956, 63, 181-194.
- Graham, W.K. "Description of Leader Behavior and Evaluation of Leaders as a Function of L.P.C." Personnel Psychology, 1968, 21, 457-464.

- Hardy, Robert C. "Test of the Poor Leader-Member Relation Cells of the Contingency Model on Elementary School Children." Child Development, 1975, 46, 958-64.
- Hawkins, C.H. "A Study of Factors Mediating a Relationship Between Leader Rating Behavior and Group Productivity." Dissertation Abstracts, 1962, 23, 733.
- Hawley, David E. "A Study of the Relationship Between the Leader Behavior and Attitudes of Elementary School Principals." (Unpublished M.Ed. Thesis, University of Saskatchewan, 1969.)
- Hemphill, J.K. Leadership Behavior Description. Columbus, Ohio: Personnel Research Board, Ohio State University, 1950.
- Hemphill, J.K. A Proposed Theory in Small Groups. Columbus, Ohio: Personnel Research Board, Ohio State University, 1954. Cited in Fiedler and Chemers, 1974, p. 3.
- Hunt, J.G. "Fiedler's Leadership Contingency Model: An Empirical Test in Three Organizations." Journal of Organizational Behavior and Human Performance, 1967, 2, 290-308.
- Kelbourne, C.E. "The Elements of Leadership." Journal of Coast Artillery, 1953, 78, 437-439.
- Knoell, D. and S. Forgay. "Interrelationships of Combat Crew Performance in the B-29." Research Note CCT52-1 USAF, Human Resources Center, 1952.
- "Leadership for Improving Instruction." Association for Supervision and Curriculum Development, 1960 Yearbook.
- Mann, R.D. "A Review of the Relationships Between Personality and Performance in Small Groups." Psychological Bulletin, 1959, 56, 241-70.
- McKague, Terrence R. "A Study of the Relationship Between School Organizational Behavior and the Variables of Bureaucratization and Leader Attitudes." (Unpublished Ph.D. Thesis, University of Alberta, 1968.)
- Martin, Y.M., C.B. Isherwood, and R.E. Lavery. "Leadership Effectiveness in Teacher Probation Committees." Education Administration Quarterly, 1976, 12, 2, 87-99.
- McNamara, V.D. and F. Enns. "Directive Leadership and Staff Acceptance of the Principal." Canadian Administrator, 1966, 6, 3, 41-47.
- McNamara, V.D. "Leadership Staff and School Effectiveness." (Unpublished Doctoral Thesis, University of Alberta, 1968.)

- Mitchell, V.F. "Need Satisfaction of Military Commanders and Staff." Journal of Applied Psychology, 1970, 54, 282-287.
- Nealey, S.M. and M.R. Blood. "Leadership Performance of Nursing Supervisors at Two Organizational Levels." Journal of Applied Psychology, 1968, 52, 414-21.
- Osgood, C.E., G.A. Suci, and P.H. Tannenbaum. The Measurement of Meaning. Urbana, Illinois: University of Illinois Press, 1957.
- Popham, James W. and Kenneth A. Sirotnik. Educational Statistics: Use and Interpretation. New York: Harper and Row, 1967.
- Shaw, M.E. and J.M. Blum. "Effects of Leadership Style Upon Group Performance as a Function of Task Structure." Journal of Personality and Social Psychology, 1966, 3, 238-42.
- Stodgill, R.M. "Personal Factors Associated With Leadership: A Survey of the Literature." Journal of Psychology, 1948, 25, 35-71.
- Stodgill, R.M. "Leadership Membership and Organization," Psychological Bulletin, 1950, 47, 1-4.
- Stodgill, R.M. and A.E. Coons. "Leader Behavior: Its Description and Measurement." Research Monograph No. 88, Ohio State University, 1957, Columbus, Ohio.
- Thelan, Herbert A. Dynamics of Groups at Work. Chicago: University of Chicago Press, 1954.

APPENDIX A

INTRODUCTORY LETTER, NOTE, AND

FOLLOW-UP LETTER



OKLAHOMA STATE UNIVERSITY — STILLWATER

OKLAHOMA PUBLIC SCHOOL RESEARCH COUNCIL

STILLWATER, OKLAHOMA 74074

AFFILIATED UNIVERSITIES
The University of Oklahoma
Oklahoma State University

April 11, 1977

OFFICE OF THE EXECUTIVE SECRETARY
Gundersen Hall, Room 309
Phone: 372 6211, ext 6461

Dear Colleague:

As a dedicated educator in this state, you can render a service to education by further research in the field. You have been chosen through a careful process of random sampling from among your colleagues, to be one of the participants in this research. The purpose of this study is to index leadership styles of school administrators to determine the relationship between leadership style and leadership effectiveness. As a doctoral candidate in Educational Administration at Oklahoma State University, I feel that with your help my study can make a worthwhile contribution to further the understanding of educational leadership in Oklahoma.

You can be assured that all precautions will be taken for your responses to remain anonymous and all response questionnaires will be destroyed after the data has been utilized. The results of the study will be made available to you upon request.

Thank you very much for your enthusiastic cooperation. Have a good day!

Yours truly,

Harold A. Greenwood

Harold A. Greenwood
Research Associate
Oklahoma Public School Research Council

Smile!

Now that you have the instrument packet in hand, check to see that it is complete. It should include a letter of introduction, instructions on how to complete the instrument and the instrument itself. Read the introductory instructions carefully. Now proceed to fill out the Data Questionnaire. Knowing that your time is valuable, the instrument has been kept simple. It should not take long to complete. When you have finished, check to see that you have followed the directions and the the Data sheet is completely filled out.

NOW, place the instrument back in the self addressed envelope. Make sure nothing has been omitted. Return the envelope.

Thank you so much for your wonderful cooperation. Wasn't that easy? Now you deserve a break, so go have a cup of coffee or a coke on me!



OKLAHOMA PUBLIC SCHOOL RESEARCH COUNCIL

AFFILIATED UNIVERSITIES
The University of Oklahoma
Oklahoma State University

OKLAHOMA STATE UNIVERSITY
Stillwater, Oklahoma
74074

OFFICE OF THE EXECUTIVE SECRETARY
Gundersen Hall, Room 309
Phone 372-6211, Ext. 6461

Dear Fellow Teacher,

Recently you were mailed a questionnaire which, in essence, describes the professional climate of your school as you perceive it. If you have inadvertently failed to return your instrument, would you please do so right away. If you have returned it, Thank You and disregard this letter.

In the initial correspondence you received and in the present letter, I hope that I have conveyed to you the importance you play in this research study.

Thank You,

PS. Enclosed is another questionnaire in case you have misplaced yours.

APPENDIX B

DATA COLLECTION INSTRUMENTS

LPC Instrument

People differ in the ways they think about those with whom they work. This may be important in working with others.

On the following sheet(s) are pairs of words which are opposite in meaning such as very supportive and hostile. You are asked to describe the person with whom you can work least well by placing an "X" in one of the eight spaces on the line between the two words. It may be someone you work with now, or it may be someone you knew in the past. The person does not have to be a person you liked least well, but should be the person with whom you had the most difficulty in getting a job done.

Listed below are examples:
(Note: Scales may alternate)

Example 1

If you ordinarily think of this person as being somewhat supportive you would mark it with an "X" in space number 6.

Supportive		X								Hostile
	8	7	6	5	4	3	2	1		
	very supportive	quite supportive	somewhat supportive	slightly supportive	slightly hostile	somewhat hostile	quite hostile	very hostile		

If you would think of this person as being somewhat Hostile you would put an "X" in the space above number 3.

Example 2:

Hostile		X								Supportive
	1	2	3	4	5	6	7	8		
	very hostile	quite hostile	somewhat hostile	slightly hostile	slightly supportive	somewhat supportive	quite supportive	very supportive		

Look at the words at both ends of the line before you put in your "X". Please remember that there are no right or wrong answers; your first answer is likely to be the best. Please do not omit any items and mark each item only once.

Very Contented	-									Not Contented
	8	7	6	5	4	3	2	1		
Very Stubborn										Not Stubborn
	1	2	3	4	5	6	7	8		
Not Innovative										Very Innovative
	1	2	3	4	5	6	7	8		
Very Clear Thinking										Not Clear Thinking
	8	7	6	5	4	3	2	1		
Very Tense										Not Tense
	1	2	3	4	5	6	7	8		
Not Abrupt										Very Abrupt
	8	7	6	5	4	3	2	1		
Not Hard-working										Very Hardworking
	1	2	3	4	5	6	7	8		
Not Studious										Very Studious
	1	2	3	4	5	6	7	8		
Very Sympathetic										Not Sympathetic
	8	7	6	5	4	3	2	1		
Very Patient										Not Patient
	8	7	6	5	4	3	2	1		
Very Reliable										Not Reliable
	8	7	6	5	4	3	2	1		
Not Dejected										Very Dejected
	8	7	6	5	4	3	2	1		
Not Silly										Very Silly
	8	7	6	5	4	3	2	1		
Not Enthusiastic										Very Enthusiastic
	1	2	3	4	5	6	7	8		
Very Self-confident										Not Self-confident
	8	7	6	5	4	3	2	1		
Not Agreeable										Very Agreeable
	1	2	3	4	5	6	7	8		
Not Productive										Very Productive
	1	2	3	4	5	6	7	8		
Not Easily Discouraged										Very Easily Discouraged
	8	7	6	5	4	3	2	1		

Very
Adventurous _____ Not Adventurous
8 7 6 5 4 3 2 1

Not Lonely _____ Very Lonely
8 7 6 5 4 3 2 1

Not Sociable _____ Very Sociable
1 2 3 4 5 6 7 8

Not
Dissatisfied _____ Very Dissatisfied
8 7 6 5 4 3 2 1

Very
Ambitious _____ Not Ambitious
8 7 6 5 4 3 2 1

Not
Uncertain
of Himself _____ Very Uncertain of Himself
8 7 6 5 4 3 2 1

Very
Efficient _____ Not Efficient
8 7 6 5 4 3 2 1

Position Power Scale

Carefully read each of the 18 statements listed below and while doing so, relate each one to your present position, then respond by marking an "X" in the appropriate true-false column. (Please respond to all of the statements)

1. True..False You have to consult with your immediate supervisor when making decisions regarding the administration of your school.
2. True..False Teachers in your building are supportive of policies set forth by you as the principal.
3. True..False You can recommend punishment or reward of teachers to your immediate supervisor and expect your recommendations to be followed.
4. True..False You can punish or reward your teachers on your own accord.
5. True..False You can effect (or recommend) promotion or demotion or you can recommend that a teacher change one's teaching duties as long as one is certified in the area.
6. True..False You are the acknowledged leader of your school.
7. True..False Your opinion is accorded considerable respect and attention by your teachers.
8. True..False Your special knowledge in the field of education permits you to decide how the school operates.
9. True..False You instruct your teachers in ways to carry out the task of teaching students.
10. True..False Your approval or disapproval as the principal has a positive influence on teacher behavior at school.
11. True..False You are expected to motivate teachers.
12. True..False You are expected to evaluate the teacher's performance in the classroom.

13. True..False When you ask teachers to perform duties (supervisory, complete reports, etc) other than their teaching duties they do so without delay.
14. True..False Your teachers feel you have the knowledge to properly make suggestions about and evaluate each teacher.
15. True..False The teachers feel you know your own job as well as each teacher's job and could step in and teach a class if adequate lesson plans were available.
16. True..False You, as the principal, enjoy special status which sets you apart from or above the teachers during the school day.
17. True..False Your position as the principal is dependent on the teachers; the teachers can replace or dispose of you if they so desired.
18. True..False As the principal of your school, you are respected and receive special status during non-school hours.

Professional Climate Scale

Listed below are a series of statements that describe the working relations you have with the principal under which you are presently assigned. In answering, please circle the one number in each row that best describes the behavior of your principal. For Example:

- 0 - Never
- 1 - Almost Never
- 2 - Occasionally
- 3 - Frequently
- 4 - Almost Always
- 5 - Always
- x - I do not know

Is a very innovative administrator 0 1 2 3 4 5 x

After reading each statement look at both ends of the continuum before you circle a number. Please remember there are no right or wrong answers; your first answer is likely to be the best. Please do not omit any items and mark each item only once.

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. Gives teachers the feeling that their work is an "important activity" | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 2. Gives teachers the feeling that they can make significant contributions to improving the classroom performance of their students | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 3. Takes a strong interest in my professional development | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 4. Makes teachers' meetings a valuable educational activity | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 5. Helps to eliminate weaknesses in his school | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 6. Treats teachers as professional workers | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 7. Helps teachers to understand the sources of important problems they are facing | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 8. Displays a strong interest in improving the quality of educational programs | 0 | 1 | 2 | 3 | 4 | 5 | x |
| 9. Brings to the attention of teachers educational literature that is of value to them in their jobs | 0 | 1 | 2 | 3 | 4 | 5 | x |

10.	Has constructive suggestions to offer teachers in dealing with their major problems	0	1	2	3	4	5	x
11.	Gets teachers to upgrade their performance standards in their classrooms	0	1	2	3	4	5	x
12.	Maximizes the different skills found in the faculty	0	1	2	3	4	5	x
13.	Makes a teacher's life difficult because of his administrative ineptitude	0	1	2	3	4	5	x
14.	Runs conferences and meetings in a disorganized fashion	0	1	2	3	4	5	x
15.	Has the relevant facts before making important decisions	0	1	2	3	4	5	x
16.	Displays inconsistency in his decisions	0	1	2	3	4	5	x
17.	Procrastinates in his decision making	0	1	2	3	4	5	x
18.	Requires teachers to engage in unnecessary paper work	0	1	2	3	4	5	x
19.	Displays integrity in his behavior	0	1	2	3	4	5	x
20.	Puts you at ease when you talk with him	0	1	2	3	4	5	x
21.	Makes those who work with him feel inferior to him	0	1	2	3	4	5	x
22.	Develops a real interest in your welfare	0	1	2	3	4	5	x
23.	Develops a "we" feeling in working with others	0	1	2	3	4	5	x
24.	Rubs people the wrong way	0	1	2	3	4	5	x

APPENDIX C

REPRESENTATIVE SAMPLES OF THE NORMAL CURVE

EQUIVALENT TABLE AND THE COMPREHENSIVE

BASIC TEST SKILLS TABLE

A REPRESENTATIVE SAMPLE OF THE NORMAL
CURVE EQUIVALENT TABLE

λ	NCE	λ	NCE	λ	NCE	λ	NCE	λ	NCE
1.0	1.0	6.0	17.3	11.0	24.2	16.0	29.1	21.0	33.0
1.1	1.8	6.1	17.4	11.1	24.3	16.1	29.1	21.1	33.1
1.2	2.5	6.2	17.6	11.2	24.4	16.2	29.2	21.2	33.2
1.3	3.1	6.3	17.8	11.3	24.5	16.3	29.3	21.3	33.2
1.4	3.7	6.4	17.9	11.4	24.6	16.4	29.4	21.4	33.3
1.5	4.3	6.5	18.1	11.5	24.7	16.5	29.5	21.5	33.4
1.6	4.8	6.6	18.3	11.6	24.8	16.6	29.6	21.6	33.4
1.7	5.4	6.7	18.4	11.7	24.9	16.7	29.7	21.7	33.5
1.8	5.6	6.8	18.6	11.8	25.0	16.8	29.7	21.8	33.6
1.9	6.3	6.9	18.8	11.9	25.1	16.9	29.8	21.9	33.7
2.0	6.7	7.0	18.9	12.0	25.3	17.0	29.9	22.0	33.7
2.1	7.2	7.1	19.1	12.1	25.4	17.1	30.0	22.1	33.8
2.2	7.6	7.2	19.2	12.2	25.5	17.2	30.1	22.2	33.9
2.3	8.0	7.3	19.4	12.3	25.6	17.3	30.2	22.3	34.0
2.4	8.3	7.4	19.5	12.4	25.7	17.4	30.2	22.4	34.0
2.5	8.7	7.5	19.7	12.5	25.8	17.5	30.3	22.5	34.1
2.6	9.1	7.6	19.8	12.6	25.9	17.6	30.4	22.6	34.2
2.7	9.4	7.7	20.0	12.7	26.0	17.7	30.5	22.7	34.2
2.8	9.7	7.8	20.1	12.8	26.1	17.8	30.6	22.8	34.3
2.9	10.1	7.9	20.3	12.9	26.2	17.9	30.6	22.9	34.4
3.0	10.4	8.0	20.4	13.0	26.3	18.0	30.7	23.0	34.4
3.1	10.7	8.1	20.5	13.1	26.4	18.1	30.8	23.1	34.5
3.2	11.0	8.2	20.7	13.2	26.5	18.2	30.9	23.2	34.6
3.3	11.3	8.3	20.8	13.3	26.6	18.3	31.0	23.3	34.6
3.4	11.6	8.4	21.0	13.4	26.7	18.4	31.0	23.4	34.7
3.5	11.9	8.5	21.1	13.5	26.8	18.5	31.1	23.5	34.8
3.6	12.1	8.6	21.2	13.6	26.9	18.6	31.2	23.6	34.9
3.7	12.4	8.7	21.4	13.7	27.0	18.7	31.3	23.7	34.9
3.8	12.6	8.8	21.5	13.8	27.1	18.8	31.4	23.8	35.0
3.9	12.9	8.9	21.6	13.9	27.1	18.9	31.4	23.9	35.1
4.0	13.1	9.0	21.8	14.0	27.2	19.0	31.5	24.0	35.1
4.1	13.4	9.1	21.9	14.1	27.3	19.1	31.6	24.1	35.2
4.2	13.6	9.2	22.0	14.2	27.4	19.2	31.7	24.2	35.3
4.3	13.8	9.3	22.1	14.3	27.5	19.3	31.7	24.3	35.3
4.4	14.1	9.4	22.3	14.4	27.6	19.4	31.8	24.4	35.4
4.5	14.3	9.5	22.4	14.5	27.7	19.5	31.9	24.5	35.5
4.6	14.5	9.6	22.5	14.6	27.8	19.6	32.0	24.6	35.5
4.7	14.7	9.7	22.6	14.7	27.9	19.7	32.0	24.7	35.6
4.8	14.9	9.8	22.8	14.8	28.0	19.8	32.1	24.8	35.7
4.9	15.1	9.9	22.9	14.9	28.1	19.9	32.2	24.9	35.7
5.0	15.4	10.0	23.0	15.0	28.2	20.0	32.3	25.0	35.8
5.1	15.6	10.1	23.1	15.1	28.3	20.1	32.3	25.1	35.9
5.2	15.8	10.2	23.3	15.2	28.4	20.2	32.4	25.2	35.9
5.3	16.0	10.3	23.4	15.3	28.4	20.3	32.5	25.3	36.0
5.4	16.2	10.4	23.5	15.4	28.5	20.4	32.6	25.4	36.1
5.5	16.3	10.5	23.6	15.5	28.6	20.5	32.6	25.5	36.1
5.6	16.5	10.6	23.7	15.6	28.7	20.6	32.7	25.6	36.2
5.7	16.7	10.7	23.8	15.7	28.8	20.7	32.8	25.7	36.3
5.8	16.9	10.8	23.9	15.8	28.9	20.8	32.9	25.8	36.3
5.9	17.1	10.9	24.1	15.9	29.0	20.9	32.9	25.9	36.4

A REPRESENTATIVE SAMPLE OF THE
COMPREHENSIVE BASIC TEST
SKILLS (CBTS) TABLE

Level C

Form S

Stamine	Scale Rank	Raw Scores														%ile Rank	Stamine	
		Reading				Language				Mathematics			Total Battery	Scien	SocSt			
		Vocab	Sent	Pass	Total	Expr	Spell	Mech	Total	Compu	Concpt & Appli	Total						
9	99	32-33	23	18	65-74	21-22	33-34	20-23	64-79	24-28	23-25	45-53	177-206	25-30	25-30	59	9	
	98	31	22	67-68		32	18-19	68	23	22	43-44	172-176		24	24	98		
	97			66				17	66-67	22		42	168-171	24	23	97		
	96	30	21	17	65	20		16	65	21	21	41	165-167	23	22	96		
8	95			64				64	20		39-40	162-164				95		
	94	29		63				62-63	19		38	159-161				94		
	93		20	16	62			61	19	20	37	155-156	22	21	93			
	92			61	19	30		60	18		36	152-154				92		
7	91	24		60				59	18		36	149-151	21	20	91	7		
	90		19	59				58	18	19	36	146-148					90	
	89			57-58				57-57	17		35	143-145					89	
	88	27	18	56	18			55	17		34	139-142			19		88	
	87			54-55				54	16	18		137-138	20				87	
	86		17	14	53				53	16		33	133-136					86
	85	26			51-52				52	16		33	130-132					85
	84		16		50	17	28		51			32	127-129				18	84
	83				49				50		17		125-128	16				83
	82	25	15	13	48	16	27	11	49	15			122-124					82
	81				46-47				48			31	120-121					81
	80		14		45				47			30	118-119				17	80
6	79	24		44	15	26		47			30	116-117	16			79		
	78			43				46	14	16		114-115				78		
	77		13		42			46			29	112-113				77		
	76	23		11	41	14	25	45				111				76		
	75		12		40				44			109-110				75		
	74	22			40				44			108	17		16	74		
	73			10	39	13	24		43	13			105-107				73	
	72				38				43		15						72	
	71	21	11		37	12			42			27	104-105				71	
	70				36				42				103				70	
	69				36		23	9	42				102				69	
	68	20		9					41			26	101	16	15		68	
67		10						41				99-100				67		
66				35				41	12	14						66		
65	19			35	11	22		40				98				65		
64				34				40			25	96-97				64		
63			8					39								63		
62				33				39				95	15	14		62		
61	18	9						39				94				61		
60				32	10	21		39	11			93				60		

VITA

Harold Aaron Greenwood

Candidate for the Degree of

Doctor of Education

Thesis: THE CONTINGENCY MODEL: A STUDY OF SCHOOL PRINCIPAL
EFFECTIVENESS

Major: Education Administration

Biographical:

Personal Data: Born in Spiro, Oklahoma, May 31, 1936, the son of
Odis and Ruth Greenwood.

Education: Received the Bachelor of Arts in Education degree from
Central State University, Edmond, Oklahoma in May, 1965, with
a major in history; received the Master of Education degree
from Central State University in August, 1970, with a major
in guidance and counseling; completed requirements for the
Doctor of Education degree at Oklahoma State University in
December, 1977, with a major in educational administration.

Professional Experience: Junior-senior high teacher at Central
High School in Oklahoma City Public Schools, September,
1965-68; Educational television teacher (channel 25) in the
Oklahoma City schools, September, 1968-70; Guidance counselor
at Harding Junior High School in Oklahoma City, September,
1970-71; Assistant Principal at Northeast High School in
Oklahoma City, September, 1971-76; Research Associate with
the Oklahoma Public School Research Council at Oklahoma State
University, September, 1976-77.

Professional Organizations: Phi Delta Kappa, National Association
of Secondary School Principals; Oklahoma City Principal's
Association; Oklahoma Education Association; National Educa-
tion Association; Cooperative Council for Oklahoma School
Administrators.